



THE IMPACT OF SALES PROMOTION TOOLS ON CHINESE CONSUMERS' BUYING
BEHAVIOURS OF THAI BRAND MOSQUITO REPELLENT



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This study investigates the impact of sales promotion tools on Chinese consumers' purchasing behaviour toward Thai-brand mosquito repellent products. In a highly competitive market where product differentiation is limited, promotional strategies play a critical role in shaping consumer choices. The research focuses on four key tools: free samples, price discounts, coupons, and buy-one-get-one-free offers. Using a quantitative method, data were collected from Chinese consumers with prior purchasing experience. Statistical analysis revealed that price discounts and free samples have the most significant influence on purchasing decisions, while demographic variables such as age and income also moderate consumer responses to promotions. The findings offer valuable insights for businesses seeking to penetrate the Chinese market, highlighting the need for tailored, data-driven promotional strategies. Additionally, this study contributes to the broader literature on sales promotion by providing empirical evidence from the context of Thai consumer goods in international markets. Future research is encouraged to explore the long-term impacts on brand loyalty and repeat purchase behaviour.

Keyword : Sales Promotion Tools, Buying Behaviour, Thai Mosquito Repellent, Price Discounts, Samples, Coupons, Buy-one-get-one-free

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CHAPTER 1

INTRODUCTION

Background

Arthropods, such as mosquitoes, are vectors of infection in a variety of organisms, including those that may cause West Nile virus, malaria, or dengue fever (Katz et al. 2008). To this day, skin-based Insect Repellent (IR), along with protective clothing and limiting time outdoors, remains the primary means of preventing bites. When these insects bite humans or defecate on humans, they can have local or systemic effects and even spread insect-borne diseases. In all regions of the world, especially in areas where vector-borne diseases are endemic, the use of prophylactic Insect Repellent (IR) not only prevents disease but also reduces the severity of allergic reactions caused by many bites. In order to achieve the best possible insect repellent, Insect Repellent (IR) has been developed and put into use in a variety of formulations, carriers and properties, including aerosols, pump sprays, lotions, creams, sunscreens, powders, grease sticks and cloth-impregnated laundry emulsions (Fradin, 1998). By far, the most widely used and safest ingredient is N, N-Diethyl-3-Methylbenzamide (DEET)(Fradin, 1998).

Because Thai brand mosquito repellent has the characteristics of significant effect, low price and wide variety, it has always been the first choice for Chinese consumers to purchase mosquito repellent products. With the advent of the post-epidemic era and the recovery of tourism, Thai mosquito repellent has become the best choice for souvenirs.

Thailand-brand mosquito repellent has the characteristics of fast sales, low cost, low price and high product homogeneity. Although Thailand's mosquito repellent has relatively small profit margins, retailers have higher profit margins than producers/suppliers, and their sales volumes are often large. There is a problem we should be concerned about. The low cost of aquatic mosquito repellent products combined with the large number of brands and companies involved in manufacturing and producing similar products makes it difficult for a product to stand out in

consumers' minds(A. Ali & Muhammad, 2021b). To solve this dilemma, marketers must consider special plans and approaches. Take a proactive approach and see product competition as an opportunity to capture a larger market. This study was conducted to determine what companies could do to increase their sales and reach out to more customers with the aid of promotional tools.

The most powerful tool available to marketers is Sale Promotion Tools. It can change how customers view a brand, and encourage interest in purchasing(Infante & Mardikaningsih, 2022). Marketers must use a range of strategies to appeal to more customers and make their product sustainable as the competition on the market increases. Sales promotion is a part of marketing, which means that many tools are used to boost profits. Marketers are expanding their businesses by using promotional tools to make more money on their product. These techniques, which are used frequently by marketers everywhere, also lead to increased competition on the market.

The good results of every business are linked and achieved through promotions(A. Ali & Muhammad, 2021b). Promotions help businesses reach the maturity of their products and gain market reputation. Businesses can benefit greatly from promotions. Sales services are included in promotions, and this affects customers' behaviour when buying any product. This is a quick-moving campaign that aims to get customers' attention and encourage them to purchase or consume new products. The campaign is short and includes promotional techniques that will attract consumers to the brand(Abdi, n.d.). This is not an offer that will last a long time. The purpose of promotions is to increase sales and retain existing clients. Sellers take advantage of these promotional tools to boost their profits in the short term.

Nowadays, companies or commercial organisations spend a lot of their budget on promotional activities. Price discount is a well-known tool for customers to make concessions for customers who buy the desired product, and consumers are more likely to be attracted to the reduced price of the product when purchasing the product. Secondly, by offering free coupons, consumers can generate interest in newly launched products or services and build trust, and free coupons are one of the promotional

strategy tools to influence purchase decisions. In addition, free samples can attract consumers and introduce them to the benefits and features of the product for them to buy in the future, the free sample tool is very effective in stimulating the behaviour of purchasing, it helps to increase the sales of promoted products. Buy one, get one for free allows customers to double their number of items without having to pay any extra. This type of promotion is more beneficial to the customer, as it will increase consumer interest. Promoting products in this way is aimed at making them more valuable and appealing to consumers. This study aims to determine the effect of different Sale Promotion tools on the purchasing behaviour of Chinese customers for Thai mosquito repellent.

In general, when we consider mosquito repellent as a daily necessity that Chinese consumers often use in their daily lives, the following questions arise in our minds: What kind of promotions do Chinese consumers prefer, or do changes in consumer buying behaviour vary according to the consumer's background (e.g., different ages, incomes, occupations)? Although many people have done detailed research on the behaviour of Chinese consumers in purchasing daily necessities, few people have focused on mosquito repellent as a product. There has been little research done on the impact of promotional tools on Chinese consumer's purchase of Thai mosquito repellent. The purpose of this study is to investigate how Sale Promotion Tools affect Chinese Consumers to purchase Thailand Mosquito Repellent. By investigating these factors and evaluating the correlation between Sale Promotion Tools and factors related to consumer buying behaviour, we aim to refine the theory and provide practical implications for the development of mosquito repellent for Thailand brands.

This study examined the effect of four different types of promotion on Chinese consumer's purchase of Thailand mosquito repellent. These included free samples, discounts in price, coupons and Buy One Get One Free. Promotional tools have the potential to influence consumers' purchase behavior. This study aims to determine the correlation between the independent variables of consumer behaviour and the sales promotion tools.

Objectives of the Study

The purpose of this study is to demonstrate the relationship between promotional tools such as free samples, discounts on prices, coupons and Buy One Get One Free on purchasing behaviours for Thai mosquito repellent brands. This study's results will allow insect repellent marketing professionals to understand which sale promotion methods have the greatest impact on the buying behavior of consumers. They can then choose the most effective and successful tools for capturing customers in an ever-growing market. This study helps identify promotional tools that can be implemented by the organisation or company. The study gives future researchers a starting point to further investigate this field and is a useful reference for marketing professionals and students. The following research goals are therefore proposed:

1. Study the differences between Chinese customers with different backgrounds in their purchasing behaviours of Thai mosquito repellents.
2. To study the relationships of sale promotion tools (Price Discounts, Samples, Coupons, Buy-one-get-one-free) on Chinese consumers' buying behaviour of Thai brand mosquito repellent.

Questions of the Study

1. Are there differences in Chinese consumers with different demographic factors (e.g. age, gender, income level, education and occupation) when purchasing Thai mosquito repellent water?
2. Do sale promotion tools (Price Discounts, Samples, Coupons, Buy-one-get-one-free) significantly relationships of the buying behaviour of Chinese mosquito repellent consumers of Thai brand repellents?

Scope of the Study

The study examines the relationship between sales promotion and the demographic factors that influence the purchasing behaviour of Chinese customers towards Thai mosquito repellent products. This study's scope is as follows:

1. Geographic Scope

The research is limited to Chinese consumers who have purchased Thai mosquito repellent products. While the products are manufactured and promoted in Thailand, the focus is on the consumer response within the Chinese market, reflecting buying behaviours unique to this demographic.

2.Target Population

The study focuses on Chinese consumers aged 18 and above who have prior experience in purchasing Thai mosquito repellent products. Demographic analysis examines the impact of consumer behavior on factors like age, gender and income levels.

3.Sales Promotion Tools

These are the tools most often used to promote sales: Coupons, samples, price discounts, and buy-one, get-one free. The study aims to investigate how these tools affect Chinese consumers' buying behaviour when selecting mosquito-repellent products.

4.Exclusions

The study only focused on Thai brand mosquito repellent products. In addition, non-Chinese consumers and consumers who have no experience in purchasing Thai mosquito repellents were not included in the analysis.

Research Design

1. Population in this research

This study was conducted on Chinese adults aged above 18 who purchased Thai mosquito repellent.

2. Research Method

This study aims to determine the impact of promotional tools and sales on Chinese consumer's purchase of Thai mosquito repellent. Therefore, we will employ quantitative research. This study aims to identify meaningful relationships and needs to describe, interpret, and validate the findings of the study. We chose to use numerical

data to answer the research question and, therefore, focused on quantitative data collection methods. Using statistical techniques, quantitative research helps uncover the relationship between numerically measured variables.

3. Survey Method and Questionnaire Design

We use the questionnaire method in order to collect primary data for analysing issues that are explored. We will therefore create and distribute online questionnaires to make the collection and distribution of questionnaires easier.

Three main sections make up the questionnaire. First, the questionnaire asks about demographic information. Second and third sections use a Likert-scale with five points (1 = strongly disagreed, 2 = disagreed, 3 = neutral; 4 = agreeing, 5 = strongly agreed) to include questions about promotional tools and buying behavior of consumers.

4. Research Variables

Two variables are used to study the variables in this research: the independent and dependent variables:

Independent Variables

1. Demographic

1.1 Gender

1.1.1 Female

1.1.2 Male

1.2 Age

1.2.1 18-27

1.2.2 28-37

1.2.3 38-47

1.2.4 Above 47

1.3 Education

1.3.1 Lower than a bachelor's degree

1.3.2 Bachelor

1.3.3 Higher than a bachelor's degree

1.4 Income per/month

1.4.1 2,000 yuan and below

1.4.2 2,001-4,000 yuan

1.4.3 4,001-6,000 yuan

1.4.4 6,001-8,000 yuan

1.4.5 Above 8,000 yuan

1.5 Occupation

1.5.1 Student

1.5.2 Government Officer

1.5.3 Private Company Employee

1.5.4 Business Owner

1.5.5 Freelancer

1.5.6 Other (please clearly specify your occupation)

2. Sale Promotion Tools

2.1 Price Discounts

2.2 Samples

2.3 Coupons

2.4 Buy-one-get-one-free

Dependent Variable

The buying behaviour of Thailand mosquito repellent.

Definition of terms

1. Sale Promotion and Sale Promotion Tools

Sale promotion refers to a short-term marketing strategy used to stimulate consumers to purchase Thailand-brand mosquito repellent. This study focuses on the following four promotional tools:

a. Price discounts are a way of promotion that directly lowers the price of a product.

b. Samples are small-dose product samples offered to potential consumers of Thailand brand repellents.

c. Coupons can be used as vouchers to reduce the price of Thailand brand mosquito repellents.

d. With the promotion Buy One, Get One Free (BOGOF), consumers receive a free product of the same type with every purchase of a Thailand mosquito repellent.

2. Thailand Brand Mosquito Repellent

The Thailand brand mosquito repellent in this study specifically refers to Thailand mosquito repellent products sold in the Chinese market. They include, but aren't limited to: Soffell Sketolene Smell. These products usually come in the form of sprays and are applied to the skin or clothing to prevent mosquito bites.

3. Buying Behaviour

The term "consumer buying behaviour" refers to Chinese buyers of Thai mosquito repellent.

Conceptual Framework

The study explores the relationship between Sale Promotion Tools, such as Coupons, Samples and Buy One Get One Free, and the buying behavior of Thai Brand Mosquito Repellent consumers.

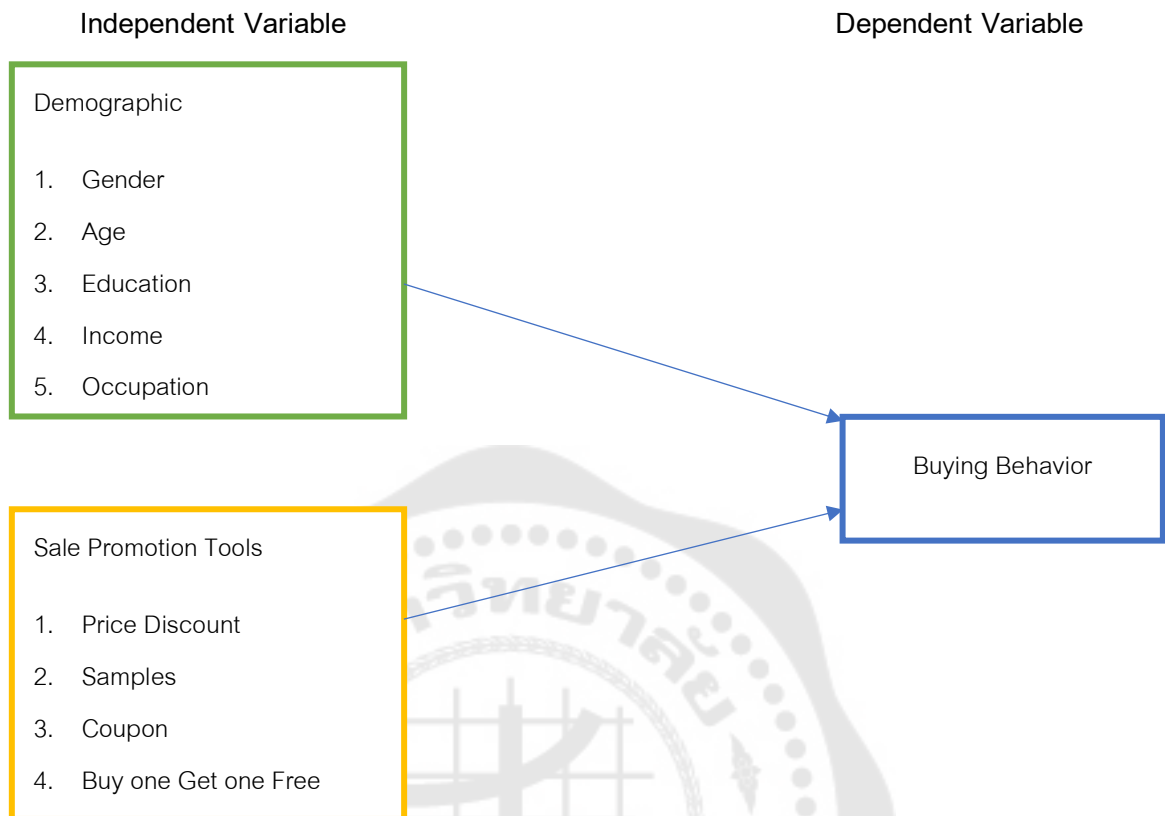


Figure 1 Conceptual Framework

Research Hypothesis

Hypothesis 1: The buying behavior of Chinese customers with diverse demographics is significantly different from that of Thai mosquito repellent.

Hypothesis 2: Price discount as a promotional tool is significantly and positively correlated with Chinese consumers' buying behaviour of Thai brand mosquito repellents.

Hypothesis 3: Samples as a promotional tool are significantly and positively correlated with Chinese consumers' buying behaviour of Thai brand mosquito repellents.

Hypothesis 4: Coupons as a promotional tool are significantly and positively correlated with Chinese consumers' buying behaviour of Thai brand mosquito repellents.

Hypothesis 5: The Buy One Get One Free promotion has a significant and positive correlation with the Chinese consumer's buying behavior of Thai mosquito repellents.



CHAPTER 2

REVIEW OF THE LITERATURE

The chapter discusses the theories and concepts related to marketing. Discuss briefly the history of the development of sales promotion tools, demographic factors and previous research in this field. The purpose of the chapter is to summarize the results and references from previous studies, and to clarify the purposes of the current study in order to fill gaps. The purpose of this study was to examine the relationship between Chinese consumer's buying behavior and demographic factors, as well as promotional tools. This study is based on the following literature.

1. Thailand-brand mosquito repellent
2. Demographic Factors
3. Promotion and Sale Promotion Tools
4. Consumer Buying Behaviour
5. Purchase Decision
6. Related Research

1. Thailand-brand mosquito repellent

Insect repellents have been around since ancient times, when people were using tar, smoke and vegetable oils. The United States Department of Agriculture created DEET in 1946 for military use. DEET, which was first marketed in 1956 and has become the most popular immediate-release formula for most people. DEET was introduced in 1956, replacing the other four types of insect repellents, including citronella, diallylphthalate, Rutgers612, and indanone. Citronella was used to repel insects in the 1940s. It is used today as an ingredient for many products and has been used historically as a flea and lice treatment. Citronella is found in three different products: Natrapel, All Terrain's Herbal Armor, and Green Ban, Green Home (San Francisco, Calif.). However, these only work for 20-30 minutes.

Dengue fever is a major disease in Thailand. It has been listed on the national health list as one of Thailand's most serious problems. Adult mosquitoes are managed

by using synthetic chemicals, such as insecticides, repellents, and deterrents. The most effective way to fight mosquito-borne disease in Thailand is through personal and community mosquito bite prevention. Common insect-repellent ingredients include natural essential oils and a 13% concentration of DEET(Champakaew et al., 2023). Thailand is located in the tropics, and there are many mosquitoes, so mosquito repellent water is basically one of the essential daily necessities for families, and it is also indispensable equipment for summer travel. The flavors are mostly fresh pink rose and sweet orange, and it does not feel sticky on the skin, it has a mosquito-repellent effect for up to 7 hours. Whether you're out and about or indoors, you don't have to worry about mosquito bites.

Researchers have studied a variety of synthetic chemicals and plants-derived chemicals to repel mosquitos. There are few effective and safe insect repellents which can be used repeatedly on the skin. The most well-known synthetic chemical is N, N-diethyl-3-methylbenzamide (DEET), which is considered the most potent broad-spectrum insect-repellent ingredient with a long-lasting effect on mosquitoes and other biting arthropods. DEET, the most common active ingredient, is found in many insect repellents that are sold worldwide by different brands. DEET concentrations range from 5-100% for various formulations on skin and clothing.

The competition on the daily needs market in China is getting fiercer with the globalization of China and its consumers' increasing purchasing power. As a typical daily necessity and a common commodity in the souvenirs chosen by Chinese tourists visiting Thailand, Thailand's mosquito repellent has attracted wide attention in the Chinese market in recent years.

In China, regardless of gender, young and old, mosquitoes are an unavoidable problem in the middle of summer. The bite of a mosquito that is ubiquitous and difficult to prevent can be painful and unbearable and can cause various allergic symptoms. In ancient times, people tried mosquito repellent methods such as manweed smoke, wormwood realgar and so on. Modern people have the blessing of scientific and

technological "weapons", and various mosquito repellent products on the market are endless, which is difficult to choose. In terms of ingredients, at present, the internationally recognised mainstream mosquito repellent products can be divided into four types(*China Association for Consumer Product Quality and Safety Promotion*, n.d.)

DEET: For people older than two months. At a maximum concentration of 30%, it can irritate the skin.

DEET (IR3535): suitable for people older than two months of age. It has no toxic side effects on the skin and mucous membranes, the mosquito repellent effect is average, and the mosquito repellent ester is best to repel mosquitoes for 4 hours at high concentrations in the experimental environment.

Picaridin: for people older than six months. The mosquito repellent effect is good, the protection time is long, and it will not cause skin problems.

Lemon eucalyptus oil (OLE): For those over three years of age. It is the only mosquito-repellent ingredient extracted from natural plants. It may be irritating to people with sensitive skin, so it needs to be tried on the skin topically before use.

China's daily necessities industry is facing consumption upgrades. The prospect analysis of the daily necessities industry points out that with the improvement of people's income level, consumption upgrading has become a trend. Consumers' requirements for product quality, brand protection, service and other aspects are constantly improving, and the demand for high-quality and high-value-added daily necessities is also becoming stronger and stronger(*Analysis of the daily chemical products market in 2024*, n.d.). The Chinese population is large, and the consumer market is huge. At the same time, with the acceleration of urbanisation, the number of urban populations has increased, and the demand for daily necessities by urban residents has also expanded.

At present, the global market size of daily chemical products has exceeded 1 trillion US dollars, showing a steady growth trend. Behind this huge figure is the continuous growth of consumer demand for health, beauty, cleaning, etc., as well as the results of continuous innovation and development of the daily chemical industry. From

traditional skin care products and shampoos to emerging organic products and personalised customisation, the market is diverse and fiercely competitive, and it has become a dark horse in business competition.

In order to seize market share and meet consumer demand, daily chemical products companies need to continuously carry out product innovation and technology upgrading. It is also important to do accurate marketing in order to increase the appeal and competitiveness of the products on the market to the consumers.

In summary, China's market for daily chemicals is constantly expanding and improving. This not only reflects changes in the consumer demand as well as the increasing trend of upgrading consumption but it also presents new opportunities for development and challenges. China's market for daily chemical products will grow steadily with the continued growth of China's economy, and prosperity in the consumer market. This is an excellent opportunity to increase the size of Thailand's international market for mosquito repellent.

2. Demography

Demographic factors refer to the various variables that describe the characteristics of a population. Hawkins & Mothersbaugh (2010) defines demographic factors as measurable demographic characteristics. Solomon (2017) highlights the importance of demographic factors in consumer behaviour research. This paper argues that the main content of demographic factors includes age, gender, education level, income level, occupation and other characteristic variables that can be used to describe and distinguish consumer groups.

In a classical formulation, Hauser and Duncan (1959) defined demography as the "study of the size of the population, its geographical distribution and composition, changes in it and their components." Demography is a statistical analysis of the population. The study of demography involves the analysis of the structure and size of a particular population over time and space. The study of demography uses techniques from the fields of history, economics and anthropology. Wede and Kamakura (1999) propose age, gender and income as the four main demographic variables for

segmenting domestic and international markets to satisfy the criteria of recognition, content, accessibility, and actionability.

The types of products and services individuals desire change with age as well as through the different stages of their lifecycle. Compared to their older peers, younger people are less stuck to a particular pattern and are more open to new ideas and products, especially those that involve advanced technology. Income also strongly influences product choice, as consumers with higher incomes are more likely to afford expensive, status-enhancing goods. Higher education exposes individuals to different cultural perspectives, making them less likely to follow local norms of behaviour and become more global consumers (Ashofteh & Dehghanan, 2017). Finally, the impact of gender differences is one of the strongest findings in the literature. Women and men differ on many levels, from shopping habits, to information processing and judgments to the way they respond when advertisements are shown, as well as in their product preferences they tend to buy (Chen et al., 2021).

The study of demography is concerned with the structure and size of populations in relation to space and time. The study of demography uses techniques from history, anthropology and sociology as well as economics. National Geographic Society (2020), mentions demography as an important tool for government and business to analyse and predict social, economic, and cultural trends. The National Geographic Society (2020) mentions that demography can be very helpful for government and private enterprises as a way to analyse and predict social, cultural and economic trends relating to the population.

3. Promotion and Promotional Tools

3.1 Promotion

The 4P Marketing Mix includes promotion as a component of marketing. It has been improved over time. McCarthy proposed the framework of 4P Marketing Mix in 1960, which included Product, Price Place and Promotion. Borden (1964), a few years later, refined and expanded the concept. Kotler & Keller (2017) further developed the 4P Theory to adapt it to modern markets. The main purpose of 4P Marketing Mix is to

combine marketing variables which enterprises can manipulate in order to satisfy the needs of their target markets. This includes four factors: Product, Price, Channel and Promotion.

Kotler & Keller, United States Marketing Association (2006) define marketing as a function of an organization and a series of processes that create, communicate and deliver value to clients, while managing their relationships with them in a manner that is beneficial to both the company and the customer (Kotler & Keller, 2006). Evans and Berman (2007) propose a simpler definition of marketing: it includes forecasting, managing, and satisfying the demand. Let's try to define marketing with one word, which is a relationship of mutual satisfaction (B. J. Ali & Anwar, 2021). Evans and Berman (1997) define a marketing mix as the combination of elements that are used to meet goals and reach the targeted market. The marketing mix contains four major variables: distribution, price, and promotion. It is a set of marketing tactics that companies use to create the response they want in their market (Ketema, n.d.).

Promotion is defined by the United States Marketing Association as "those marketing actions other than advertising and publicity, that stimulate customer purchase and dealer effectiveness such as displays and displays, performances and demonstrations and various non-recurring sale activities." Ordinary routine". Promotion is a type of advertising that sells a product to a customer, and this process is also considered to be communicating with the customer using various advertising means. At the heart of promotions is to reduce the communication gap between your organisation and your customers.

Promoting a brand, product or service involves spreading information. Promotions usually consist of two main parts:

Online Promotion: Advertisers pay an advertising agency for placement of advertisements in various media, such as television, radio and newspapers.

Offline Promotions: All other promotions. Most of these purposes are subtle enough so that consumers are unaware of the promotion being made. You can, for example. Trade shows, for example, are a good place to start.

3.2 Sale Promotion Tools

Promotions such as non-price and price promotions can be used to boost short-term profits. Abdi (2015: A promotional tool is one that encourages customers to purchase now, rather than waiting. Zeinolabedin Mojaveri and Amin (2012) state that promotional tools are often temporary and short-term incentives that encourage consumers to purchase more. Coupons, samples, coupons, discounts and e-credits are all promotional tools.

In previous studies, it was found that retailers and manufacturers used promotional tools in order to encourage current and prospective customers to buy products or services. Promotional tools are used to create demand, meet that demand and to encourage people to buy goods and services. Free sample offers are the most popular promotional tools. They also include coupons, markdowns, and buy one get one free deals(A. Ali & Muhammad, 2021a). We can use promotional tools to understand the reactions of different customers. Retailers can make more money by using the right strategy.

Promotions are also an important marketing tool used by manufacturers and retailers. Sales are increased by using promotions. Customers are motivated to purchase more items. In this study we chose four of the most basic and common promotional tools: free samples, coupons for free products, discounts, and offers such as buy one get one free.

The most powerful tool for motivating consumers to buy is the Sale Promotional Tool. Marketers must use a range of strategies to appeal to more customers and make their product sustainable as the competition intensifies(A. Ali & Muhammad, 2021a). Businesses today are using multiple marketing strategies to attract and retain customers. This includes offering consumers free samples in supermarkets, shopping centers, retail outlets or other ways, such as a product trial. A price reduction or a drop in value is the promotion of a lower selling price by offering a discount. We can also say that reducing something in price is a form of promotion. A coupon, which is also referred

to as a voucher that allows the owner of it a certain discount for a product. It is common for companies to provide a Buy-one, Get-One-Free offer. This is two identical products at the cost of just one.

Kotler (2009) defines a price reduction as a discount given to consumers at the price listed on an item's label or packaging. Belch & Belch (2011: p. 3) explain that price promotions can have a number of advantages, such as triggering large purchases by consumers, anticipating competitor promotional offers, and supporting larger volumes of trade. Discounts are popular because they encourage consumers to buy the product being promoted, leading to increased sales (Ittaqullah et al., 2020). According to Sutisna (2002), a price discount refers to a reduction in the price of a product relative to the normal price over a certain period. The discount indicators are:

When a product is reduced, it will be marked down by the amount of discount.

Price discount periods are the durations given when the discounts were made.

Variety of products that are discounted.

The term promotion is used to describe a set of short-term incentives that are designed to encourage consumers to purchase a product or service (Oke et al., 2016).

A promotion can be defined as "a direct inducement or incentive to provide additional value or incentives to a salesperson, distributor, or end consumer, with the primary goal of selling immediately" (Yin et al., 2010).

The study uses the Oskari definition (2008) which describes promotion as an activity that encourages a response directly from customers or marketing intermediaries through providing added benefits. This study examines the effect of coupons, discounts, free trials and Buy-One-Get-One-Free Sale Promotion Tools, on the purchasing behaviour of Chinese customers in Thailand.

4. Consumer Buying Behaviour

This study also includes the consumer behaviour theory. The act of choosing, purchasing, and using goods and services in order to meet one's needs is known as consumer buying behaviour. Consumer behaviour involves different processes. There are many factors that influence the consumer's decision making process. These include his shopping habits, purchasing behaviour, brand, retailer, and buying behavior.

According to Talar (2012), consumers are very important to manufacturers and retailers because these people should purchase and use the final product. From a marketing perspective, understanding consumer behaviour is essential for a company to successfully deliver products in the marketplace. Understanding consumer behaviour is fundamental to developing a marketing strategy. The consumer's response to this marketing strategy can make or break an organisation. For this study, studying the factors related to consumers' buying behaviour and understanding people's perceptions of buying behaviour is a key factor in successful marketing.

The buying behavior of consumers in the industry is affected by a variety of factors. Jeff (n.d.) defines consumer behaviour as the analysis of how products and services are chosen, bought, used or disposed to meet needs or desires. In a similar way, Schiffman and Kanuk (2007, page 3) defines consumer behaviour as "the behavior exhibited by the consumers when they search, purchase, use, evaluate, and dispose of products and service that are expected to meet their requirements".

Chaharsoughi & Yasory (2011) concentrate on the way consumers decide what they buy, why and when to purchase it, as well as how frequently to use and buy. "What they'll say after purchase and what content based on that review will have on future purchases and what they'll do with it. In the debate over consumer buying behaviour, there is a question that is: Why did the consumer choose to buy this thing? How do consumers make decisions among the many products? And how does promotion affect these decisions and choices of consumers? (Abdi, n.d.) Marketing starts with analysing these questions.

Kauser, Muhammad and Siddique describe consumer behaviour as the analysis of people, groups or organizations and their processes of selecting, protecting, using, or disposing of products, experiences, ideas, or services to meet need and how these processes impact consumers and society. Explain it this way: Relevant content on consumer behaviour can help marketers create marketing strategies through understanding consumers' psychology. Kathleen J (2004) defines consumer behaviour as "the behavior of consumers when they find, purchase, use, evaluate, and dispose of products and/or services which are expected to meet their requirements".

Mahsa Alireza and Kambiz (2015, p. 9) explain that the consumer behavior is a dynamic process. It involves the interplay between thoughts, feelings, actions, and behaviors of people in their environment. The environment is the external forces that influence human beings. These include cultural and social factors in personal and social lives, as well as physical and contextual influences associated with actual shopping experiences (Shin et al., 2021).

Marketers must understand the complex and important area of consumer behaviour. Since different people will have different requirements, it is important to assert that the goal of any business should be to satisfy consumer needs. It is therefore the job of the marketer to identify exactly what the customers' needs are and then develop products that meet those needs. It is difficult for marketers to pinpoint the exact reasons behind consumers' purchases. However, understanding consumers' purchasing behaviours is crucial. In this study we aim to uncover the influence of external stimuli such as sales promotions on Chinese consumer's buying behavior for Thailand mosquito repellent.

5. Purchase Decision

When purchasing, consumers must make a decision. A decision involves the process of choosing, deciding, and selecting one product over others, influenced by various factors such as brand, price, appearance, imagery, design, and more (Cuesta et al., 2020).

The purchasing decision refers to the behaviour wherein consumers determine whether to buy or not to buy a product. The indicators of the purchasing decision process include the purpose behind the purchase, the processing of information to select a brand, the product's reliability, the likelihood of recommending it to others, and the tendency for repeat purchases (Mappesona et al., 2020). The purchasing decision is a process in which consumers recognize a problem, seek information about specific products or brands, evaluate the ability of each alternative to address the problem, and ultimately make a purchasing choice. This process often involves a systematic assessment of needs, preferences, and external influences to arrive at an optimal decision that aligns with their goals or resolves their concerns. A purchasing decision is the outcome of a consumer's evaluation of various factors, including brand selection, purchase location, expenditure amount, timing of the purchase, and available payment methods, ultimately leading to the decision to buy.

Existing research indicates that product characteristics, affordable pricing, product accessibility, and price promotions positively and significantly impact purchasing decisions. Furthermore, factors such as age, income, and culture play a moderating role in shaping these decisions (Suyanto & Dewi, 2023). Consumers are often affected by external factors when making purchases. These can have a significant impact on their decisions. The opinions and recommendations of trusted individuals, such as family, friends, or influencers, can shape their preferences and sway their decision-making process. Additionally, unexpected situations or external circumstances—such as sudden changes in financial status, availability of alternatives, or shifts in market conditions—may lead consumers to reassess their priorities, ultimately overriding their original intentions and resulting in a different purchasing outcome. Therefore, understanding consumer behaviour is crucial for achieving success in today's market. This information is valuable for designing and developing products and marketing strategies that are tailored to the needs of your target market (Palalic et al., 2021).

6. Price Discount

Price discount is one of the most commonly used sales promotion tools, aimed at stimulating short-term consumer purchase behaviour by temporarily lowering product prices (Kotler & Keller, 2016). It is widely applied to attract price-sensitive customers, generate quick sales, and enhance brand competitiveness in saturated markets. As noted by Blattberg and Neslin (1990), price reductions create a sense of urgency and increase perceived value, encouraging consumers to make immediate purchases.

7. Coupons

Coupons are a classic form of sales promotion tool, offering consumers a monetary incentive or discount that can be redeemed on future purchases (Belch & Belch, 2012). This strategy helps brands not only attract new customers but also retain existing ones through repeat purchases. According to Kotler and Armstrong (2018), couponing increases brand loyalty and facilitates targeted marketing when distributed through specific channels.

8. Samples

Free samples are considered a highly effective sales promotion tool, especially for introducing new or unfamiliar products to consumers (Kotler & Keller, 2016). Sampling allows consumers to experience the product without risk, which can significantly increase the likelihood of future purchase. Blattberg and Neslin (1990) emphasize that product trials help overcome consumer hesitation and foster confidence in the product's efficacy and quality.

9. Buy one get one free

The Buy-One-Get-One-Free (BOGOF) offer is a widely adopted sales promotion strategy, particularly effective for increasing purchase volume and perceived value (Wierenga & van der Lans, 2017). This tool appeals to consumers' desire for bargains, often encouraging them to buy more than initially intended. Kotler and Armstrong (2018)

suggest that BOGOF promotions are particularly impactful during product launches or in highly competitive product categories.

10. Related Research

10.1 Promotions and Consumer buying behaviour

Many products or services can be sold through the use of promotional means. Manufacturers or retailers run promotions in stores, influencing customer preferences and purchasing interests. A person's purchase decision is the same most of the time, but the whole process is not performed by the customer. The identification of the needs, information gathering, evaluation of alternative options, purchase or decision to purchase, and post-purchase are all factors (Mughal et al., 2014).

Mughal Mohiuddeen and Ahmed (2014) claim that promotions are a way for retailers and manufacturers to get customers interested in their products or services. The promotion strategy is responsible for a number of things, including an increase in sales and high-quality inventories, as well as attracting new customers. A good promotional strategy can help boost sales and generate more income. The topic of buying behavior is one that changes and evolves constantly. Needs and trends also change rapidly in this turbulent market. New lifestyles encourage consumers to adopt new styles and try out new products. The current generation, despite having lower means of income, still wants something trendy and new. This is where marketplaces use their consumer market budgets to promote their brands, and they include a variety of attractive offers to attract new customers to their merchandise network. Consumer buying behaviour is often triggered by a choice of products with different prices and offers (Ashraf et al., 2014). It is therefore understandable why attracting the consumer's behaviour can help to launch and sell new products.

The research by Malombeke Searang Pangemanan (2014) shows that understanding the consumer's buying behavior is crucial. Studying the consumer's needs is crucial because it increases sales, while also encouraging and promoting consumers to purchase the product. The study of consumer buying behavior is how to

get customers to buy products. One of the key points for marketers is to understand the customer's needs.

Similarly, these studies have defined and delved into consumer buying behaviour and found that many factors can influence consumer buying behaviour. The results show that promotional tools have a great impact on consumers' buying behaviour. However, we have seen that consumers' purchasing decisions are more dependent on price sensitivity, and consumers are always attracted to the products they are promoting (Shamout, 2016). Other factors such as economic, cultural, or social suicidal factors can also influence customer behaviour. However, this was not our focus.

Personal factors also play a major role in determining the daily choices of a person. Financial, social and personal factors are all included. Companies develop products based on the behaviours of their potential customers. The market will not launch successful products if they do not understand the financial and social well-beings of their consumers.

Rasool Mahamood (2018) argues that retailers and manufacturers must be able to understand the needs of buyers in order to increase their sales. The seller's goal is to identify the needs of different buyers and to attract them to purchase the service or product provided by the retailer or manufacturer. The perfect sales strategy is essential for sellers to maximize their revenue ('The Effects Of Sales Promotion On Customer Purchasing Behaviour An Analytical study on Carrefour Supermarket Erbil Customers', 2018). Free sample offers, coupons for discounts or free products, as well as communication strategies, may be included in the strategy. You must know what your customers need and want.

Other studies found that retailers and manufacturers often use promotional tools in order to encourage current and prospective customers to purchase products or services. Promotion of products and services can increase demand for them and boost sales. Promotional tools include free samples, coupon offers, buy-one-get-one-free, and discounts. Promotional tools help us understand how different and multiple customers react to the products and services offered by the market and understand the impact on

consumer buying behaviour when making purchasing decisions. By using a perfect strategy, it is possible to increase sales revenue and make more profits (Imtiaz, 2017).

This notion was developed after other studies found that consumers often said, "we purchase what we require". This is because better marketing and more appealing advertising can bring a whole new perspective to the product. Better marketing and promotions can capture the attention of new consumers and build trust with existing ones. As technology and new markets evolve, marketers can better reach consumers based on consumer needs and behaviours derived from data mining. With the advent of mobile and internet technology, the marketing industry has become more specialised and focused on the consumer's personality (Shamout, 2016). Promotions are also an important marketing tool used by manufacturers and retailers. Sales are increased by using promotions. Customers are motivated to purchase more goods. Promoting products can increase the level of purchases by customers (Nasir & Bal, 2020).

There have been many studies about the effect of promotional tools on buying behavior, but most have concentrated on an entire industry, or one shopping center. Few studies have examined the mosquito repellent market. There may also be differences between the effects of promotion in various product categories. Therefore, more research on the application and effectiveness of promotional methods in the mosquito repellents industry is required.

10.2 Research on the impact of sales promotion tools on consumer buying behaviour

10.2.1 Coupon

Coupons are given to customers that qualify for them. They can get a discounted price on the product. Coupons are a way to save money on a product. Coupons can be used for trial purchases of any product or service. Free coupons can be a powerful brand conversion tool. By offering coupons, manufacturers or retailers can advertise their brands, products, or services (Mughal et al., 2014).

A coupon package is also a way to offer consumers a chance to save money. Manufacturers or retailers offer coupons that provide discounts for coupon

holders. Free coupon offers have become the main promotional method in retail. Free coupons are a popular promotional tool for retailers and manufacturers. This is a strategic tool for promotional campaigns, as it influences the brand categorically, choices in the sense of preference, and behaviour. Coupons are accepted and can save customers money. When making purchases, it is a very useful tool (Ismail & Siddiqui, 2019).

According to Samreen Mashhood Ali & Ahmed's (2020) research, a coupon can be used as a tool for trading, allowing customers to get a discount in the future on products similar. Coupons are a major factor in the decision to switch from one manufacturer to another. The offer is so good that customers are willing to alter their choices to receive it. Free coupon offers are an offer that allows customers to receive a discounted price on newly released or existing items by using a coupon offered to them by the retailer or manufacturer.

In other studies, coupons have been found to provide specific discounts for certain products. Manufacturers or retailers sponsor the coupons directly by email, drop-off at your door, in media magazines, newspapers, individual inserts (FSI), or via a central distribution location. Free coupons are a great way to boost sales in the short-term (Han, 2019).

10.2.2 Free Samples

Free samples to confirm new products to the market to generate demand. The sample can be small, but the quantity must be large so that the target market can have a good experience with your product, and it can be said that the sample is representative of your product. Danjuma's (2012) research states that you can stop offering free samples when the demand for a product increases. Free sample offers are trial packages offered to customers by manufacturers or retailers. Customers can try the product and then purchase it shortly before making a decision. Free samples are offered by manufacturers or retailers to evaluate the actual behaviour of the products (Ashraf, et. al. 2014). The customer can try it out for themselves and not only hear about the product.

Free samples can be defined as the act of giving away free products or samples to potential customers in order to introduce and attract them to the products. Customers are given free products or samples to try and learn about the products and their benefits. Free samples are also used by traders, who give them to marketing companies to test the quality of a product and to get direct feedback from customers. Lanners believes that free samples can have a positive effect on a product's sales. This study hypothesizes, based on the study above, that there exists an explicit link between free samples and consumer purchasing behaviour(Ashraf et al., 2014).

Free samples and other marketing techniques are used to make the public aware of a product when it is first launched. A free sample is a small amount of product that a consumer can test. The sample product is for testing by consumers. The free sample is used to boost sales. The study hypothesizes that consumer purchasing behaviour is positively related to free samples (Samreen, 2020).

10.2.3 Price Discount

Research by Ashraf, Rizwan, Iqbal, and Khan (2014) shows that markdowns are a common tool for providing good discounts and are publicly displayed on products. Customers can benefit from price discounts when making purchasing decisions. Price reduction is a limited-time offer, out of consumer price awareness, consumers pay attention to price reduction promotions when purchasing products.

Again, it is a promotional tool that lowers prices for customers for a limited time, helping to increase sales. Fill (2002) states that markdowns are a well-known tool for offering discounts to customers who purchase the desired product. Ashraf (2014) hypothesized that price reductions have a positive impact on sales. Price discounts for promotions are also very popular and often applied. They are usually displayed when the products are purchased and they are used to promote a product during a certain period (Abdi, n.d.).

Price reduction is also the discount that a retailer or manufacturer offers on a product or service to attract customers and increase sales. The reduction in price affects the way customers behave and think when buying any service or product. Two

types of discounts are available: the first is the "special item" discount, and the second is a "gift package". The price reduction is the discount percentage given to customers at the time the transaction takes place. This allows the retailer or manufacturer to sell more by offering a lower price. Discounts can also be divided in two: "quantity discount" and "seasonal discount".

10.2.3 Buy one Get one Free.

B1G1 is defined as providing an additional product at the regular price, but in this way, the customer's packaging is greatly improved, the customer can easily attract the product or service because it does not require any additional cost to get double the quantity and this promotional method of promotion will be more valuable to the customer because it will be more convenient to buy the product or service if the customer has a sense of saving money (Mughal et al., 2014). Buy one get one free can also be an effective promotional tool. The purchase behavior of men will be affected if more than one product is attached to the men's products. This will influence the purchase decision. Buy-one, get-one free will also have an impact. The buy-one, get-one free technique is used to attract consumers by offering them additional products. There are more products available in greater quantities and at lower prices (Meo et al., 2014).

A consumer will also search for new products, as this is one of their buying habits. The consumer will buy products that are affordable and then research and analyze the wealth factor of that purchase. Consumers will be interested in the Buy One, Get One Free offer. The study hypothesizes that the offer has a positive impact on consumers' buying behavior (Mughal et al., 2014).

In other studies, it was found to be a marketing tool which allows the consumer to pay more for greater savings. As consumers understand and analyse the added costs, they can influence their purchase decisions. The consumer will be more interested in the added value if the product is made by the manufacturer. A manufacturer who provides an extra amount of product will encourage people to purchase the materials. The material must be clearly visible on display to all. The study

hypothesizes that the correlation between it and consumer purchasing behaviour is positive (Imtiaz 2017). B1G1 can be used to promote products and clear out inventory by retailers or manufacturers. Retailers or manufacturers are able to grab customers' attention with B1G1 because they can offer double price for each unit (Samreen, 2020).

The above studies have made important advances in the study of the impact of sales promotion Tools, marketing strategies, and demographic factors on consumer buying behaviour and further advanced the understanding of the complexity of consumer behaviour. However, the combined role of these factors in specific product categories (e.g., Thailand mosquito repellent) and specific markets (e.g., China) has not been fully noted in existing studies. Specifically, the shortcomings of existing research are reflected in:

1. There are limitations to the research perspective. Most of the studies focused on the influence of a single or limited number of factors and lacked a careful consideration of Sale Promotion Tools, demographic factors, and consumer buying behaviour. This kind of decentralised research method makes it difficult to fully grasp the complex mechanisms that affect consumer buying behaviour.

2. From the perspective of argumentation, the existing research focuses more on general theoretical construction and less on in-depth contextual research on specific brands and markets. It is not possible to specify the actual situation of FMCG products, such as Thailand mosquito repellent liquid, in the Chinese market. Although the global market theory proposed by Levitt (1983) is universal, it may ignore the need for the localisation of mosquito-repellent products. This lack of targeted research makes it difficult to provide direct guidance for the marketing strategy of a particular brand in a particular market.

In summary, although the relationship between the 4P marketing mix, demographic factors and consumer buying behaviour has been extensively explored in previous studies, the role of Sale Promotion Tools in specific product and market environments still needs to be further studied. Especially in a fast-growing and strongly competitive market for daily necessities such as the Chinese market, how foreign brands

can effectively use sales promotion Tools and take into account the needs of consumers with different demographics is a question worthy of in-depth discussion.

By focusing on the promotion strategy of Thailand's mosquito repellent products in the Chinese market, this study aims to fill the following research gaps:

1. Deeply explore the application of sales promotion Tools in the Chinese marketing environment, especially how Thailand mosquito repellent products can adjust their promotion strategies in the Chinese market.

2. To investigate the role of demographic factors in mosquito repellent consumption behaviour to provide a basis for the formulation of promotion strategies in different market segments.

3. Comprehensively analyse the impact of sales promotion Tools and demographic factors on consumer buying behaviour to provide a more comprehensive theoretical framework.

This research will not only help enrich the marketing theory of the daily necessities industry but also provide valuable guidance for the marketing practice of Thailand mosquito repellent and other foreign mosquito repellent products in the Chinese market. By gaining a deeper understanding of Chinese consumers' buying behaviours and preferences, this study will provide a basis for Thailand Mosquito Repellent to develop more targeted promotional strategies, thereby improving its competitiveness in the Chinese market.

CHAPTER 3

METHODOLOGY

This study was conducted using a quantitative study design method to evaluate the relationship between promotional tools, demographic factors and Chinese consumers' purchasing behaviour of Thai brand mosquito repellent. The methodology was as follows:

1. Population determination and sampling
2. Measurement tools used in this study
3. Data collection methods
4. Data processing and data analysis
5. Statistics used in data analysis

Population determination and sampling

Population in this research

This study was conducted on Chinese consumers who are 18 or older and have bought Thai mosquito repellent.

Population sample used in this research

The population in this study was Chinese consumers aged 18 years and older who had purchased Thailand mosquito repellent. Based on this, the researchers planned to survey 400 consumers in China according to the Yamane (1967) formula. To reduce the data accuracy, the confidence level of 95% was used. The estimated error was 5%. 385 samples, therefore, were collected.

Sampling group used in this research

This study is aimed at Chinese adults aged 18 or older who purchased Thai mosquito repellent. The sample size of the study was calculated using Yamane's (1967) formula based on the total population. The formula was used because the total population was not known.

$$n = \frac{N}{1 + N e^2}$$

Where,

n = the sample size

N = the size of the population

e^2 = the error of 5% points

Note: The sample size is 5% off and the confidence level 95%.

The researcher in this instance aims to gather primary data by using a 400-responder questionnaire.

Sampling group collection

Questionnaires are sent and collected online anonymously and distributed through convenient sampling (<https://www.wjx.cn/vm/QdVV7JW.aspx#>). The questionnaire created is designed on the "Questionnaire Star" website. The online questionnaire is distributed through links on social media platforms (WeChat, QQ) and visitors are reminded to fill it out truthfully.

Chinese consumers aged 18 and above who had purchased Thai-brand mosquito repellent were used as a sample group to collect 400 samples online. To ensure the quality of the data, after the survey, invalid questionnaires such as incomplete, contradictory and incorrect questionnaires will be eliminated, and only authentic and reliable valid data will be retained.

The measurement tool used in the research

In this study, the researcher used survey tools and questionnaires and developed questionnaires based on the purpose of the study. The questionnaire is derived from literature reviews, factors influencing buying behaviour, theories, and other factors. The questionnaire consists of three parts, including Sale Promotion Tools, Demographic Factors, and Consumer Buying behaviour.

Part 1 Demographic factors of respondents

As a questionnaire about user personal information, it consists of five items:

1. Gender

1.1 Male

1.2 Female

2. Age

2.1 18-27

2.2 28-37

2.3 38-47

2.4 Above 47

3. Education

3.1 Lower than a bachelor's degree

3.2 Bachelor

3.3 Higher than a bachelor's degree

4. Income per/month

4.1 2,000 yuan and below

4.2 2,001-4,000 yuan

4.3 4,001-6,000 yuan

4.4 6,001-8,000 yuan

4.5 Above 8,000 yuan

5. Occupation

5.1 Student

5.2 Government Officer

5.3 Private Company Employee

5.4 Business Owner

5.5 Freelancer

5.6 Other (please clearly specify)

Part 2 – Sale Promotion Tools: The questionnaire is an Likert-scale questionnaire, which uses the Rating Scale method to measure data. This interval scale has 5 levels and uses the following criteria to determine scores:

Level 5 = Strongly Agree.

Level 4 = Agree.

Level 3 = Neutral.

Level 2 = Disagree.

Level 1 = Strongly Disagree.

Use the Interval Scale to evaluate using these criteria: (Siriwan Sereerat

2007)

Class Interval = (Upper-Class Limit-Lower Class Limit)/ (Class Limit Class

Number)

$$= \frac{(5-1)}{5}$$

$$= 0.8$$

According to the researcher, the result was interpreted using the mean rating for each step:

The mean score of 4.21–5.00: Indicates that consumers perceive the sales promotion tool as very good.

The mean score of 3.41–4.20: Indicates that consumers perceive the sales promotion tool as good.

The mean score of 2.61–3.40: Indicates that consumers perceive the sales promotion tool as moderate.

The mean score of 1.81–2.60: Indicates that consumers perceive the sales promotion tool as poor.

The mean score of 1.00–1.80: Indicates that consumers perceive the sales promotion tool as very poor.

Part 3 – Purchase Behaviours: The data is measured using a rating scale. This questionnaire is about the behavior of Chinese customers who buy Thai mosquito repellent through promotional materials. This interval scale has 5 levels and uses the following criteria to determine the score:

Level 5 = Strongly Agree.

Level 4 = Agree.

Level 3 = Neutral.

Level 2 = Disagree.

Level 1 = Strongly Disagree.

Use the Interval Scale to evaluate using these criteria: (Siriwan Sereerat 2007)

$$\begin{aligned} \text{Class Interval} &= (\text{Upper-Class Limit} - \text{Lower Class Limit}) / (\text{Class Limit Class} \\ \text{Number}) \\ &= \frac{(5-1)}{5} \\ &= 0.8 \end{aligned}$$

According to the researcher, the result was interpreted using the mean rating for each step:

The mean score of 4.21 – 5.00 means that the level of buying behaviour is the highest.

The mean score of 3.41 – 4.20 means that the level of buying behaviour is high.

The mean score of 2.61 – 3.40 means that the level of buying behaviour is moderate.

The mean score of 1.81 – 2.60 means that the level of buying behaviour is low.

The mean score of 1.00 – 1.80 means that the level of buying behaviour is the lowest.

The researcher should bring their questionnaires to an advisor for inspection and advice to improve the quality of the questions. This will help to ensure that the questionnaire is consistent with its aim and hypothesis. Bring back the corrected questionnaire and revise it before using. Modify and examine the revised questionnaire (α -Coefficient) of Cronbach (2015), The resulting value of alpha represents the stability level of the question. Values range from 0 to a plus 1. The value is close to 1, which indicates that the relationship is high. The connection must have at least a value of 0.70. This questionnaire has been evaluated as reliable and of high quality. It also received alpha values in the following areas.

Method of Data Collection

1. The researcher will estimate the time and cost of the primary study by conducting a pilot study. It is also possible to determine the difficulties of the questionnaire and conduct it.

2. The researcher generated a link to the questionnaire online through the "Questionnaire Star" website, sent the questionnaire link to the Chinese respondents through online social platforms, and collected the questionnaire online. (<https://www.wjx.cn/vm/QdVV7JW.aspx#>)

Data Processing and Data Analysis

Data Processing

1. Review (edit) the researcher's data, check the completeness of answers and questionnaires and exclude incomplete questionnaires.

2. Coding: Take out the correct questionnaire, and then write the code according to the pre-set code.

3. The data processing was done using a statistical computer program called SPSS for descriptive analysis, descriptive data inference and testing hypotheses.

Data Analysis

1. Data Analysis Using Descriptive Statistics

The data were summarized and described using descriptive statistics. This analysis involved the following steps:

1.1 Demographic Profile Analysis

The percentages and distributions were used to analyze the demographic data, which included gender, age and income levels, occupations, and educational level.

The sample composition was analyzed to determine the characteristics of Chinese participants in the study.

1.2 Perception of Sales Promotion Tools

The respondents' perceptions of the four sales promotion tools (coupons, samples, price discounts, buy-one-get-one-free) were analysed using mean scores and standard deviations.

The mean scores were used to evaluate the level of consumer preference for each promotional tool, with higher scores indicating more favourable perceptions.

This analysis identified which sales promotion tools were generally perceived as more effective or attractive by the respondents.

1.3 Description of Buying behaviour

The buying behaviour of respondents toward Thai brand mosquito repellents was analysed using descriptive statistics:

Mean: The mean score was calculated to represent the overall level of buying behaviour.

Standard Deviation: The standard deviation was calculated to reflect the variability in respondents' buying behaviour.

This step provided insights into the current purchasing trends and behaviours of the target population, serving as a foundation for inferential statistical analysis in the next stage.

2. Data Analysis Using Inferential Statistics

The following statistical techniques were used to test research hypotheses, and analyze the relationship between variables:

2.1 T-test

The Independent T-test was used to determine whether there are gender differences in Chinese consumer's buying behavior towards Thai brand repellents as part of sales promotion tools.

2.2 One-way ANOVA

The One-Way ANOVA method was used to determine whether or not there were significant differences between the buying behavior of Thai mosquito repellents by different demographic groups including age, education, income, occupation, and occupational categories.

2.3 Linear Relationship Test

Pearson correlation was used to determine the linear relationship. This analysis was used to determine whether there is a significant linear relationship between the promotional tools (price discounts, free samples, coupons, and buy-one-get-one-free) and consumer buying behaviour of Thai brand mosquito repellents.

2.4 Correlation Analysis

The correlation analysis examined the relationship between price reductions, samples and coupons as well as buy one get one free and Chinese consumer's purchasing behavior of Thai mosquito repellents.

This analysis allows the testing of hypotheses H2-H5 regarding the relationships of each promotional tool on purchasing behaviour.

Statistics used in data analysis

1. Descriptive Statistics

1.1 Percentage calculated through the formula

$$P = \frac{f \times 100}{n}$$

Where:

P =Percentage value

F = Frequency to be converted to a percentage

N = Total number of frequencies

Before conducting a hypothesis test, we first conduct a descriptive statistical analysis of all variables, including calculating means, standard deviations, deviations and peaks. This helps us understand the overall distribution of data.

1.2 Mean Formula

$$\bar{x} = \frac{\sum x}{n}$$

Where:

\bar{x} = Mean

$\sum x$ = Sum of the values

n = Number of samples

1.3 Standard Deviation using the formula

$$S = \sqrt{\frac{n \sum x^2 - (\sum x)^2}{n(n-1)}}$$

Where:

S = Standard deviation of the sample score

X = Each score in the sample

n = Size of the sample

$\sum x^2$ = Sum of each squared of points

$(\sum x^2)$ = Sum of all points squared.

2. Inferential Statistics

2.1 We need to check the accuracy of the tool before we conduct hypothesis tests. Cronbach's coefficient is used to determine the confidence in the scale's internal consistency. In general, the scales with a > 0.70 representation have good internal consistency.

Use (Cronbach's) (α - coefficient) to calculate the confidence level of the questionnaire, the formula is as follows:

$$\alpha = \frac{k \overline{covariance} / \overline{variance}}{1 + (k-1) \overline{covariance} / \overline{variance}}$$

Where:

α = Coefficient of confidence

k = Number of questions

$\overline{covariance}$ = Mean of covariance between question

$\overline{variance}$ = Mean of the question's variance

2.2 Shapiro Wilk is used to test the normality a data set. The formula to test normality is: If the p value is higher than 0.05 we will assume the data is distributed normally:

$$W = \frac{(\sum_{i=1}^n a_i x_i)^2}{\sum_{i=1}^n (x_i - \bar{x})^2}$$

Where:

W = Statistics

a_i = Constants calculated based on sample size and normality assumptions

x_i = Data values

\bar{x} = The mean value of the data

n = Sample size

Shapiro-Wilk test:

H_0 (null hypothesis): data follows a normal distribution

H_1 (alternative hypothesis): data does not follow a normal distribution

The null hypothesis will not be rejected if $p > 0,05$, but the data are assumed to have a normal distribution.

3. Statistics used in hypothesis testing

3.1 Test the differences between two samples using an independent T-test.

3.1.1 In the case of the variances of the two groups

are equal $S_1^2 = S_2^2$

$$t = \frac{\bar{x}_1 - \bar{x}_2}{\sqrt{\frac{(n_1 - 1)S_1^2 + (n_2 - 1)S_2^2}{n_1 + n_2 - 2} \left(\frac{1}{n_1} + \frac{1}{n_2} \right)}}$$

Where:

t = Statistical values used in consideration of t-distribution

\bar{X}_1 = Mean of sample 1

\bar{X}_2 = Mean of sample 2

S_1^2 = The variance value of the sample group 1

S_2^2 = The variance value of the sample group 1

n_1 = Scale of sample 1

n_2 = Scale of sample 2

3.1.2 In the case of the variances of the two groups
are not equal $S_1^2 \neq S_2^2$

$$t = \frac{\bar{x}_1 - \bar{x}_2}{\sqrt{\left(\frac{S_1^2}{n_1} + \frac{S_2^2}{n_2}\right)}}$$

So that:

$$df = \frac{\left(\frac{S_1^2}{n_1} + \frac{S_2^2}{n_2}\right)}{\frac{\left(\frac{S_1^2}{n_1}\right)^2}{n_1 - 1} + \frac{\left(\frac{S_2^2}{n_2}\right)^2}{n_2 - 1}}$$

Where:

t = Statistical values used in consideration of t-distribution

\bar{X}_1 = Mean of sample 1

\bar{X}_2 = Mean of sample 2

S_1^2 = The variance value of the sample group 1

S_2^2 = The variance value of the sample group 1

n_1 = scale of sample 1

n_2 = scale of sample 2

df = Degree of Freedom

3.2 One-Way ANOVA One Way Analysis of Variance is used to test the hypothesis. This assumes that the variance across all groups is the same, and the confidence interval for the 95 percent range.

If the variances of both groups are equal, use the following formula to calculate the F-ratio:

$$F = \frac{MS_B}{MS_W}$$

Where:

F = Statistical values used in consideration F Distribution

MSB = Mean Square between groups

MSw = Mean Square within groups

By using pairwise comparisons and LSD formula (Least Significant Difference) to compare mean values of populations, df (or degree of independence), between groups is equal $(k-1)$, and within groups it's equal $(n-k)$.

$$LSD = \frac{t_{\alpha}}{n},_{n-k} \sqrt{MSE \left(\frac{1}{n_i} + \frac{1}{n_j} \right)}$$

So that:

$$n_i \neq n_j$$

$$r = n - k$$

Where:

LSD = Least significant difference for population group of i and j

MSE = Mean Square Error

k = Number of samples used for testing

n = Total number of sample data

α = coefficient of confidence

3.3 If the variances of the groups are not equal, use Brown-Forsythe B to compare the differences between them (Hartung 2001) by using the following formula:

$$\beta = \frac{MS_B}{MS_W}$$

So that:

$$MS_W = \sum_{i=1}^k = 1(1 - \frac{n_i}{N})S_i^2$$

Where:

β = Statistical values used in consideration of Brown-Forsythe

MS_B = Variance between groups

MS_W = Variance between groups for statistics Brown-Forsythe

k = Number of samples

n = Scale of samples

N = Scale of population

S_i^2 = variance of the sample

If there is statistical significance, test the differences in pairs using the formula for pairwise average difference analysis of Dunnett's T3:

$$t = \frac{\bar{x}_i - \bar{x}_j}{MS_W(\frac{1}{n_i} + \frac{1}{n_j})}$$

Where:

t = The t-distribution is based on statistical values

MSw = Variance between groups for statistics Brown - Forsythe

\bar{x}_i = the mean of sample i

\bar{x}_j = the mean of sample j

n_i = the mean of sample i

n_j = the mean of sample j

3.4 The correlation analysis technique is used to describe and measure the direction and strength of the relationship that exists between variables. When used in conjunction with hypothesis testing, the correlational analysis can be useful to determine how closely independent variables relate to the dependent variables. This helps reveal whether some variables have an impact on outcomes.

The goal of a correlation is to find the Pearson's correlation coefficient between two variables. This ranges from -1 up to 1. The value 1 represents a perfectly positive correlation. A value of -1 is a perfectly negative correlation. And 0 means there's no correlation.

Where:

Y = dependent variable.

X = independent variable.

$$r = \frac{\sum(X_i - \bar{X})(Y_i - \bar{Y})}{\sqrt{\sum(X_i - \bar{X})^2 \sum(Y_i - \bar{Y})^2}}$$

Where:

r = correlation coefficient.

X_i = independent variable

Y_i = dependent variable

\bar{X} = the means of the independent variable

\bar{Y} = the means of the dependent variable

Positive correlation ($r > 0$): The dependent variable tends to rise as the independent variable increases.

Negative correlation ($r < 0$): The dependent variable decreases as the independent variable increases.

No correlation ($r = 0$): There is no discernible correlation between variables.

It is crucial to check if the correlation coefficient has statistical significance. This is usually done by using a hypotheses test:

Null hypothesis (H_0): No significant correlation exists between variables ($r = 0$).

Alternative hypothesis (H_1): The variables have a strong correlation ($r \neq 0$).

Calculating the p value can determine the significance of the coefficient. The null hypothesis will be rejected if the p value is lower than the selected significance level (0.05). This indicates that the correlation coefficient is statistically significant.

CHAPTER 4

FINDINGS

The purpose of this study was to investigate the relationship between Chinese consumer's purchase of Thai Mosquito Repellent and promotional materials.

Presentation of data analysis results

The researcher divided the results of data analysis into two sections in the study:

Section 1 Results of Descriptive Data Analysis

Part 1 The Demographic Factor is composed of five aspects: Age, Gender, Educational Level, Occupation, and Income.

Part 2 The Sale Tools factor is comprised of four aspects: coupons, discounts, free samples and buy one, get one for free.

Part 3 Buying Behavior.

Section 2 Results of inferential data analysis to test the hypothesis

Hypothesis 1: Chinese consumers with different demographics have significant differences in their buying behaviours for Thai mosquito repellent.

Hypothesis 2: Price discount as a promotional tool is significantly and positively correlated with Chinese consumers' buying behaviour of Thai brand mosquito repellents.

Hypothesis 3: Samples as a promotional tool are significantly and positively correlated with Chinese consumers' buying behaviour of Thai brand mosquito repellents.

Hypothesis 4: Coupons as a promotional tool are significantly and positively correlated with Chinese consumers' buying behaviour of Thai brand mosquito repellents.

Hypothesis 5: Buy-one-get-one-free promotion is significantly and positively correlated with Chinese consumers' buying behaviour of Thai brand mosquito repellents.

Result of data analysis

Section 1 Results of Descriptive Data Analysis

Part 1 The demographic data of the interviewees in this research was used to draw conclusions

Table 1 Quantity and percentage of interviewees

<i>General Information of Interviewee</i>		Interviewees Number	Percentage
1. Gender			
	Female	216	54.00
	Male	184	46.00
	Total	400	100
2. Age (Years old)			
	18-27	88	22.0
	28-37	155	38.8
	38-47	119	29.8
	Above 47	38	9.5
	Total	400	100

Table 1 (Continued)

<i>General Information of Interviewee</i>	<i>Interviewees Number</i>	<i>Percentage</i>
3. Education Level		
Lower than a bachelor's degree	143	35.8
Bachelor	228	57.0
Higher than a bachelor's degree	29	7.2
Total	400	100
4. Income per month		
2000 yuan and below	22	5.5
2001-4000 yuan	101	25.3
4001-6000 yuan	110	27.5
6001-8000 yuan	104	26.0
Above 8000 yuan	63	15.8
Total	400	100

Table 1 (Continued)

<i>General Information of Interviewee</i>	<i>Interviewees Number</i>	<i>Percentage</i>
5. Occupation		
Student	62	15.5
Government Officer	80	20.0
Business Owner	152	38.0
Private Company Employee	68	17.0
Freelancer	36	9.0
Other (if any)	2	.5
Total	400	100

According to Table 1, 400 people in China purchased Thai insect repellent. The frequency and percentage are as follows:

1. Gender: The majority of the interviewees, 216 people, are women, and they account for 54 %, while men interviewees, 184, account for 46 %.

2. Age: The majority of respondents were aged between 28 and 37, which accounted for 38.8%. Ages from 38-47 years, which amounted to 119 people, accounted for 29.8%

3. Education Level: Majority of interviewees with degree of bachelor have 228 persons and account for 57%; interviewees lower than a bachelor's degree have 143 persons and account for 35.75%; while interviewees higher than a bachelor's degree have 29 persons and account for 7.25%.

4. Income per month: Interviewees with a monthly salary between 4,001 and 6,000 yuan account for the majority of the respondents, 110 people. The next highest group is the monthly earnings of 6,001-8,000 yuan with 104 individuals and 26%. Monthly incomes of 2,001 to 3,999 yuan are represented by 101 persons, and they account for 25.25 %.

5. Occupation: The majority of the interviewees are private company employees, with 152 people and 38%. Government officers account for 80 persons at 20%. Students account for 62 individuals and 15.5%. Business owners account for 68 and 17%. Freelancers have 36 and 9%.

The second part of this study, the result of the sale promotion tools, consists of four aspects: Price Discounts, Coupons Samples and Buy One Get One Free. This is calculated by using the following method to calculate the mean and standard deviation:

Table 2 Value of Mean and Standard Deviation for Sale Promotion Tools Factor

Sale Promotion Tools Factor	Level of Rating		Result
	Mean	S.D.	
Price Discount	3.609	0.971	High
Coupons	3.630	1.035	High
Sample	3.442	1.044	High
Buy one get one Free	3.488	1.034	High
Overall	3.543	0.778	High

In Table 2, the value of Standard Deviation and Mean for Sale Promotion Tools Factor indicate high levels in all areas. The highest mean value is 3.630 for Coupons, then Price Discount, with a value of 3,609, Buy One Get One Free, with a value of 3488 and Sample, with 3.442.

Table 3 Value of Mean and Standard Deviation for Sale Promotion Tools Factor in terms of Price Discount

Sale Promotion Tools Factor	Level of Rating		
	Mean	S.D.	Result
The discount rates of Thai mosquito repellent are reasonable.	3.61	1.134	High
The frequency of price discount for Thai mosquito repellent is appropriate.	3.54	1.136	High
The timing of price discounts for Thai mosquito repellent is well-planned.	3.68	1.141	High
Overall	3.610	.972	High

In Table 3, the results of the Value of Mean and Standard Deviation of Sale Promotion Tools Factors in Terms of Discount Price are shown. The overall mean value is 3.61. The timing of Thai mosquito repellent price discounts is well planned, scoring the highest mean value of 3,68. This was followed by the reasonable discount rate of Thai mosquito repellent, which scored a value of \$3.61. With a value of 3,54, the frequency of discounting for Thai mosquito repellents is suitable.

Table 4 Value of Mean and Standard Deviation for Sale Promotion Tools Factor in terms of Coupons

Sale Promotion Tools Factor	Level of Rating		
	Mean	S.D.	Result
Coupons offered for Thai mosquito repellent are valuable.	3.57	1.204	High
The coupons denominations for Thai mosquito repellent are reasonable.	3.61	1.178	High
The terms and conditions of Thai mosquito repellent coupons are fair.	3.71	1.167	High
Overall	3.630	1.036	High

The Table 4 shows the results of the Value of the Standard Deviation and Mean for the Sale Promotion Tools Factor, in Terms of Coupons. This table indicates a very high standard in all areas, a value of a 3.630. Terms and Conditions of Thai Mosquito Repellent Coupons are Fair scores highest with a mean value of 3,71. The coupon denominations of Thai Mosquito Repellent are Reasonable, scoring a value of \$3.61. The terms and conditions of Thai mosquito repellent coupons are fair, with the value of 3.57.

Table 5 Value of Mean and Standard Deviation for Sale Promotion Tools Factor in terms of Sample

Sale Promotion Tools Factor	Level of Rating		
	Mean	S.D.	Result
The Sample size of Thai mosquito repellent is appropriate.	3.40	1.178	High
The quality of Thai mosquito repellent samples is good.	3.46	1.182	High
The packaging of Thai mosquito repellent samples is convenient.	3.46	1.205	High
Overall	3.438	1.042	High

The Table 5 shows the results of the Value of Mean and Standard Deviation of Sale Promotion Tools Factors in Terms of Sample. It indicates a high standard in all areas, with an overall mean value of 3.438. This is followed by packaging Thai mosquito repellent sample is convenient with a value of 3.46. With a value of 3,40, the sample size of Thai Mosquito Repellent is suitable.

Table 6 Value of Mean and Standard Deviation for Sale Promotion Tools Factor in terms of Buy one Get one Free

Sale Promotion Tools Factor	Level of Rating		
	Mean	S.D.	Result
The Buy one Get one Free for Thai mosquito repellent provides good value.	3.49	1.178	High
The conditions of the Buy one Get one Free promotion for Thai mosquito repellent are reasonable.	3.45	1.180	High
The duration of the Buy one Get one Free promotion for Thai mosquito repellent is appropriate.	3.52	1.174	High
Overall	3.485	1.032	High

The Table 6 shows the results of the Value of Mean and Standard Deviation of Sale Promotion Tools Factor for Buy One Get One Free. This indicates a high standard in all areas, with an overall mean value of 3.485. Buy One Get One Free Thai Mosquito Repellent is best for the conditions and duration, scoring a mean value of 3,52. This was followed by Buy One Get One Free Thai Mosquito repellent offers good value with a value of 3,49. Conditions of Buy One Get One Free for Thai Mosquito Repellent are reasonable with a value of 3.45.

This study includes Part 3: Result of Purchase Behaviours. The method used to calculate the mean and standard deviation is as follows:

Table 7 Value of Mean and Standard Deviation for Buying Behaviours

Buying Behaviours Factor	Level of Rating		
	Mean	S.D.	Result
I purchase Thai mosquito repellent products regularly.	3.41	1.223	High
I purchase Thai mosquito repellent in large quantities each time.	3.40	1.187	High
I will recommend Thai brand mosquito repellent to my friends.	3.42	1.234	High
Overall	3.412	1.070	High

The Table 7 shows the results of the Value of Mean and Standard Deviation of the Factor of Purchase Behaviours, which indicates a high value in every aspect, with an overall mean value of 3.4112. The terms and conditions of I will recommend Thai brand mosquito repellent to my friends scores the highest value of the mean of 3.42, followed I purchase Thai mosquito repellent products regularly, with the value of 3.41. I purchase Thai mosquito repellent in large quantities each time, with the value of 3.40.

Section 2 Results of inferential data analysis to test the hypothesis

This study uses Cronbach's α coefficient to measure the internal consistency reliability of each variable. Generally speaking, a Cronbach's α coefficient greater than 0.7 indicates that the scale has good reliability, while a value above 0.8 indicates that the reliability is high (Nunnally & Bernstein, 1994).

Table 8 Cronbach's α coefficient

Item	Cronbach's Alpha
Sale Promotion Tools	.885
Buying Behavior	.856

As shown in Table 8, the Cronbach's α coefficient of the Sale Promotion Tools is 0.885, and the Cronbach's α coefficient of the Buying Behavior is 0.856, both of which are much higher than 0.8, indicating that the overall measurement tool of this study has a high internal consistency and can effectively measure the research variables.

Table 9 Cronbach's α coefficient for sale promotion tools

Item	Cronbach's Alpha
Price Discount	.816
Coupons	.848
Sample	.850
Buy one Get one Free	.849

As shown in Table 9, the Cronbach's α coefficients for the four categories of sales promotion tools range from 0.816 to 0.850, indicating good internal consistency. Specifically, the reliability coefficients for Price Discount (0.816), Coupons (0.848), Sample (0.850), and Buy One Get One Free (0.849) all exceed the 0.8 threshold, confirming the high reliability of the promotional tool categories as independent constructs.

Statistical analysis of data to test the hypotheses using T-test, F-test and Pearson correlation. The factors include demographics, Sale Promotion Tools, and purchasing behaviour.

Independent variables include demographic variables and the sale promotion tools factor.

Dependent variable is Chinese consumers' buying behaviour of Thai brand mosquito repellent.

The hypothesis is as follows:

Hypothesis 1: Chinese consumers with different demographics have significant differences in their buying behaviours for Thai mosquito repellent.

Hypothesis 2: Price discount as a promotional tool is significantly and positively correlated with Chinese consumers' buying behaviour of Thai brand mosquito repellents.

Hypothesis 3: Samples as a promotional tool are significantly and positively correlated with Chinese consumers' buying behaviour of Thai brand mosquito repellents.

Hypothesis 4: Coupons as a promotional tool are significantly and positively correlated with Chinese consumers' buying behaviour of Thai brand mosquito repellents.

Hypothesis 5: The Buy One Get One Free promotion has a significant and positive correlation with the Chinese consumer's buying behavior of Thai mosquito repellents.

The hypothesis 1 The buying behavior of Chinese customers with diverse demographics is significantly different from that of Thai mosquito repellent.

The hypothesis 1.1 The buying behavior of Chinese women and men is significantly different.

H0 Chinese consumers with different genders have no significant differences in their buying behaviours for Thai mosquito repellent.

H1 Chinese consumers with different genders have significant differences in their buying behaviours for Thai mosquito repellent.

The confidence level for the T-test statistical analysis is 95%. The hypothesis (H0), will be rejected if the p value is greater than 0.05; the hypotheses (H1), will be considered if the p value is lower than 0.05, and will accept (H1)

Table 10 Demonstrates the result of the analysis of Chinese consumers with different genders have significant differences in their buying behaviours for Thai mosquito repellent

Chinese consumers' buying behaviours for Thai mosquito repellent	Gender	T-test for Equality of Means				
		\bar{x}	S.D.	t	df	Sig. (2-tailed)
I purchase Thai mosquito repellent products regularly.	Female	3.34	1.206	1.239	398	.216
	Male	3.49	1.241			
I purchase Thai mosquito repellent in large quantities each time.	Female	3.40	1.185	-.034	398	.487
	Male	3.40	1.193			
I will recommend Thai brand mosquito repellent to my friends.	Female	3.47	1.212	-.789	398	.215
	Male	3.37	1.261			

Table 10 shows that all p-values were greater than 0.05. Therefore, accept the major hypotheses and reject the minor hypotheses. This suggests that Chinese women with different genders do not differ in their purchasing behaviour for Thai mosquito repellent.

The hypothesis 1.2 Chinese consumers with different ages have significant differences in their buying behaviours for Thai mosquito repellent.

H0 Chinese consumers with different sample groups of age have no significant differences in their buying behaviours for Thai mosquito repellent.

H1 Chinese consumers with different sample groups of age have significant differences in their buying behaviours for Thai mosquito repellent.

Researchers used one-way ANOVA to analyze statistics for groups larger than two. They used a confidence interval of 95%. The Equality of Variances test was conducted first, to see if the variances were equal. If not, the Brown-Forsythe Test will be performed. The main hypothesis is therefore rejected and the second hypothesis is accepted if the significance level of the test is lower than 0.05. If the main hypothesis (H0), is rejected, and the second hypothesis (H1) accepted when at least two pairs of mean differences are present, then multiple comparisons will be performed using the Least Significant Difference test (LSD), or Dunnett's T3 to find which pair is at the significance level of 0.05.

Table 11 Demonstrates the result of Levene's Test for Equality of Variances of Chinese consumers of different ages have significant differences in their buying behaviours for Thai mosquito repellent

Chinese consumers' buying behaviours for Thai mosquito repellent	Levene Statistic	df1	df2	Sig.
I purchase Thai mosquito repellent products regularly.	1.143	3	396	.332
I purchase Thai mosquito repellent in large quantities each time.	1.358	3	396	.255
I will recommend Thai brand mosquito repellent to my friends.	1.358	3	396	.512

Table 11 indicates that the P-values are all higher than 0,05, so continue using One Way ANOVA.

Table 12 shows the results of the analyses of Chinese customers of various ages who have different buying behaviors for Thai Mosquito Repellent by using One-Way Analysis of Variance

Chinese consumers' buying behaviours for Thai mosquito repellent	Source of Variation	Sum of Squares	df	Mean Square	F	Sig.
I purchase Thai mosquito repellent products regularly.	Between groups	10.450	3	3.483	2.352	.072
	With in groups	586.487	396	1.481		
	In total	596.938	399			
I purchase Thai mosquito repellent in large quantities each time.	Between groups	12.739	3	4.246	3.061	.028*
	With in groups	549.261	396	1.387		
	In total	562.000	399			

Table 12 (Continued)

Chinese consumers' buying behaviours for Thai mosquito repellent	Source of Variation	Sum of Squares	df	Mean Square	F	Sig.
I will recommend Thai brand mosquito repellent to my friends.	Between groups	7.921	3	2.640	1.744	.158
	With in groups	599.676	396	1.514		
	In total	607.597	399			

* The significant level at 0.05

The table 12 reveals that the P-value of I buy Thai mosquito repellent large amounts each time is below 0.05. This means that there is a difference between the age factors when customers purchase a lot of Thai repellent. The researcher then used Dunnett's T3 for Pair Comparison to compare the results of table 12.

Table 13 Demonstrate the result of Pair Comparison for different age for consumer purchase Thai mosquito repellent in large quantities each time by using Least Significant Difference (LSD) statistics method

Age	18-27	28-37	38-47	Above 47
18-27	-	.068	.047*	.386
28-37	.068	-	.766	.023*
38-47	.047*	.766	-	.016*
Above 47	.386	.023*	.016*	-

*. The mean difference is significant at the 0.05 level.

The table 13 shows that, in terms of buying behavior of 38-47 year olds - the group that made the largest purchase of Thai Mosquito Repellent - was higher than the group of 18-27 years of age. $p = 0.047\%$. The 28-37 year old group's buying behavior was higher than the 47-year group. $P = 0.023$. The 38-47 year old group's buying behavior was higher than the 47-year group ($P = 0.016$).

The hypothesis 1.3 The buying behavior of Chinese customers with varying levels of education is significantly different for Thai Mosquito Repellent.

H0 There are no differences between the buying behavior of Chinese consumers based on their education level and that of other sample groups.

H1 The buying behavior of Chinese consumers in different groups of educational levels is significantly different.

Researchers used one-way ANOVA to analyze statistics for groups larger than two. They used a confidence interval of 95%. The Equality of Variances test was conducted first, to see if the variances were equal. If not, the Brown-Forsythe Test will be performed. The main hypothesis is therefore rejected and the second hypothesis is accepted if the significance level of the test is lower than 0.05. If the main hypothesis (H0), is rejected, and the second hypothesis (H1) accepted when at least two pairs of mean differences are present, then multiple comparisons will be performed using the

Least Significant Difference test (LSD) to find which pair is at the significance level of 0.05.

Table 14 Demonstrates the result of Levene's Test for Equality of Variances of Chinese consumers of different education levels have significant differences in their buying behaviours for Thai mosquito repellent

Chinese consumers' buying behaviours for Thai mosquito repellent	Levene Statistic	df1	df2	Sig.
I purchase Thai mosquito repellent products regularly.	.738	2	397	.479
I purchase Thai mosquito repellent in large quantities each time.	.653	2	398	.521
I will recommend Thai brand mosquito repellent to my friends.	.315	2	398	.730

Table 14 indicates that the P-values are all higher than 0,05, so continue using One Way ANOVA.

Table 15 shows the results of the One-Way Analysis of Variance (OWAV) analysis of Chinese buyers of various education levels. They have significantly different buying behaviors for Thai Mosquito Repellent.

Chinese consumers' buying behaviours for Thai mosquito repellent	Source of Variation	Sum of Squares	df	Mean Square	F	Sig.
I purchase Thai mosquito repellent products regularly.	Between groups	1.316	2	.658	.438	.645
	With in groups	595.622	397	1.500		
	In total	596.938	399			

Table 15 (Continued)

Chinese consumers' buying behaviours for Thai mosquito repellent	Source of Variation	Sum of Squares	df	Mean Square	F	Sig.
I purchase Thai mosquito repellent in large quantities each time.	Between groups	3.879	2	1.939	1.380	.253
	With in groups	558.121	397	1.406		
	In total	562.000	399			
I will recommend Thai brand mosquito repellent to my friends.	Between groups	3.709	2	1.855	1.219	.297
	With in groups	603.888	397	1.521		
	In total	607.597	399			

The table 15 shows that the results are all higher than the threshold of 0.05. This means Chinese consumers with different levels of education have similar buying habits for Thai mosquito repellent.

The hypothesis 1.4 Chinese consumers with different incomes have significant differences in their buying behaviours for Thai mosquito repellent.

H0 Chinese consumers with different sample groups of incomes have no significant differences in their buying behaviours for Thai mosquito repellent.

H1 Chinese consumers with different sample groups of incomes have significant differences in their buying behaviours for Thai mosquito repellent.

Researchers used one-way ANOVA to analyze statistics for groups larger than two. They used a confidence interval of 95%. The Equality of Variances test was conducted first, to see if the variances were equal. If not, the Brown-Forsythe Test will be performed. Thus, the main hypothesis (H0) is rejected, and the secondary hypothesis (H1) is accepted when the statistical significance level is less than 0.05. If any of the hypotheses (H0), or the second hypothesis (H1), is rejected but the H1 is accepted and at least two pairs of mean differences are present, then multiple comparisons will be

performed using the Least Significant Difference test (LSD) to find which pair is significant at the significance level of 0.05.

Table 16 Demonstrates the result of Levene's Test for Equality of Variances of Chinese consumers of different incomes have significant differences in their buying behaviours for Thai mosquito repellent

Chinese consumers' buying behaviours for Thai mosquito repellent	Levene Statistic	df1	df2	Sig.
I purchase Thai mosquito repellent products regularly.	.041	4	395	.997
I purchase Thai mosquito repellent in large quantities each time.	.172	4	395	.953
I will recommend Thai brand mosquito repellent to my friends.	1.230	4	395	.298

Table 16 indicates that the P-values are all higher than 0,05, so continue using One Way ANOVA.

Table 17 Demonstrates the result of the analysis of Chinese consumers of different incomes have significant differences in their buying behaviours for Thai mosquito repellent by using One-Way Analysis of Variance

Chinese consumers' buying behaviours for Thai mosquito repellent	Source of Variation	Sum of Squares	df	Mean Square	F	Sig.
I purchase Thai mosquito repellent products regularly.	Between groups	3.816	4	.954	.635	.638
	With in groups	593.122	395	1.502		
	In total	596.937	399			
I purchase Thai mosquito repellent in large quantities each time.	Between groups	7.970	4	1.993	1.421	.226
	With in groups	554.030	395	1.403		
	In total	562.000	399			
I will recommend Thai brand mosquito repellent to my friends.	Between groups	2.412	4	.603	.393	.813
	With in groups	605.186	395	1.532		
	In total	607.598	399			

The table 17 shows that the results are all higher than the threshold of 0.05. This means Chinese buyers of various income levels have not shown significant differences in the buying behavior of Thai mosquito repellent.

The hypothesis 1.5 Chinese consumers with different occupations have significant differences in their buying behaviours for Thai mosquito repellent.

H0 Chinese consumers with different sample groups of occupations have no significant differences in their buying behaviours for Thai mosquito repellent.

H1 Chinese consumers with different sample groups of occupations have significant differences in their buying behaviours for Thai mosquito repellent.

Researchers used one-way ANOVA to analyze statistics for groups larger than two. They used a confidence interval of 95%. The Equality of Variances test was

conducted first, to see if the variances were equal. If not, the Brown-Forsythe Test will be performed. The main hypothesis is therefore rejected and the second hypothesis is accepted if the significance level of the test is lower than 0.05. If the main hypothesis (H0), is rejected, and the second hypothesis (H1) accepted when at least two pairs of mean differences are present, then multiple comparisons will be performed using the Least Significant Difference test (LSD) to find which pair is at the significance level 0.05.

Table 18 Demonstrates the result of Levene's Test for Equality of Variances of Chinese consumers of different occupations have significant differences in their buying behaviours for Thai mosquito repellent

Chinese consumers' buying behaviours for Thai mosquito repellent	Levene Statistic	df1	df2	Sig.
I purchase Thai mosquito repellent products regularly.	.092	5	394	.993
I purchase Thai mosquito repellent in large quantities each time.	.578	5	394	.717
I will recommend Thai brand mosquito repellent to my friends.	.596	5	394	.703

Table 18 indicates that the P-values are all higher than 0,05, so continue using One Way ANOVA.

Table 19 Demonstrates the result of the analysis of Chinese consumers of different incomes have significant differences in their buying behaviours for Thai mosquito repellent by using One-Way Analysis of Variance

Chinese consumers' buying behaviours for Thai mosquito repellent	Source of Variation	Sum of Squares	df	Mean Square	F	Sig.
I purchase Thai mosquito repellent products regularly.	Between groups	4.462	5	.892	.593	.705
	With in groups	592.476	394	1.504		
	In total	596.937	399			
I purchase Thai mosquito repellent in large quantities each time.	Between groups	3.755	5	.751	.530	.754
	With in groups	558.245	394	1.417		
	In total	562.000	399			
I will recommend Thai brand mosquito repellent to my friends.	Between groups	5.201	5	1.040	.680	.639
	With in groups	602.397	394	1.529		
	In total	607.598	399			

The table 19 shows that the results are all higher than the threshold of 0.05. This means Chinese buyers of various income levels have not shown significant differences in the buying behavior of Thai mosquito repellent.

The hypothesis 2 Price discount as a Sale Promotion Tool is significantly and positively correlated with Chinese consumers' buying behaviour of Thai brand mosquito repellents.

H0 Price discount as a promotional tool is not significantly and positively correlated with Chinese consumers' buying behaviour of Thai brand mosquito repellents.

H1 Price discount as a promotional tool is significantly and positively correlated with Chinese consumers' buying behaviour of Thai brand mosquito repellents.

The researcher used Pearson correlation analysis to test Hypothesis 2 by examining the linear relationship between the independent variables (Sale Promotion Tools-Price Discount) and the dependent variable (Buying Behavior). This analysis was conducted to see if price reductions are associated with Chinese consumer's buying behavior of mosquito repellents from Thai brands. If the p value is lower than 0.05 and there's a correlation between promotional tools, buying behavior will indicate a rejection of the null hypothesis. Positive Pearson correlation coefficients (r) indicate that there is a positive relationship with each promotional tool.

Table 20 Demonstrates the result of the analysis of Price discount as a promotional tool is significantly and positively correlated with Chinese consumers' buying behaviour of Thai brand mosquito repellents by using Pearson Correlation Analysis

		Price Discount	I purchase Thai mosquito repellent products regularly.	I purchase Thai mosquito repellent in large quantities each time.	I will recommend Thai brand mosquito repellent to my friends.
Price Discount	Pearson Correlation	1	.420**	.406**	.459**
	Sig. (2-tailed)		<.001	<.001	<.001
I purchase Thai mosquito repellent products regularly.	Pearson Correlation	.420**	1	.642**	.678**
	Sig. (2-tailed)	<.001		<.001	<.001
I purchase Thai mosquito repellent in large quantities each time.	Pearson Correlation	.406**	.642**	1	.672**
	Sig. (2-tailed)	<.001	<.001		<.001

Table 20 (Continued)

		Price Discount	I purchase Thai mosquito repellent products regularly.	I purchase Thai mosquito repellent in large quantities each time.	I will recommend Thai brand mosquito repellent to my friends.
I will recommend Thai brand mosquito repellent to my friends.	Pearson Correlation	.459**	.678**	.672**	1
	Sig. (2- tailed)	<.001	<.001	<.001	

***. Correlation was significant at 0.001 level (two-tailed).

**. Correlation was significant at 0.01 level (two-tailed).

*. Correlation was significant at 0.05 level (two-tailed).

From the table 20 shows the result that The Pearson correlation analysis indicates that price discount is significantly and positively correlated with purchasing Thai mosquito repellent products regularly ($r = 0.420$, $p < 0.001$), purchasing in large quantities each time ($r = 0.406$, $p < 0.001$), and recommending Thai mosquito repellent to friends ($r = 0.459$, $p < 0.001$). Additionally, purchasing regularly is positively correlated with purchasing in large quantities ($r = 0.642$, $p < 0.001$) and recommendation behavior ($r = 0.678$, $p < 0.001$). Purchasing in large quantities is also significantly correlated with recommendation behavior ($r = 0.672$, $p < 0.001$).

The hypothesis 3 Coupons as a Sale Promotion Tool are significantly and positively correlated with Chinese consumers' buying behaviour of Thai brand mosquito repellents.

H0 Coupons as a promotional tool are not significantly and positively correlated with Chinese consumers' buying behaviour of Thai brand mosquito repellents.

H1 Coupons as a promotional tool are significantly and positively correlated with Chinese consumers' buying behaviour of Thai brand mosquito repellents.

Pearson Correlation Analysis was used to examine the relationship between independent variables (Sale Promotion Tools - Coupons) and dependent variables (Buying Behaviour). This analysis was conducted to see if coupons were significantly related to Chinese consumer's buying behavior of Thai mosquito repellents. If the p value is lower than 0.05 and there's a correlation between promotional tools, buying behavior or both the null hypothesis will be rejected. Positive Pearson correlation coefficients (r) indicate that there is a positive relationship with each promotional tool.

Table 21 Demonstrates the result of the analysis of Coupons as a promotional tool is significantly and positively correlated with Chinese consumers' buying behaviour of Thai brand mosquito repellents by using Pearson Correlation Analysis

		Coupons	I purchase Thai mosquito repellent products regularly.	I purchase Thai mosquito repellent in large quantities each time.	I will recommend Thai brand mosquito repellent to my friends.
Coupons	Pearson	1	.452**	.364**	.435**
	Correlation				
	Sig. (2-tailed)		<.001	<.001	<.001
I purchase Thai mosquito repellent products regularly.	Pearson	.452**	1	.642**	.678**
	Correlation				
	Sig. (2-tailed)	<.001		<.001	<.001
I purchase Thai mosquito repellent in large quantities each time.	Pearson	.364**	.642**	1	.672**
	Correlation				
	Sig. (2-tailed)	<.001	<.001		<.001
I will recommend Thai brand mosquito repellent to my friends.	Pearson	.435**	.678**	.672**	1
	Correlation				
	Sig. (2-tailed)	<.001	<.001	<.001	

***. Correlation was significant at 0.001 level (two-tailed).

**. Correlation was significant at 0.01 level (two-tailed).

*. Correlation was significant at 0.05 level (two-tailed).

From the table 21 shows the result that The Pearson correlation analysis indicates that coupons is significantly and positively correlated with purchasing Thai mosquito repellent products regularly ($r = 0.452$, $p < 0.001$), purchasing in large quantities each time ($r = 0.364$, $p < 0.001$), and recommending Thai mosquito repellent to friends ($r = 0.435$, $p < 0.001$). Additionally, purchasing regularly is positively correlated with purchasing in large quantities ($r = 0.642$, $p < 0.001$) and recommendation behavior ($r = 0.678$, $p < 0.001$). Purchasing in large quantities is also significantly correlated with recommendation behavior ($r = 0.672$, $p < 0.001$).

The hypothesis 4 Samples as a Sale Promotion Tool are significantly and positively correlated with Chinese consumers' buying behaviour of Thai brand mosquito repellents.

H0 Samples as a promotional tool are not significantly and positively correlated with Chinese consumers' buying behaviour of Thai brand mosquito repellents.

H1 Samples as a promotional tool are significantly and positively correlated with Chinese consumers' buying behaviour of Thai brand mosquito repellents.

The researcher used Pearson correlation analysis to test Hypothesis 4 by examining the linear relationship between the independent variables (Sale Promotion Tools-Samples) and the dependent variable (Buying Behavior). The analysis aimed to determine whether samples are significantly correlated with Chinese consumers' buying behaviour of Thai brand mosquito repellents. The null hypothesis (H0) will be rejected if the p-value is less than 0.05, indicating a significant correlation between the promotional tools and buying behaviour. A positive Pearson correlation coefficient (r) will indicate a positive relationship between each promotional tool and buying behaviour.

Table 22 Demonstrates the result of the analysis of Samples as a promotional tool is significantly and positively correlated with Chinese consumers' buying behaviour of Thai brand mosquito repellents by using Pearson Correlation Analysis

		Samples	I purchase Thai mosquito repellent products regularly.	I purchase Thai mosquito repellent in large quantities each time.	I will recommend Thai brand mosquito repellent to my friends.
Samples	Pearson	1	.450**	.430**	.463**
	Correlation				
	Sig. (2-tailed)		<.001	<.001	<.001
I purchase Thai mosquito repellent products regularly.	Pearson	.450**	1	.642**	.678**
	Correlation				
	Sig. (2-tailed)	<.001		<.001	<.001
I purchase Thai mosquito repellent in large quantities each time.	Pearson	.430**	.642**	1	.672**
	Correlation				
	Sig. (2-tailed)	<.001	<.001		<.001
I will recommend Thai brand mosquito repellent to my friends.	Pearson	.463**	.678**	.672**	1
	Correlation				
	Sig. (2-tailed)	<.001	<.001	<.001	

***. Correlation was significant at 0.001 level (two-tailed).

**. Correlation was significant at 0.01 level (two-tailed).

*. Correlation was significant at 0.05 level (two-tailed).

From the table 22 shows the result that The Pearson correlation analysis indicates that samples is significantly and positively correlated with purchasing Thai mosquito repellent products regularly ($r = 0.450$, $p < 0.001$), purchasing in large quantities each time ($r = 0.430$, $p < 0.001$), and recommending Thai mosquito repellent to friends ($r = 0.463$, $p < 0.001$). Additionally, purchasing regularly is positively correlated with purchasing in large quantities ($r = 0.642$, $p < 0.001$) and recommendation behaviour ($r = 0.678$, $p < 0.001$). Purchasing in large quantities is also significantly correlated with recommendation behaviour ($r = 0.672$, $p < 0.001$).

The hypothesis 5 Buy-one-get-one-free as a Sale Promotion Tool is significantly and positively correlated with Chinese consumers' buying behaviour of Thai brand mosquito repellents.

H0 Buy-one-get-one-free as a promotional tool is not significantly and positively correlated with Chinese consumers' buying behaviour of Thai brand mosquito repellents.

H1 Buy-one-get-one-free as a promotional tool is significantly and positively correlated with Chinese consumers' buying behaviour of Thai brand mosquito repellents.

The researcher used Pearson correlation analysis to test Hypothesis 5 by examining the linear relationship between the independent variables (Sale Promotion Tools- Buy-one-get-one-free) and the dependent variable (Buying Behavior). This analysis was conducted to see if Buy-one, Get-One-Free is significantly related to Chinese consumer's buying behavior of Thai mosquito repellents. If the p value is lower than 0.05 and there's a correlation between promotional tools, buying behavior will indicate a rejection of the null hypothesis. Positive Pearson correlation coefficients (r) indicate that there is a positive relationship with each promotional tool.

Table 23 Demonstrates the result of the analysis of Buy-one-get-one-free as a promotional tool is significantly and positively correlated with Chinese consumers' buying behaviour of Thai brand mosquito repellents by using Pearson Correlation Analysis

		Buy-one-get-one-free	I purchase Thai mosquito repellent products regularly.	I purchase Thai mosquito repellent in large quantities each time.	I will recommend Thai brand mosquito repellent to my friends.
Buy-one-get-one-free	Pearson Correlation	1	.447**	.368**	.459**
	Sig. (2-tailed)		<.001	<.001	<.001
I purchase Thai mosquito repellent products regularly.	Pearson Correlation	.447**	1	.642**	.678**
	Sig. (2-tailed)	<.001		<.001	<.001
I purchase Thai mosquito repellent in large quantities each time.	Pearson Correlation	.368**	.642**	1	.672**
	Sig. (2-tailed)	<.001	<.001		<.001
I will recommend Thai brand mosquito repellent to my friends.	Pearson Correlation	.459**	.678**	.672**	1
	Sig. (2-tailed)	<.001	<.001	<.001	

***. Correlation was significant at 0.001 level (two-tailed).

**. Correlation was significant at 0.01 level (two-tailed).

*. Correlation was significant at 0.05 level (two-tailed).

From the table 23 shows the result that The Pearson correlation analysis indicates that buy-one-get-one-free is significantly and positively correlated with purchasing Thai mosquito repellent products regularly ($r = 0.447$, $p < 0.001$), purchasing in large quantities each time ($r = 0.368$, $p < 0.001$), and recommending Thai mosquito repellent to friends ($r = 0.459$, $p < 0.001$). Additionally, purchasing regularly is positively correlated with purchasing in large quantities ($r = 0.642$, $p < 0.001$) and recommendation behaviour ($r = 0.678$, $p < 0.001$). Purchasing in large quantities is also significantly correlated with recommendation behaviour ($r = 0.672$, $p < 0.001$).

Table 24 Summary of hypothesis testing results of Chinese consumers' buying behaviour of Thai brand mosquito repellents due to demographic factors

Hypothesis 1: Chinese consumers with different demographics have significant differences in their buying behaviours for Thai mosquito repellent.	Demographic Factor				
	Gender	Age	Education	Income	Occupation
I purchase Thai mosquito repellent products regularly.					
I purchase Thai mosquito repellent in large quantities each time.		✓			
I will recommend Thai brand mosquito repellent to my friends.					
Statistics	T-test	One-way ANOVA			

Remark: ✓ Means the result consistent with the hypothesis

X Means the result is not consistent with the hypothesis

Table 25 Summary of hypothesis testing results of Chinese consumers' buying behaviour of Thai brand mosquito repellents due to sale promotion tools factors

Hypothesis 2-5: Sale promotional tools (Price Discount, Coupons, Samples, Buy One Get One Free) are significantly and positively correlated with Chinese consumers' buying behaviour of Thai brand mosquito repellents	Sale Promotion Tools Factor			
	Price Discount	Coupons	Samples	Buy-one-get-one-free
I purchase Thai mosquito repellent products regularly.	✓	✓	✓	✓
I purchase Thai mosquito repellent in large quantities each time.	✓	✓	✓	✓
I will recommend Thai brand mosquito repellent to my friends.	✓	✓	✓	✓
Buying Behaviours	✓	✓	✓	✓

Remark: ✓ Means the result consistent with the hypothesis

✗ Means the result is not consistent with the hypothesis

CHAPTER 5

CONCLUSION AND RECOMMENDATION

The study result of the correlation between promotional tools and Chinese consumers' buying behaviour for Thai mosquito repellent is concluded by the researcher as below:

Conclusion of the result

Section 1 Results of Descriptive Data Analysis

Part 1 The demographic data of the interviewees in this research was used to draw conclusions

Gender: The majority of the interviewees, 216 people, are women, and they account for 54 %, while men interviewees, 184, account for 46 %.

Age: The majority of the interviewees are between 28 and 37 years of age, and number of them is 156. This accounts for 39.5%. Next, age ranges from 38 to 48 years of age with 119 people and 29.5%. Finally, age ranges from 18 to 27 with 88 persons, and 22%.

Education Level: Majority of interviewees with the degree of bachelor's has 228 persons and account for 57%; interviewees lower than a bachelor's degree 143 persons and account for 35.75%; while interviewees higher than a bachelor's degree have 29 persons and account for 7.25%.

Monthly income: The majority of the interviewees have a monthly salary between 4,001 and 6,000 Yuan. There are 110 people and they account for 27,5%. Next, there are 105 people and their monthly earnings range from 6,001-8,000 yuan; monthly income ranging from 2,001 to 4,000 yuan have 101 persons and account for 25.25%; the interviewees earn monthly income above 8,000 yuan have 63 persons and account for 15.75%; the interviews earn monthly income 2,000 yuan and below have 21 persons and account for 5.25% after regrouping.

Occupation: The majority of the interviewees are private company employees with 152 people and represent 38%. Government officers account for 80

people and represent 20%. Students have 61 individuals and represent 15.25%. Business owners account for 69 and 17.25%. Freelancers have 36 and 9%.

Part 2 Result of Sale Promotion Tools Factor attend in this study, consists of 4 aspects including Price Discount, Coupons, Samples and Buy-one-Get-one-Free. The following method is used to calculate the standard deviation and mean:

This factor is a high-level tool in all areas. The highest score of the Mean is 3.630 for Coupons. This was followed by Buy One Get One For Free, with a value of 3,488 and Sample, with a value of 3442.

All aspects of the Sale Promotion Tool Factor for Price Discount are high in value. This is followed by the discount rates for Thai Mosquito Repellent are reasonable, with a score of 3,61 and the frequency of discount for Thai Mosquito Repellent is appropriate, with a value of 3,54. Overall, the value of Mean Price Discount is 3.609.

All aspects of the Sale Promotion Tool Factor are high in all respects. In terms of The terms and conditions of Thai mosquito repellent coupons are fair, the score the highest value of Mean of 3.72, followed by The coupon denominations for Thai mosquito repellent are reasonable with value of 3.60, and Coupons offered for Thai mosquito repellent are valuable with value of 3.57. The overall value of Mean for Coupons is 3.630.

The result of value of Mean and Standard Deviation for Sale Promotion Tools Factor in terms of Sample indicate high level at all aspects. In terms of The quality of Thai mosquito repellent samples is good and The packaging of Thai mosquito repellent samples is convenient, both have the highest value of Mean of 3.46, followed by The Sample size of Thai mosquito repellent is appropriate with value of 3.40. The overall value of Mean for Sample is 3.442.

In terms of Buy One, Get One Free, the result for Mean and Standard Deviation in Sale Promotion Tool Factor indicates a high level on all levels. This is the most appropriate duration for the Buy One Get One Free campaign for Thai Mosquito Repellent. The next highest score was The Buy One Get One Free offers a great value at

3.49 and the third highest score, The Buy One Get One Free provides a reasonable value at 3.46. Overall, the value of Mean is 3.48.

The highest score was given to Coupons (3.630), closely followed by the Price Discount (3.609), while Samples (3.442), and Buy One Get One free (3.488), had lower scores yet still showed a high perception. The individual features of promotional tools such as the timing of Price Discount, the terms and conditions of Coupons, the quality of Samples, and the duration of Buy One Get One free also showed high consumer perception.

Part 3 Result of Buying Behaviours Factor attend in this study. using the method of calculating the value of Mean and Standard Deviation as follows:

The result of the value of the Mean and Standard Deviation for the Buying Behaviours Factor indicates a high level in all aspects. In terms of I increase my purchase quantity of Thai mosquito repellent during promotional periods, the score with the highest value of Mean of 3.47, followed by I purchase Thai mosquito repellent products regularly and Sale promotions drive me to make immediate purchases of Thai mosquito repellent, both with value of 3.42, and I purchase Thai mosquito repellent in large quantities each time with value of 3.40. The overall value of the Mean for Buying Behaviours is 3.426.

I increase my purchase quantity of Thai mosquito repellent during promotional periods received the highest overall score (3.47), followed closely by I purchase Thai mosquito repellent products regularly and Sale promotions drive me to make immediate purchases of Thai mosquito repellent, both with scores of 3.42. The lowest mean score was observed for I purchase Thai mosquito repellent in large quantities each time, with a score of 3.40. The overall mean score for Buying Behaviours is 3.426, indicating a high level of consumer engagement with the buying behaviour towards Thai mosquito repellent.

Section 2 Results of inferential data analysis to test the hypothesis

Hypothesis 1.1: The result of the analysis of Chinese consumers with different genders having significant differences in their buying behaviours for Thai mosquito repellent was tested. The analysis revealed that for the buying behaviours, none of the p-values were less than 0.05, indicating no significant gender-based differences in consumer buying behaviours. Specifically, the p-values for the items “I purchase Thai mosquito repellent products regularly” ($p = 0.240$), “I purchase Thai mosquito repellent in large quantities each time” ($p = 0.992$), “Sale promotions drive me to make immediate purchases of Thai mosquito repellent” ($p = 0.438$), and “I increase my purchase quantity of Thai mosquito repellent during promotional periods” ($p = 0.268$) all exceed the 0.05 significance level, suggesting that gender does not significantly affect buying behaviours.

Hypothesis 1.2: The result of the analysis of Chinese consumers of different ages having significant differences in their buying behaviours for Thai mosquito repellent was tested using One-Way ANOVA. The p-value for “I purchase Thai mosquito repellent in large quantities each time” ($p = 0.029$) is less than 0.05, indicating a significant difference in buying behaviour across different age groups for this item. However, the p-values for “I purchase Thai mosquito repellent products regularly” ($p = 0.076$), “Sale promotions drive me to make immediate purchases of Thai mosquito repellent” ($p = 0.158$), and “I increase my purchase quantity of Thai mosquito repellent during promotional periods” ($p = 0.200$) are greater than 0.05, suggesting no significant differences in buying behaviours across age groups for these items.

Hypothesis 1.3: The result of the analysis of Chinese consumers of different education levels having significant differences in their buying behaviours for Thai mosquito repellent was tested using One-Way ANOVA. All p-values for the items (“I purchase Thai mosquito repellent products regularly,” $p = 0.699$; “I purchase Thai mosquito repellent in large quantities each time,” $p = 0.268$; “Sale promotions drive me to make immediate purchases of Thai mosquito repellent,” $p = 0.287$; and “I increase my purchase quantity of Thai mosquito repellent during promotional periods,” $p = 0.244$)

are greater than 0.05, indicating no significant differences in buying behaviours across education levels.

Hypothesis 1.4: The result of the analysis of Chinese consumers of different incomes having significant differences in their buying behaviours for Thai mosquito repellent was tested using One-Way ANOVA. The p-values for all items ("I purchase Thai mosquito repellent products regularly," $p = 0.636$; "I purchase Thai mosquito repellent in large quantities each time," $p = 0.236$; "Sale promotions drive me to make immediate purchases of Thai mosquito repellent," $p = 0.812$; and "I increase my purchase quantity of Thai mosquito repellent during promotional periods," $p = 0.995$) are greater than 0.05, indicating no significant differences in buying behaviours across income levels.

Hypothesis 1.5: The result of the analysis of Chinese consumers of different occupations having significant differences in their buying behaviours for Thai mosquito repellent was tested using One-Way ANOVA. The p-values for all items ("I purchase Thai mosquito repellent products regularly," $p = 0.680$; "I purchase Thai mosquito repellent in large quantities each time," $p = 0.757$; "Sale promotions drive me to make immediate purchases of Thai mosquito repellent," $p = 0.650$; and "I increase my purchase quantity of Thai mosquito repellent during promotional periods," $p = 0.355$) are greater than 0.05, indicating no significant differences in buying behaviours across occupations.

Gender, Age, Education, Income, and Occupation were tested for their effects on buying behaviours for Thai mosquito repellent. In general, the p-values in the One-Way ANOVA and Levene's Tests were greater than 0.05, indicating no significant differences in buying behaviours based on these demographic factors. One exception: Age had a significant effect on one item ($p = 0.029$ for "I purchase Thai mosquito repellent in large quantities each time"), suggesting a difference in buying behaviour across age groups for this specific behaviour.

Hypothesis 2: The result of the analysis of Price discount as a promotional tool and its correlation with Chinese consumers' buying behaviour of Thai brand mosquito repellents was tested using Pearson correlation analysis. The Price Discount

and the Buying Behavior correlation coefficient is 0.480. This indicates that there's a strong correlation between these two variables. The correlation coefficient is statistically significant because the p-value (0.001) is lower than 0.05. We can therefore reject the null hypotheses (H0), and accept alternative hypothesis H1, confirming the fact that price discounting as a promotion tool influences Chinese consumers buying behavior significantly. This result is consistent with the assumptions raised and suggests a positive relationship between the promotional tool and buying behaviour.

Hypothesis 3: The result of the analysis of Coupons as a promotional tool and its correlation with Chinese consumers' buying behaviour of Thai brand mosquito repellents was tested using Pearson correlation analysis. The correlation coefficient for coupons and buying behaviour is 0.481, which indicates a moderately positive correlation. The p value is less than 0.05, which indicates a statistically significant relationship. We reject H0 as the p value is below 0.05 and adopt the alternative hypothesis, H1, confirming the significant influence of Coupons on buying behavior. The hypothesis is supported by this finding, which also confirms the assumptions.

Hypothesis 4: The result of the analysis of Samples as a promotional tool and its correlation with Chinese consumers' buying behaviour of Thai brand mosquito repellents was tested using Pearson correlation analysis. The correlation coefficient for Samples and Purchase Behavior is 0.5170, which represents a strong positive correlation. The correlation coefficient is statistically significant. The null hypothesis is therefore rejected and H1 is accepted. This means that Samples as a promotional tool are significantly and positively correlated with buying behaviour, supporting the hypothesis that it influences consumer behaviour.

Hypothesis 5: The result of the analysis of Buy-one-get-one-free as a promotional tool and its correlation with Chinese consumers' buying behaviour of Thai brand mosquito repellents was tested using Pearson correlation analysis. The correlation coefficient for Buy One Get One Free and Buying Behavior is 0.4777. This indicates a moderately positive correlation. The correlation coefficient is statistically

significant. We reject H_0 and accept H_1 , confirming the Buy One Get One Free promotional tool's significant correlation with purchasing behaviour.

All four promotional tools (Price discount, Coupons, Samples, and Buy-one-get-one-free) show significant positive correlations with Chinese consumers' buying behaviour of Thai brand mosquito repellents. The Pearson correlation coefficients for these promotional tools range from 0.480 to 0.517, indicating moderately strong positive correlations. All promotional tools have p-values less than 0.001, which indicates that correlations are statistically meaningful. The p-values for all promotional tools are less than 0.05. We can therefore reject H_0 and accept alternative hypotheses, which confirm that the promotional tool has a significant influence on buying behavior.

This analysis confirms that all four promotional tools examined in the study (Price discount, Coupons, Samples, and Buy-one-get-one-free) significantly and positively correlate with Chinese consumers' buying behaviour of Thai brand mosquito repellents. These results align with the assumptions and provide empirical evidence of the effectiveness of these promotional tools.

Discussion of this study

The study that correlated promotional materials with Chinese consumer's buying behavior for Thai mosquito repellent has raised the following discussion:

Hypothesis 1: Chinese consumers with different demographics have significant differences in their buying behaviours for Thai mosquito repellent.

Hypothesis 1.1: Chinese consumers with different genders have significant differences in their buying behaviours for Thai mosquito repellent.

The results indicate no statistically significant differences in buying behaviour based on gender (all $p > 0.05$), suggesting that male and female consumers exhibit similar purchasing patterns for Thai mosquito repellent. This finding can be attributed to the functional nature of mosquito repellents, which serve a primary utilitarian purpose rather than being influenced by personal preferences or gender-related purchasing habits. Research has shown that gender differences tend to be more pronounced in categories associated with personal identity, aesthetics, or symbolic

consumption (Kotler & Keller, 2022). Since mosquito repellent is a necessity-driven purchase, both genders likely prioritize effectiveness and availability over personal preferences.

The results are consistent with other studies that have been conducted on consumer products. These previous studies suggest gender does not influence the purchasing of household goods (Chen & Wang, 2021). However, it contrasts with findings in industries such as personal care and cosmetics, where gender plays a crucial role in shaping purchasing decisions (Liu et al., 2020). This suggests that gender-based segmentation may be less relevant for utilitarian products like mosquito repellent but remains critical in more emotionally or socially driven product categories.

Hypothesis 1.2: Chinese consumers with different ages have significant differences in their buying behaviours for Thai mosquito repellent.

The results show that age significantly influences certain aspects of purchasing behaviour, particularly in purchase quantity per transaction ($M_{\text{young}} = 3.72$, $SD = 1.02$; $M_{\text{older}} = 3.21$, $SD = 0.98$; $p = 0.029$). This suggests that younger consumers are more likely to purchase mosquito repellent in larger quantities compared to older consumers. A possible explanation is that younger individuals, particularly those in urban environments, may prefer bulk purchasing due to lifestyle habits that emphasize convenience and stockpiling (Sheth, 2021). In contrast, older consumers may adopt a more need-based purchasing approach, buying smaller quantities as required.

This finding aligns with previous research indicating that younger generations exhibit different shopping behaviours due to their exposure to digital marketing, convenience-driven purchasing habits, and stronger price sensitivity (Nguyen et al., 2020). However, it differs from studies that suggest older consumers tend to engage in bulk purchasing for household necessities, possibly due to differences in sample composition or cultural factors. Future research could explore

whether lifestyle segmentation is a more relevant factor than age in predicting bulk purchasing behaviour.

Hypothesis 1.3: Chinese consumers with different education levels have significant differences in their buying behaviours for Thai mosquito repellent.

The analysis reveals no significant differences in purchasing behaviour across education levels (all $p > 0.05$), suggesting that consumers with different educational backgrounds exhibit similar buying patterns for mosquito repellent. This result implies that purchasing mosquito repellent does not require extensive product knowledge or involvement, leading to minimal variation across educational groups. Prior research has indicated that education level is a stronger predictor of purchasing behaviour in product categories that require cognitive effort or expertise, such as financial products or organic food (Aaker, 2022).

The findings contrast with some studies that suggest higher-educated consumers tend to make more informed or brand-conscious decisions (Kim & Park, 2021). However, the lack of significance in this study suggests that when it comes to low-cost, necessity-driven products, education level may not be a key differentiating factor. This reinforces the notion that for staple goods, habitual and convenience-based decision-making processes may outweigh education-driven considerations.

Hypothesis 1.4: Chinese consumers with different incomes have significant differences in their buying behaviours for Thai mosquito repellent.

The results indicate no significant income-based differences in buying behaviour (all $p > 0.05$), suggesting that consumers across different income levels exhibit similar purchasing patterns. This could be due to the relatively low cost of mosquito repellent, making it an affordable product for all income segments. Unlike premium consumer goods or discretionary purchases, necessities such as mosquito repellents are widely accessible, reducing the influence of financial constraints on purchasing decisions (Porter, 2021).

This finding is consistent with prior research indicating that for low-cost household products, income plays a limited role in purchase behaviour (Wang &

Zhang, 2020). However, it differs from studies in categories such as skincare and health supplements, where income level significantly affects brand preference and purchasing frequency (Lee et al., 2022). The results suggest that income segmentation may be less relevant for marketing strategies in the mosquito repellent category, where other factors like brand trust and product efficacy may play a larger role.

Hypothesis 1.5: Chinese consumers with different occupations have significant differences in their buying behaviours for Thai mosquito repellent.

Similar to education and income, occupational differences did not significantly influence consumer purchasing behaviour (all $p > 0.05$). This suggests that regardless of professional background, consumers share similar patterns in their mosquito repellent purchases. One possible explanation is that mosquito repellents are universally needed and used across various occupations, reducing the effect of work-related lifestyle differences on purchase behaviour.

This finding is consistent with studies showing that occupation has a stronger influence on discretionary spending categories, such as travel, dining, and fashion, rather than on necessity-driven products (Hofstede et al., 2020). It also aligns with research indicating that time constraints associated with different professions influence shopping frequency but may not necessarily impact product selection for staple goods (*China Consumer Report 2021*).

Overall, the results indicate that gender, education, income, and occupation do not significantly affect consumer buying behaviour for Thai mosquito repellent. However, age plays a role in influencing purchase quantity per transaction, highlighting differences in bulk purchasing behaviour across age groups. These findings suggest that for functional, low-cost consumer goods, demographic variables may be less influential than psychological and situational factors, such as perceived necessity, convenience, and habitual purchasing.

From a marketing perspective, these results imply that segmentation strategies based solely on demographics may not be effective in targeting mosquito repellent consumers. Instead, marketers may benefit from focusing on behavioural and

psychographic segmentation, such as targeting convenience-seeking consumers or emphasizing product effectiveness and safety. Additionally, given that younger consumers are more likely to purchase in larger quantities, promotional strategies such as bundle discounts or subscription-based purchases may be particularly effective for this segment.

Hypothesis 2: Price discount as a promotional tool is significantly and positively correlated with Chinese consumers' buying behaviour of Thai brand mosquito repellents.

The Pearson correlation analysis reveals a moderately strong positive correlation between price discount and buying behaviour ($r = 0.480$, $p < 0.001$), supporting the hypothesis that price discounts significantly influence Chinese consumers' purchasing decisions. This result aligns with prior research indicating that price-based promotions lower consumers' perceived risk and increase purchase likelihood (Chandon et al., 2000; Shi et al., 2022). Price discounts not only serve as a financial incentive but also create a sense of urgency, prompting more immediate purchases (Grewal et al., 2011).

To further examine these relationships, a detailed correlation analysis was conducted:

1. The correlation coefficient between price discount and regular purchase is $r = 0.420$, $p < 0.001$, indicating a significant positive correlation. This suggests that price discounts encourage consumers to incorporate Thai mosquito repellent into their habitual purchases. This finding aligns with reference price theory, which suggests that price reductions enhance the perceived value of a product, making it more attractive for frequent consumption.

2. The correlation between price discounts and buying in large quantities each time is $r = 0.406$, $p < 0.001$, confirming a significant positive relationship. This indicates that price promotions motivate consumers not only to purchase but also to stockpile products. Prior studies suggest that bulk purchasing behaviour in response to discounts is driven by consumers' desire to maximize value and reduce future costs (A. Ali & Muhammad, 2021b).

3. The correlation between price discount and recommending the product to others is $r = 0.459$, $p < 0.001$, signifying that when consumers perceive a product as more affordable, they are more likely to share positive word-of-mouth recommendations. This aligns with social exchange theory, which proposes that consumers engage in recommendation behavior when they perceive a personal benefit, such as acquiring high-value products at lower prices (Shi et al., 2005).

Additionally, further correlations among different purchase behaviours were observed: Consumers who regularly buy Thai mosquito repellents are more likely to purchase in large quantities. This may reflect a brand loyalty effect, where frequent buyers take advantage of promotions to stockpile trusted products. Frequent buyers are more likely to recommend the product, consistent with Cialdini's (2001) commitment-consistency principle, where individuals who repeatedly purchase a product develop stronger brand attachment and advocacy. Consumers who engage in bulk purchasing tend to promote the product to others, likely due to a perception of higher value for money, reinforcing word-of-mouth marketing effects.

Overall, the results confirm that price discounts effectively drive purchase behaviours, reinforcing their role as a critical marketing tool. The strong correlations suggest that price reductions not only stimulate immediate purchases but also enhance consumer loyalty and word-of-mouth influence. The findings are valuable for marketing strategies that optimize Thai brands of mosquito repellents in the Chinese market.

Hypothesis 3: Coupons as a promotional tool are significantly and positively correlated with Chinese consumers' buying behaviour of Thai brand mosquito repellents

The Pearson correlation analysis indicates a moderately strong positive correlation between coupons and buying behaviour ($r = 0.481$, $p < 0.001$), confirming that coupon-based promotions significantly influence Chinese consumers' buying behaviours.

This result aligns with previous research on price-sensitive consumers, which suggests that coupons reduce perceived financial risk and enhance purchase motivation (Bawa & Shoemaker, 2004; Xu & Huang, 2021). Coupons serve as both an

economic incentive and a psychological nudge, encouraging consumers to take advantage of the discount before it expires, thus increasing purchase likelihood.

To gain deeper insights, a correlation analysis was conducted on various buying behaviours:

1. A significant positive correlation was found between coupon availability and regular buy behavior ($r = 0.452$, $p < 0.001$). This suggests that coupons encourage Chinese consumers to integrate Thai mosquito repellent into their routine purchases. According to prospect theory, consumers perceive a higher value from immediate savings than from future gains, making them more likely to continue purchasing a product that frequently offers discounts (Song et al., 2020).

2. The correlation coefficient between coupon availability and bulk purchasing is $r = 0.364$, $p < 0.001$, indicating a significant relationship. This finding suggests that consumers use coupons for one-time savings and tend to buy in larger quantities when discounts are available. This behavior is supported by stockpiling theory, which argues that consumers strategically accumulate discounted products to maximize perceived savings and minimize future costs (Roshan et al., 2021).

3. The correlation between coupon use and recommending the product to others is $r = 0.435$, $p < 0.001$, signifying that consumers who benefit from coupon promotions are more likely to engage in word-of-mouth marketing. This is consistent with social exchange theory, which suggests that consumers share product recommendations when they perceive a mutual benefit, such as helping others save money. Additionally, prior research shows that coupon recipients often develop a sense of brand attachment, leading them to advocate for the brand (Yi & Yoo, 2011).

Furthermore, strong correlations were observed among different buying behaviours: Consumers who regularly buy Thai mosquito repellents tend to purchase in bulk when coupons are available. This suggests that consistent coupon usage reinforces brand loyalty and stockpiling behavior. Frequent buyers are more likely to recommend the product, supporting the commitment-consistency principle, which suggests that habitual purchases strengthen brand advocacy (Cialdini, 2001).

Consumers who purchase in large quantities are also more inclined to recommend the product, possibly due to higher perceived value and satisfaction from discount-driven bulk buying.

These findings align with prior research demonstrating the effectiveness of coupon-based promotions in influencing consumer behavior. Studies indicate that coupons serve as a powerful nudge for both short-term sales and long-term brand loyalty, particularly among price-sensitive consumers (Imtiaz, 2017). The results also support previous findings that consumers who use coupons experience a psychological sense of gain, leading to greater purchase satisfaction and stronger brand engagement (Nasir & Bal, 2020). However, some studies caution that excessive coupon promotions may erode brand equity, as consumers may become reliant on discounts and hesitate to buy at full price. Future research could investigate whether repeated coupon promotions for Thai mosquito repellents create long-term dependency effects, reducing consumers' willingness to purchase without discounts.

Overall, the findings confirm that coupons are an effective promotional tool that not only stimulate purchase behavior but also enhance consumer engagement and word-of-mouth marketing. The correlations suggest that coupons influence not just immediate buying decisions but also long-term purchase habits and advocacy behaviours, making them a valuable marketing strategy for Thai mosquito repellent brands targeting Chinese consumers.

Hypothesis 4: Samples as a promotional tool are significantly and positively correlated with Chinese consumers' buying behaviour of Thai brand mosquito repellents

The Pearson correlation analysis reveals a moderately strong positive correlation between sample distribution and buying behaviour ($r = 0.517$, $p < 0.001$), confirming that product samples serve as an effective promotional tool in stimulating purchases.

Samples mitigate consumer uncertainty by providing first-hand experience with the product, allowing consumers to evaluate its quality, efficacy, and suitability before committing to a purchase. This result aligns with trialability theory,

which suggests that products with high trialability—those that can be tested before purchase—tend to achieve higher adoption rates.

To further examine the influence of samples, correlation analysis was conducted on different consumer behaviours:

1. A significant positive correlation exists between sample distribution and regular purchase behavior ($r = 0.450$, $p < 0.001$). This suggests that offering free samples encourages Chinese consumers to incorporate Thai mosquito repellents into their habitual purchasing decisions. According to experiential marketing theory (Kotler et al., 2021), product trials enhance consumer trust and perceived value, making individuals more likely to adopt the product into their routine after experiencing its benefits.

2. The correlation coefficient between receiving samples and purchasing in large quantities is $r = 0.430$, $p < 0.001$, indicating a significant positive relationship. This implies that sample distribution influences not only initial product adoption but also bulk purchasing behavior. Consumers who have first-hand product experience may feel more confident in purchasing larger quantities, a behavior consistent with risk reduction theory (Ahluwalia, 2022). This also aligns with psychological ownership theory, which suggests that physical interaction with a product increases perceived ownership and purchase likelihood.

3. The correlation coefficient between sample distribution and recommendation behavior (i.e., recommending the product to others) is $r = 0.463$, $p < 0.001$, indicating a significant positive correlation. Consumers who receive free samples and have a positive product experience are more likely to share their opinions and recommend the product to others. This is supported by word-of-mouth (WOM) theory, which posits that direct product experience increases consumer advocacy, as individuals feel more confident in sharing their authentic opinions. Prior Bampo's (2008) research has also shown that free samples generate higher engagement and WOM marketing effects compared to traditional advertisements.

As observed in previous analyses, different consumer behaviours also exhibit strong correlations: Consumers who regularly buy Thai mosquito repellents are also more likely to purchase in large quantities, suggesting that habitual buyers develop stronger brand loyalty and seek cost-effective purchasing strategies. Frequent buyers are more likely to recommend the product, reinforcing the idea that consistent product usage increases consumer advocacy. Consumers who buy in large quantities tend to recommend the product, likely due to their positive purchasing experience and perceived value.

The findings align with prior research emphasizing the effectiveness of sample-based promotions in influencing consumer behavior. Multiple studies have demonstrated that product trials lower perceived risk, enhance product familiarity, and increase the likelihood of purchase (Heilman et al., 2011; Nordfält & Ahlbom, 2014). Additionally, the study supports the theory that sensory product experiences enhance consumer confidence and reduce post-purchase dissonance, making samples a particularly effective tool for products with functional benefits (Erdem & Swait, 1998). However, prior research has also cautioned that over-reliance on sample-based promotions may lead to consumers expecting free trials before purchasing (Sinha & Smith, 2000). Future research could investigate whether repeated sample distribution for Thai mosquito repellents creates a dependency effect, where consumers delay purchases in anticipation of future samples.

Overall, these findings confirm that sample distribution is a powerful promotional strategy that not only stimulates purchase behavior but also enhances consumer engagement and word-of-mouth marketing. By allowing consumers to experience product quality firsthand, samples effectively convert trial users into loyal customers. Given the strong correlation with recommendation behavior, sample-based promotions also serve as an indirect WOM marketing tool, amplifying product visibility and credibility in the Chinese market.

Hypothesis 5: Buy-one-get-one-free promotion is significantly and positively correlated with Chinese consumers' buying behaviour of Thai brand mosquito repellents

Pearson's correlation analysis shows a strong correlation between the Buy One Get One Free promotion and consumers buying behaviour ($r = 0.477$, $p < 0.001$), confirming that this promotional strategy significantly influences buying behaviours.

Buy-one-get-one-free promotions are particularly effective because they offer immediate perceived value, incentivizing consumers' buying behaviours by lowering the perceived cost per unit and increasing purchase volume (Darke & Chung, 2005). The findings are in line with the loss aversion hypothesis, according to which consumers see "getting a free item" as an advantage, and therefore find promotions like Buy One Get One Free more attractive than discounts.

To further analyse the impact of Buy-one-get-one-free promotions, correlation analysis was conducted across different purchasing behaviours:

1. The correlation coefficient between Buy-one-get-one-free promotions and regular purchasing behavior is $r = 0.447$, $p < 0.001$, indicating a significant positive relationship. This suggests that Buy-one-get-one-free promotions encourage Chinese consumers to integrate Thai mosquito repellents into their routine purchases, as they perceive greater overall value in making frequent purchases when promotions are available. This supports previous DelVecchio 's research demonstrating that Buy-one-get-one-free promotions can lead to habit formation, where consumers become accustomed to purchasing certain products due to repeated exposure to value-enhancing promotions.

2. The correlation coefficient between Buy-one-get-one-free promotions and buying in large quantities per purchase is $r = 0.368$, $p < 0.001$, signifying a significant but slightly weaker positive correlation compared to regular purchase behavior. This suggests that while Buy-one-get-one-free promotions increase purchase volume, the impact on bulk purchases is less pronounced than its effect on regular buying behavior. This is consistent with prior research indicating that consumers often perceive Buy-one-get-one-free promotions as a means to stock up on frequently

used products, but they may still prefer incremental purchasing rather than large-quantity bulk buying (A. Ali & Muhammad, 2021a).

3. The correlation between Buy-one-get-one-free promotions and recommendation behavior (i.e., recommending Thai mosquito repellents to others) is $r = 0.459$, $p < 0.001$, highlighting a significant positive relationship. This suggests that when consumers experience greater value through Buy-one-get-one-free promotions, they are more inclined to recommend the product to friends and family. Consumers enjoy sharing information about good deals and exclusive promotions as it enhances their perceived expertise and social status. Moreover, Buy-one-get-one-free promotions may create a social sharing effect, where consumers gift the additional product to someone else, further expanding brand awareness through word-of-mouth (WOM) marketing.

Similar to the previous hypothesis, consumer purchasing behaviours show strong interrelationships: Consumers who buy Thai mosquito repellents regularly are also more likely to purchase in large quantities, reinforcing the idea that brand loyalty and purchasing habits contribute to bulk-buying tendencies. Consumers who frequently purchase Thai mosquito repellents are more likely to recommend the product, suggesting that consistent usage reinforces positive brand perception and advocacy. Consumers who purchase in large quantities are also more inclined to recommend the product to others, potentially due to positive reinforcement from product effectiveness and perceived cost savings.

The findings align with past research on Buy-one-get-one-free promotions, which consistently demonstrates that such promotions are effective in driving short-term sales volume and enhancing consumer engagement (Imtiaz, 2017). Buy-one-get-one-free offers are particularly effective for low-cost, frequently consumed products, such as FMCG (Fast-Moving Consumer Goods), where consumers prioritize value-for-money deals (Chandon et al., 2000). However, studies also caution that frequent use of Buy-one-get-one-free promotions may lead to a discount dependency effect, where consumers delay purchases until promotions are available (Sinha &

Verma, 2020). This suggests that while Buy-one-get-one-free can stimulate demand in the short term, over-reliance on such promotions may weaken long-term brand loyalty if consumers come to expect continuous discounts. Future research could explore whether Buy-one-get-one-free promotions for Thai mosquito repellents create such dependencies in the Chinese market.

Overall, the results confirm that Buy-one-get-one-free promotions serve as a powerful promotional tool, effectively increasing purchase frequency, purchase volume, and word-of-mouth recommendations. By enhancing perceived value and reducing purchase hesitation, Buy-one-get-one-free promotions encourage both new and repeat purchases, making them an effective strategy for market penetration and consumer retention. However, marketers should carefully balance the frequency of Buy-one-get-one-free offers to avoid potential discount dependency, ensuring that consumer loyalty is driven by product quality rather than promotional incentives alone.

This study shows that while demographic factors such as gender, education level, income level, and occupation do not significantly influence Chinese consumers' buying behaviour towards Thai brand mosquito repellents, the promotional tools (Price discount, Coupons, Samples, and Buy-one-get-one-free) are all significantly correlated with buying behaviour. The results suggest that these promotional strategies can effectively influence consumer purchase behaviours, supporting the importance of tailored promotional strategies in marketing campaigns.

Implications and limitations of this study

Theoretical Implications

This study contributes to consumer behaviour and promotional marketing literature by providing empirical evidence on the effectiveness of various promotional strategies—price discounts, coupons, free samples, and Buy-one-get-one-free promotions—in influencing Chinese consumers' purchasing behaviours of Thai mosquito repellents. The findings align with conclusions of existing studies and value perception theory, demonstrating that promotional incentives significantly enhance perceived value, thereby encouraging purchase frequency, bulk buying, and word-of-mouth

recommendations. Additionally, the study extends the understanding of how promotional tools interact with habitual purchasing behaviours, reinforcing the role of trial-based promotions (samples) in fostering brand familiarity and reducing perceived risk.

Managerial Implications

From a marketing strategy perspective, the results indicate that Thai mosquito repellent brands can effectively utilize different promotional tools to target Chinese consumers based on their purchasing behaviours:

1. Buy-one-get-one-free promotions drive not only purchase frequency but also brand advocacy through social sharing effects, making them ideal for new market penetration strategies.
2. Samples play a crucial role in encouraging trial and mitigating uncertainty, particularly for new product launches.
3. Coupons and price discounts appeal to price-sensitive consumers and provide direct monetary incentives for purchase decisions.

Marketers should leverage a balanced promotional mix to maximize both short-term sales boosts and long-term brand loyalty. However, given the potential risk of promotional dependency—where consumers delay purchases in anticipation of future deals—companies must design strategic promotional schedules to maintain perceived value without devaluing brand positioning.

Limitations of the Study

Despite its contributions, this study has certain limitations. First, the research primarily relies on correlational analysis, which establishes relationships between promotional strategies and purchasing behaviours but does not confirm causality. Future studies could employ experimental or longitudinal designs to assess causality more effectively.

Second, while the study focuses on Chinese consumers, cultural and psychological factors unique to this demographic may limit generalizability to other markets. Cross-cultural comparisons could offer deeper insights into whether the effectiveness of promotional tools differs across consumer segments in different countries.

Third, this study does not consider the long-term effects of promotional strategies on brand loyalty. While short-term purchase stimulation is evident, future research could explore whether repeated exposure to promotions leads to sustainable customer retention or erodes brand equity over time

Recommendations for Future Research

This study highlights several areas for future research to further explore Chinese consumers' purchasing behaviour toward Thai brand mosquito repellents and the effectiveness of sales promotion tools:

Future research could investigate whether lifestyle factors (e.g., convenience-oriented vs. value-conscious consumers) are more relevant than demographic variables in predicting bulk purchasing behaviour. Comparative studies across different markets could reveal whether the findings are culturally specific or universally applicable.

Research should examine whether frequent price discounts erode brand equity or lower perceived product quality over time. In the future, researchers could explore whether repeated coupon promotions create consumer dependency, reducing willingness to purchase at full price. Future research should assess whether repeated free sample distribution leads to delayed purchases as consumers anticipate future trials. About buy one get one free, the long-term effects of such promotions on brand loyalty and consumer expectations of continuous discounts warrant further investigation.

By addressing these gaps, future studies can offer deeper insights into consumer behaviour and help brands design more effective and sustainable promotional strategies.

Suggestions

Based on the data analysis and the research findings, the following practical and data-driven suggestions are proposed for Thai mosquito repellent brands aiming to effectively enter and expand in the Chinese market:

Prioritize Price Discount Campaigns

The Pearson correlation analysis revealed that price discounts showed the strongest correlation with regular purchase behavior ($r = 0.547$, $p < 0.01$) among all promotion tools, indicating its high effectiveness in driving consistent consumer purchases. Therefore, Thai mosquito repellent brands should focus on implementing short-term price reduction strategies during high-demand seasons (e.g., summer months) or major e-commerce festivals (e.g., Double 11 or 618). Such discounts can be prominently displayed on platforms like Tmall and JD.com to enhance visibility and stimulate immediate purchase decisions.

Leverage Coupon Distribution via Digital Channels

Coupons were significantly correlated with all three dimensions of buying behavior — including regular purchase ($r = 0.429$), quantity purchase ($r = 0.419$), and recommendation ($r = 0.391$), all significant at $p < 0.01$ — suggesting their widespread influence. Brands should therefore employ digital platforms such as WeChat, Xiaohongshu, and lifestyle apps to distribute coupons. Personalized e-coupons can be targeted based on user profiles (age, gender, browsing behavior) to improve redemption rates and customer engagement.

Use Free Samples to Attract New Users

The data show that free samples have a moderate but significant correlation with recommendation behavior ($r = 0.353$, $p < 0.01$), indicating their role in word-of-mouth marketing. Brands should consider offering trial-size samples through online orders or cross-promotional bundles with other personal care items. This strategy is especially suitable for first-time users or consumers unfamiliar with Thai repellent products, helping to reduce perceived risk and build trust.

Promote Buy-One-Get-One-Free to Stimulate Volume Purchase

BOGOF promotions showed positive correlation with quantity purchase behavior ($r = 0.388$, $p < 0.01$), supporting their use in encouraging bulk buying. Thai brands can implement BOGOF deals during product launches or clearance sales to

accelerate stock turnover. Family consumers, especially those aged 30–45, are more inclined toward these value-focused offers, according to demographic breakdowns in the survey.

Tailor Promotion Types Based on Demographics

The demographic analysis in Chapter 4 indicates that younger consumers (aged 18–27) responded more positively to free samples and digital coupons, while middle-aged consumers (28–40) showed stronger preference for price discounts and BOGOF. Brands should thus differentiate promotional tactics by segment: using sampling and e-couponing on social platforms for Gen Z and applying traditional price-based promotions for older groups.

Conclusion

The study shows that tools like coupons, samples, Buy One Get One Free, and price discounts play an important role in the buying behavior of Chinese consumers for Thai mosquito repellents. These insights can be used by marketers to create more appealing promotional campaigns that will appeal to customers and increase sales. The study's limitations, such as the lack of significance of demographic factors, and its cross-sectional research nature, point to areas that need further exploration. By expanding the scope to include other factors and using longitudinal or experimental designs, future research can provide deeper insights into consumer behaviour and further enhance marketing strategies.

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APPENDIX

Questionnaire on Chinese consumers buying Thai brand mosquito repellent

Dear Respondent:

Thank you for participating in this survey. This questionnaire aims to understand the impact of sales promotion tools on Chinese consumers' buying behaviour of Thailand mosquito repellent. No matter which brand of Thailand mosquito repellent, as long as you have bought Thailand mosquito repellent, we are very welcome to participate. Your answers will provide valuable insights into our research.

Please fill in the form truthfully according to your actual situation or impressions. This questionnaire takes approximately 10-15 minutes to complete, and all information will be kept strictly confidential. This questionnaire is mainly divided into three parts:

1. Questions about demographic factors.
2. Sale promotion tools include price discounts, coupons, free samples, and buy-one-get-one-free.
3. Consumer buying behaviour.

Screening Questions

1. Are you over 18 years old?

☐ Yes, continue answering

☐ No, stop doing

2. Have you ever purchased Thai-brand mosquito repellent?

☐ Yes, continue answering

☐ No, stop doing

3. Have you ever bought a Thai brand mosquito repellent with price discounts?

☐ Yes, continue answering

☐ No, stop doing

4. Have you ever used the coupons provided by the Thai brand Mosquito Repellent?

☐ Yes, continue answering

☐ No, stop doing

5. Have you ever received a free sample of Thai-brand mosquito repellent?

☐ Yes, continue answering

☐ No, stop doing

6. Have you ever participated in the “buy one get one free” promotion of the Thai brand mosquito repellent?

☐ Yes, continue answering

☐ No, stop doing

Part I: Demographic Information

1. Gender

☐ Female ☐ Male

2. Age

☐ 18-27 ☐ 28-37 ☐ 38-47 ☐ Above 47

3. Education

☐ Lower than a bachelor's degree

☐ Bachelor

☐ Higher than a bachelor's degree

4. Income per month

☐ 2,000 and below

☐ 2,001-4,000

☐ 4,001-6,000

☐ 6,001-8,000

☐ Above 8,000

5. Occupation

☐ Student

☐ Civil servants/staff of public institutions

☐ Employees of the enterprise

☐ Freelancer

☐ Business owners/self-employed

☐ Other (please clearly specify):

Part II: Sale Promotion Tools

For each of the aspects shown below please rate your level of agreement using the following scales.

(1=Highly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Highly Agree)

Price Discount

1. The discount rates of Thai mosquito repellent are reasonable.

1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐

2. The frequency of price discounts for Thai mosquito repellent during major promotion festivals (e.g., 618, Double 11, Double 12) is appropriate.

1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐

3. The timing of price discounts for Thai mosquito repellent matches the demand during the summer (peak tourist season).

1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐

Coupons

4. Coupons offered for Thai mosquito repellent are practical.

1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐

5. The coupon denominations for Thai mosquito repellent are reasonable. (5 RMB-10 RMB)

1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐

6. The terms and conditions of Thai mosquito repellent coupons are fair.

1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐

Free Sample

7. The free sample size of Thai mosquito repellent is appropriate.

1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐

8. The quality of Thai mosquito repellent free samples is good.

1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐

9. The packaging of Thai mosquito repellent free samples is convenient.

1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐

Buy one get one Free

10. The Buy One Get One Free offer for Thai mosquito repellent provides good value.

1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐

11. The conditions of the Buy One Get One Free promotion for Thai mosquito repellent are reasonable.

1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐

12. The validity period of the Buy One Get One Free promotion for Thai mosquito repellent is appropriate.

1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐

Part III: Consumer Buying Behaviour

For each of the aspects shown below please rate your level of agreement using the following scales.

(1=Highly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Highly Agree)

13. I purchase Thai mosquito repellent regularly.

1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐

14. I purchase Thai mosquito repellent in large quantities each time.

1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐

15. I will recommend the Thai brand mosquito repellent to my friends.

1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐

Thank you very much for completing this survey! Your answers are very important to our research. If you have any questions or suggestions about this survey, please feel free to contact us through:

Email: 952928032@qq.com

Phone: 18841765995

WeChat: lhs00316

VITA

