FACTORS INFLUENCING THAI CONSUMER'S PURCHASE INTENTION TOWARDS ONLINE DRUG PURCHASE

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ABSTRACT

        The objective of this research is to examine the various consumer factors that influence the decision to purchase medicine online. Additionally, it aims to analyze the demographic elements associated with online drug purchases and investigate the impact of marketing mix factors on the decision-making process for online medicine purchases. The study examines consumer attitudes towards online medicine purchases by drawing upon concepts from the courses of Strategic Marketing Management and Emerging Healthcare and Wellness Business Management.

        In order to accomplish this, we employed a quantitative methodology based on a survey questionnaire that was distributed through the online channel. The surveys were distributed utilizing random sampling techniques, and an analysis was conducted on quantitative data collected from 200 respondents using SPSS statistical software. Relationships between subjective and objective variables were analyzed using a multi-regression model. A multi-regression model was employed to analyze the relationships between subjective and objective variables. The findings underscore crucial factors that influence the behavior and attitudes of Thai consumers when it comes to purchasing drugs online. This study aims to provide vendors with effective strategies to attract consumers and expand their business on E-pharmacy platforms.

KEY WORDS: E-Pharmacy/ Online Medicine/ Purchase Intention/ Drugs/ Healthcare

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CHAPTER I
INTRODUCTION

1.1 Research Background

The pharmaceutical industry is globally recognized as a highly research-intensive sector, dedicated to the development of innovative products that contribute to saving lives and enhancing quality of life. Based on the data provided by Statista, it is projected that the pharmaceutical industry will generate a revenue of approximately US$163.00 billion by the year 2023.(Figure 1.1) Based on a projected compound annual growth rate (CAGR) of 5.39 percent between 2023 and 2027, it is anticipated that the market size will attain $1,435.00 billion by 2027. This growth will primarily be driven by the demand for prescription and over-the-counter (OTC) drugs, vaccines, and biological medical products. (Statista Market Insights. (2023, May).
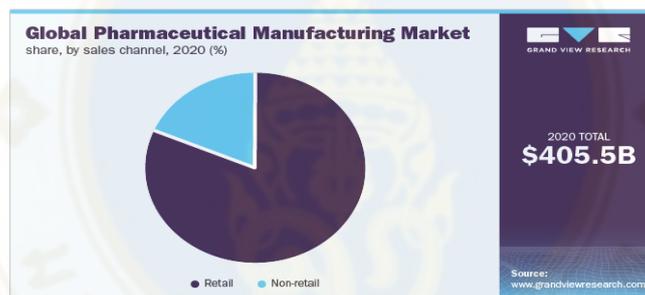
Figure 1.1 Global Pharmaceutical Manufacturing Market (Grandviewresearch, 2020)
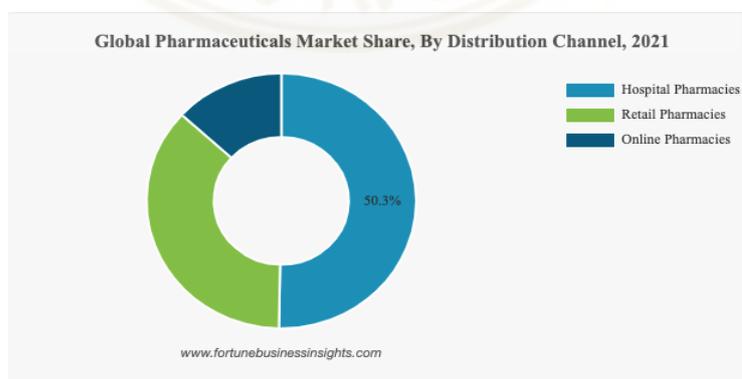
Figure 1.2 Global Pharmaceutical Market Share in 2021

(FortuneBusinessInsights, 2022)

In 2020, the retail segment accounted for 77.95% of total revenue (Figure 1.2). As medical costs and health insurance premiums have increased, more people have turned to self-medication for the treatment of minor health problems. In addition, over-the-counter medications have acquired popularity as a convenient and economical option. These factors contribute to the high adoption rate of pharmaceuticals in retail stores, which increases this segment's market share. Retail pharmacies also engage in various types of partnerships and cooperation models with healthcare professionals and institutions in order to improve clinical results and maintain competitiveness. It is expected that several doors will open in primary care with the introduction of electronic information sharing. (Statista Market Insights. (2023, May).

Hospital pharmacies, retail pharmacies, and internet pharmacies are the three distribution channel categories that make up the market. Due to an increase in patient visits for the treatment of disease, the hospital pharmacies segment claims the largest market share. Another reason for the segment's expansion was the rise of COVID-19-related hospitalizations, particularly in critical care units and emergency departments. However, people are increasingly choosing specialty clinics for their advanced technology and expert services. The growth of the retail pharmacy segment can be attributed to several significant factors. The retail pharmacy market is projected to experience growth, partially attributed to the enhanced accessibility of cost-effective over-the-counter (OTC) products. The online pharmacy sector is expected to experience significant growth in the future due to the industry's increasing reliance on online portals and platforms such as Amazon, Walmart, and other similar websites. This growth is projected to result in a profitable compound annual growth rate (CAGR) for the sector. (FortuneBusinessInsights. (2022, May))

The digitalization of the pharmaceutical sector will inhibit problems caused by miscommunication between primary and secondary care providers. The use of diagnostic assistance systems also paves the way for the automatic incorporation of clinical treatment that doctors can modify to meet the unique needs of individuals. Non-retail sales of medicines are projected to grow at the fastest CAGR between 2021 and 2028, with the Internet playing a significant role. Grandviewresearch. (2020, May).

Many companies compete for a share of the worldwide pharmaceutical business. These companies include Pfizer, Roche, J&J Service, AstraZeneca, and others. In order to fulfill the growing demand from patients, the industry's leading players are boosting their research and development (R&D) spending on innovative medicines. (FortuneBusinessInsights. (2022, May). Although these companies currently hold a 50% market share, there remains potential for growth within the remaining 50%. (Figure 1.3) (Statista Market Insights. (2023, May).
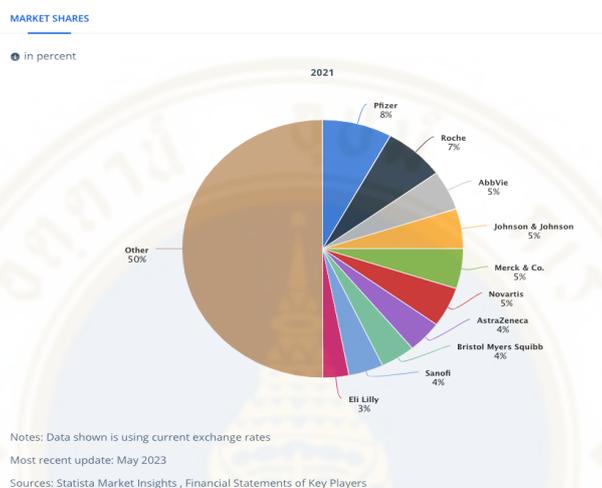
Figure 1.3: Market share of Pharmaceutical Company in May 2023 (Statista Market Insights, 2023)

The pharmaceutical industry in 2021 experienced significant disruptions due to the impact of COVID-19, which led to a notable increase in the growth of online medication sales. Internet pharmacies have experienced significant expansion in the past decade, extending their availability beyond high-income countries to include both low- and middle-income countries (LMICs) as well as low-income countries. (Miller et al., 2021) Manufacturing sectors that have adopted digitalization have made significant strides in recent years. To save costs, boost efficiency and production, and adapt quickly to changes, businesses are increasingly relying on computerization, automation, and robots via the digitalization process. But the pharmaceutical industry has been slow to embrace digitalization, mostly because of the extensive training and complexity involved in drug research, development, and production. (Hole et al., 2021)

In the pharmaceutical industry, there are primarily two channels for distributing medications. Firstly. Prescription drugs are available via Thailand's public healthcare system and may be obtained by visiting a hospital. Secondly, individual pharmacies and pharmacy chains both serve as significant distribution channels for over-the-counter medicines. Finally, modern supermarkets and convenience shops are investing in the distribution channel. (Krungsri.,*2021*)

But in this age of digitization, the Thailand e-pharmacy market is only predicted to grow. The introduction of ePharmacy solutions is warranted due to the necessity to reduce operating expenses brought about by the rise in the healthcare industry and associated high operational costs. Customers' preferences have switched toward e-pharmacy platforms due to their convenience, high service standards, a wide selection of pharmaceuticals, and easy online access. In addition, the growing smartphone user base is anticipated to propel the Thailand industry, giving e-pharmacy firms access to consumers in both developed and developing countries. (Insights10, 2023.)

The objective of this study is to establish a comprehensive framework for the future development of an online pharmacy platform. This framework aims to effectively cater to the requirements of online shoppers in Thailand while simultaneously fostering growth within the E-commerce sector. This will be achieved through a thorough examination of various factors including demographics, marketing mix, and other pertinent considerations. We possess the capability to ascertain the factors that exert influence on the decision-making process regarding the purchase of medicine through online channels in Thailand.

1.2 Problem Statement

The escalation in medicine sales can be attributed to several factors, including the changing epidemiology of a progressively aging population that requires prescription medicines, the increasing middle class that prefers out-of-pocket healthcare over public institutions that are overburdened despite being free, and the emergence of medical tourism as a noteworthy contributor to medicine sales. Moreover, the proliferation of the COVID-19 virus has resulted in a shift in consumer behavior.

Individuals exhibit heightened levels of anxiety and prioritize their health to a greater extent. This is shown by the rise of the "everything at home" notion where everything could be done at home. Technology has played a significant role in the development of proactive healthcare. Artificial intelligence (AI), prognostic analytics, sensors and wearables, and machine learning are just some of the technologies in proactive healthcare. A person's heart rate, nutrition, and activity level may all be monitored from home. The ability to monitor a person's health in real time and record any discrepancies has been made possible by technological advancements. Because of this, we can analyze the data quickly and be ready for any potential medical emergencies (IIHMR Delhi (International Institute of Health Management Research), 2021)

With the increasing dependence of individuals on online platforms for their shopping needs, there has been a shift in the perception of fast order processing and shipping from being considered as a desirable feature to becoming an essential expectation. Entrepreneurs are advised to demonstrate agility in adapting to change, effectively manage costs, and strategically collaborate with business partners to diversify revenue streams. The expansion of the E-Commerce supply chain ecosystem will result in the establishment of a more integrated service, thereby enhancing negotiating power, elevating capital, expanding the client base, and acquiring the necessary experience to adapt services and develop new ones that align with customer demands. Entrepreneurs should carefully evaluate the advantages of making investments in the light of increased competition, rising expenses, and the anticipated challenges that lie ahead for their company. (Dolan, 2023)

This study has the potential to provide valuable insights into various factors that influence consumers' decision-making process when purchasing medications through online channels. The purpose of this thematic paper is to analyze the key factors that are associated with purchasing intentions. Specifically, we will examine the four marketing mix factors, demographic factors, and external factors that have a positive correlation with these decisions.

1.3 Research Objectives

The increase in market growth can be attributed to several factors, such as the increasing digitization of healthcare services, the expanding population of technologically proficient customers, and the widespread accessibility of the Internet. The expansion of online purchases, particularly those that prioritize convenience, is being driven by the growing desire of consumers to make purchases online. The projected growth is expected to be driven by the increasing dependence of the healthcare industry on digital technology and e-commerce. (Insights10, 2023)

The aim of this study is to provide valuable insights and recommendations to entrepreneurs who have a keen interest in establishing a business within the e-pharmacy industry. The primary objective of this study is to identify the critical factors that influence consumers' purchasing decisions. Additionally, it seeks to highlight the importance of implementing a well-designed marketing strategy to achieve sustainable business outcomes that are in line with consumer preferences.

The purpose of this study is to examine three distinct research inquiries:

1. To examine the influence of consumer factors on the decision making process regarding online purchase of medicine.

2. To conduct an analysis on the demographic factors that influence the decision-making process of purchasing medicine via online channels.

3. To investigate the impact of the four marketing mix factor on decision-making process regarding the purchase of medicine through online channels.

1.4 Research Question

1. What are the consumer factors that affect people's willingness to purchase medicine online?

2. What are the characteristics of targeted consumers using E-Pharmacy in Thailand?

3. What are the effective marketing strategies that could attract sales in E-Pharmacy?

1.5 Research Scope

The objective of the current study is to investigate the factors that impact consumers' attitudes and purchase intentions when it comes to buying drugs online among the Thai population. The research employed a quantitative approach, specifically employing an online questionnaire, to collect data from Thai consumers aged 18 to 70 who are currently residing in Thailand. The study utilized a sample size of 200 consumers, and data collection was conducted using the convenience sampling method through an online questionnaire on Google Forms in June 2023.

1.6 Expected Benefits

The results of this study will offer a deeper understanding to manufacturers and vendors operating in the emerging e-pharmacy market regarding the attitudes and concerns of their customers. In addition, it is important to note that online medical products have the potential to offer advantages to consumers, as long as they are manufactured in a manner that caters to their individual requirements. Furthermore, the utilization of this data can serve as an indirect means to address governmental efforts in achieving vertical equity in healthcare and health services.

CHAPTER II
LITERATURE REVIEW

2.1 Drug purchase in Thailand

During the COVID-19 disaster, we saw how AI supported remote care via the use of remote diagnostics and chatbots. The "New Normal Medical Service" in Thailand promotes the growth of telemedicine and online pharmacies. Following a virtual doctor's visit, the patient receives medication at their own house. However, the normalization of this legislation requires the state to maintain this program and implement further procedures to assure safety and sustainability.   (Baker McKenzie, 2020)

The provision of medical treatment is closely linked to the availability of pharmaceuticals. Pharmacists serve as intermediaries between medical practitioners and individuals seeking medical care. They oversee the dispensation of medications, which involves obtaining patients' medical and medication records, medical histories, and offering advice on medication side effects, among other responsibilities. (Baker McKenzie, 2020)

The main differentiation between over-the-counter medications and prescription medications lies in the rigorous government oversight mandated to monitor the potential adverse effects of drugs. The successful implementation of online sales through ePharmacy necessitates a thorough assessment and rigorous implementation of safety protocols. This is crucial in order to mitigate potential risks, such as the unauthorized sale or importation of counterfeit medications, as well as the distribution of medicines lacking the necessary market access clearances or import tariffs. Currently, Thai drugstores are ready to enhance their operations by making substantial investments in digital infrastructure. Prescriptions can be transmitted electronically or through software applications, with the exchange of data between healthcare providers and patients occurring at a subsequent stage. (Baker McKenzie, 2020)

Although it is against the law in Thailand to advertise pharmaceutical products on online platforms, more and more pharmacies are using social media

marketing as a form of advertising. As a component of their "direct-to-consumer advertising" approach, numerous pharmacies are establishing fan pages on social media platforms. (Homhuan, 2020)

2.2 Attitude toward E-commerce

As the COVID-19 pandemic spread, social isolation and travel restrictions became the new normal. Consumers strive for offering and purchase more goods and services online. A number of factors have contributed to the rapid spread E-commerce purchase including increasing number of people who have access to the internet, growing knowledge of the benefits of shopping online, prevalence of new product launches on the web, and the knowledge of savings that result from bulk purchase. These factors has also contributed to retail industry disruptions by encouraging the rapid development and expansion of online and mobile platforms that make online shopping more convenient and accessible.(Mitchev, T., & Nuangjamnong, C. (2021).

The importance of support convenience cannot be overstated for online shoppers in order to mitigate the challenges associated with online purchases, such as the checkout process, payment options, shipping, and post-sales assistance, when compared to the experience of shopping at a physical store. It is widely recognized that a positive online shopping experience enhances an individual's likelihood to engage in future online shopping activities. (Swapan et al., 2023)

The fact that a quick internet search will yield a seemingly endless list of online drugstores further emphasizes the convenience of online pharmacies. As an added bonus, a virtual pharmacy may be a lifesaver for customers who might otherwise feel uncomfortable buying things like reproductive-related medicine from a physical pharmacy. (Homhuan, 2020)

However, despite these advantages, there are significant risks associated with the medications sold by online pharmacies. The potential for drug misuse is increased by the ease with which large amounts of narcotics may be distributed. Counterfeit medicine is another major concern; drugs bought online may be fake, illegal, or not authorized by the FDA in Thailand. (Homhuan, 2020)

The proliferation of the Internet and smartphones has resulted in a substantial growth in the e-commerce sector across diverse product segments. The reliance of consumers on online platforms for fulfilling their purchasing needs, spanning from clothing to groceries, is experiencing a notable increase. The rise of e-pharmacies in the pharmaceutical industry can affect the consumer shopping habits with a growing preference for the convenience of shopping from the comfort of their own homes. (Chawla, 2021)

2.3 Marketing Mix Factors

Marketing Mix Factors by Kotler (1997) provides a definition of a marketing tool that companies use to satisfy demand and provide satisfaction to targeted customers. This helps us get a better understanding of how customers make their purchase decisions. The concept of the "marketing mix" is commonly divided into seven distinct subcategories in its current form. The "7 Ps" of the marketing mix encompass the key elements that contribute to the successful marketing of a product. These elements include the product itself, its pricing strategy, the distribution channels used to make it available, the promotional activities employed, the target audience or people involved, the physical environment in which the product is presented, and the process utilized to facilitate its sale through commercial channels. (Phochai & Pavilai, 2021)

According to a study by Su L (2013), it is believed that there are 5 influential factors of marketing mix of online pharmacy in China. Online pharmacies should enhance their specialization by providing valuable health information on their websites to assist consumers in gaining a comprehensive understanding of general health. The provision of health information has the potential to attract consumers to visit online pharmacy websites and enhance the likelihood of online purchases.

The 5 influential factors for marketing mix for online pharmacies in China includes of firstly perfecting the delivery service and return service have a significant impact on consumers' decision-making process when making online purchases. Secondly, online pharmacies should prioritize minimizing the costs and reduce price. Thirdly, while also streamlining the process for customers they should strengthen sales

promotion through upgrading the advertising effect. This approach will enhance the likelihood of customers making online purchases for medications. (Su L et al., 2013).

2.4 Demographic Factor

Variable	Group	Frequency				
		Czech Republic $n = 531$	Hungary $n = 504$	Poland $n = 524$	Slovakia $n = 528$	Total $n = 2115$
Sex	Female (%)	260 (49%)	299 (59.3%)	320 (61.1%)	276 (52.3%)	1115 (55.3%)
	Male (%)	266 (50.1%)	199 (39.5%)	202 (38.5)	252 (47.1%)	919 (44.0%)
	Undisclosed	5 (0.9%)	6 (1.2%)	2 (0.4%)	0 (0%)	13 (0.6%)
Age (years)	mean (±SD)	36.1 (13.0)	47.2 (17.5)	37.1 (13.1)	33.2 (12.5)	38.3 (15.1)
	range	18–75	18–88	18–86	18–74	18–88
Education level	Primary school	16 (3.0%)	17 (3.4%)	16 (3.1%)	29 (5.5%)	78 (3.7%)
	Highschool	301 (56.7%)	219 (43.5%)	219 (41.8%)	324 (61.4%)	1063 (50.9%)
	College or University	201 (37.9%)	251 (49.8%)	263 (50.2%)	156 (29.5%)	871 (41.7%)
	PhD/DLA	13 (2.4%)	17 (3.4%)	26 (5.0%)	19 (3.6%)	75 (3.6%)
Residence (inhabitants)	Large city, capitol (>200,000)	132 (24.9%)	149 (29.6%)	175 (33.4%)	64 (12.1%)	520 (24.9%)
	City (50,000–200,000)	142 (26.7%)	151 (30.0%)	158 (30.2%)	112 (21.2%)	563 (27.0%)
	Town (5,000–50,000)	156 (29.4%)	123 (24.4%)	114 (21.8%)	172 (32.6%)	565 (27.1%)
	Rural area (<5000)	101 (19.0%)	81 (16.1%)	77 (14.7%)	180 (34.1%)	439 (21.0%)
Income	Below national average	163 (30.7%)	157 (31.2%)	83 (15.8%)	152 (28.8%)	555 (26.6%)
	Approx. average	205 (38.6%)	185 (36.7%)	220 (42.0%)	206 (39.0%)	816 (39.1%)
	Above national average	113 (21.3%)	100 (19.8%)	176 (33.6%)	105 (19.9%)	494 (23.7%)
	NA (no answer)	50 (9.4%)	62 (12.3%)	45 (8.6%)	65 (12.3%)	222 (10.6%)
Chronic disease	Yes	225 (42.4%)	273 (54.2%)	202 (38.5%)	203 (38.4%)	903 (43.3%)
	No	304 (57.3%)	231 (45.8%)	321 (61.3%)	325 (61.6%)	1181 (56.6%)

Figure 2.1: Sociodemographic characteristics (Fittler et al., 2022)

According to a recent study conducted by Fittler et al. (2022) on attitudes and behavior towards pharmacies in the aftermath of COVID-19 in the Czech Republic, Hungary, Poland, and Slovakia, it is evident that there exists a significant gender disparity in online purchasing habits. The study findings indicate that females, as shown in Figure 2.1, demonstrate a greater propensity for engaging in online purchases in comparison to males. An examination was conducted to determine the mean age of individuals belonging to Generation X who possess a limited level of education, specifically those with a minimum college degree. A significant proportion of the population resides in urban areas and exhibits a national income that closely corresponds to the national average.

Statements	Fast	3.56 (1.31)
	Convenient	4.18 (1.13)
	Inexpensive	3.18 (1.20)
	Products can be compared faster and more easily than in the pharmacy	3.46 (1.33)
	I can get more information compared to the pharmacy	3.05 (1.38)
	Individuals who can't get to a pharmacy can also purchase products	4.11 (1.15)
	I can purchase medicines beyond opening hours	4.16 (1.16)
	I can access products which are otherwise not available to me	3.29 (1.36)
Sum of Benefits scale	Mean = 31.43, SD = 7.77, Min = 9 Max = 45	
Correlation of Benefits scale with direct attitudes toward online medication purchase		Correlation Coefficient (p)

Figure 2.2: Important statements that implicit positive results (Fittler et al., 2022)

In addition, the result of the research reveals that the positive phrase according to Figure 2.2 increase people's propensity of purchase drugs online. The positive statements lead to a conclusion that Rapidity, Convenience, Inexpensiveness or Cheap Price, Safety regarding information on drugs, and accessibility increases the propensity of purchase. (Fittler et al., 2022)

2.5 Channels

According to Li et al (1999), their model proposes that various factors, including demographics, channel expertise, perceived channel utilities, and shopping orientations, collectively influence consumers' online purchase behavior. Based on the research results, it has been determined that factors such as education, views on convenience and experiences, channel options, perceived distribution usefulness and perceived accessibility have a significant impact on the online purchasing behavior of consumers in the United States. This includes individuals who do not make online purchases, those who make occasional purchases, as well as those who make frequent purchases. (Li et al., 1999)

Both frequent and occasional online shoppers do not exhibit a higher level of price sensitivity compared to individuals who do not make purchases online. The

most influential factor of online purchasing behavior is the level of knowledge about the channels available. Informed consumers typically hold more favorable perceptions regarding the utilities of the online channel. As the Internet continues to expand, consumers' understanding of the online channel will progressively enhance. (Li et al., 1999)

2.6 Sales Promotion

Many shoppers concur that sales promotions have a significant influence on consumers' purchasing decisions, with particular emphasis on the free shipping aspect. Many shoppers have expressed their agreement regarding the significant influence of convenience on consumers' purchasing decisions. Specifically, they are primarily concerned with the ability to make purchases from anywhere using mobile phones, particularly with regards to shipping options. Many shoppers concur that the quality of service has a significant influence on consumers' purchasing decisions, particularly when it comes to security concerns. Shoppers generally concur that sales promotions, convenience, and service quality significantly influence consumers' purchasing decisions, with service quality being particularly important in addressing consumer complaints. As a result, consumers tend to choose Lazada as their preferred shopping destination. (Amati, 2020)

2.7 External Factor

One of the factors that is anticipated to influence consumers in their decision to purchase drugs online is the emergence of online health services as an external factor. Furthermore, the proliferation of online medical resources significantly affects doctor-patient interactions. (Harvey et al., 2017). It is evident that the Internet possesses the capacity to influence individuals' perspectives and their approach to accessing information. Individuals are exhibiting a growing tendency to utilize online resources to seek answers regarding their health and to make well-informed choices regarding the necessity of seeking medical advice. The Internet has greatly facilitated the process of accessing medical information, making it both convenient and efficient. Individuals

often engage in online research to explore not only the symptoms of various ailments but also potential remedies. (Boon-itt, 2019) Patients utilize social media communities, such as blogs, online communities, and email platforms, to engage in the exchange of sickness symptoms and treatments. This trend is anticipated to experience further growth and popularity in the future. (Lemire et al., 2008)

2.8 Economical

With a slow economic growth due to the impact of Covid-19 pandemic, there tends to be an increase in numbers of online shoppers. (Shaw N et al., 2022) Many people boosted their internet buying habits during the COVID-19 epidemic. Online shopping gained credibility as a viable option as a result of retail limits and health concerns. Despite the waning effects of the epidemic, retail websites nevertheless have the difficulty of retaining the new clients they recruited. Consumers' involvement in internet purchasing is higher now than it was before the epidemic, even if they are buying less often online as brick-and-mortar establishments go back to normal operations. Whatever one's age, gender, nationality, or level of buying expertise, the universally acknowledged reason for continuation was ease of use. (Shaw N et al., 2022)

2.9 Word of Mouth

It was observed that the perceived brand value factor directly impacted word-of-mouth, while the electronic service quality factor indirectly influenced the impact of brand value. (Sinthusakul et al., 2023) Hence, it can be asserted that online enterprises should prioritize the perception of brand value. Enhancing the quality of electronic services in order to generate positive word-of-mouth among online consumers in Thailand. (Sinthusakul et al., 2023)

Products on an e-commerce retail website benefit from the presence of online word of mouth (WOM) in the form of review comments and ratings. A study conducted by Mitchell & Khazanchi 2007 which investigate into the impact of online review comments, specifically the volume of comments, and consumer ratings,

specifically the valence of ratings, on a retail website. It has been observed that there has been a notable rise in the sales volume subsequent to the implementation of online word-of-mouth marketing. Additionally, they also uncovered significant evidence suggesting that the incorporation of online word-of-mouth (WOM) on a retail website's product page has a considerable influence on the volume of products purchased. Additionally, it has been observed that products that have a larger number of customer review comments tend to exhibit higher sales figures. (Mitchell & Khazanchi, 2007)

2.10 Review

Within the realm of e-commerce, online comments play a crucial role in enhancing the online shopping experience for consumers. Consequently, consumers have become increasingly reliant on review information to assess the quality of products and ultimately make informed purchasing decisions. The study indicates that consumers tend to allocate a greater amount of cognitive attention and effort towards negative reviews compared to positive ones. The findings suggest that customers tend to engage in information processing when negative comments are present. This behavior includes seeking additional information, engaging in deeper thinking, and making comparisons. As a result, customers may be more inclined to choose not to purchase the product in order to mitigate their perceived risk. (Chen et al., 2022)

2.11 Trust

The research conducted by Kiss & Szigeti examines trust categories and factors that influence risk perception in drug purchases on the darknet. The findings indicate that registration and the availability of cryptocurrency payment options were deemed unimportant in both illegal and legal purchasing scenarios. The significance of maintaining anonymity in purchasing and safeguarding customer information from vendors is perceived differently in legal and illegal contexts. While these factors may not hold much importance in legal purchasing scenarios, they are deemed crucial in illicit situations. Additionally, a slightly larger percentage of respondents indicated a preference for the offline option due to their inclination to make purchases in person, as

opposed to the more commonly cited concern of potential scams. According to the feedback from the target group the trust factor that held the highest importance when purchasing illicit drugs on the darknet was the reliability of delivery of goods. (Kiss & Szigeti, 2023)

Moreover, study on trust related to pharmaceutical sector claims that the matter of trust plays a pivotal role in diminishing the probability of the appropriate utilization of medications. In contrast to previous discussions on trust, they argue that trust should be considered in contexts that extend beyond the patient-practitioner relationship. (Brhlikova et al., 2011)

Online drug purchase and individual overall expectations regarding the quality of product in terms of weight, value, purity of price of product plays an important role in consumer general beliefs and individual experiences. (Munksgaard et al., 2023)

2.12 Influencer

According to the study conducted by Laohasukkasem et al. in 2022, it was found that online influencers have a significant impact on consumer purchasing behavior. The factors of expertise, trust, credibility, and attractiveness were identified as key influencers in this regard. Trust is a crucial factor that strongly influences consumers' purchase intentions. The presence of trust can have a positive and significant impact on purchase decisions, ultimately influencing consumers' willingness to make a purchase. (Laohasukkasem et al., 2022)

2.13 Worthiness

Consumers are in search of products or services that offer good value for the money they invest, such as superior quality at a competitive price. (Itani et al. 2019) Moreover, studies have shown that similarity of product offerings, ease of use, perceived value, perceived risk, proximity to physical store, satisfaction from purchase, and satisfaction from browsing were all significant motivators for online purchasing. (Venkatesh et al., 2022)

2.14 Framework Development

Many other elements have been shown to affect online shoppers' decisions in the past. The primary aim was to examine whether or not variations in demographics, consumer divergence, consumer factors, and other influential factors in the marketing mix would influence the intention to purchase drugs online. Figure below portrays the overall attributes that might affect consumer purchasing decision. The independent variables of demographic, consumer factor, external factors, and marketing mix factors that might have a positive correlation with customer's decision to purchase product online.
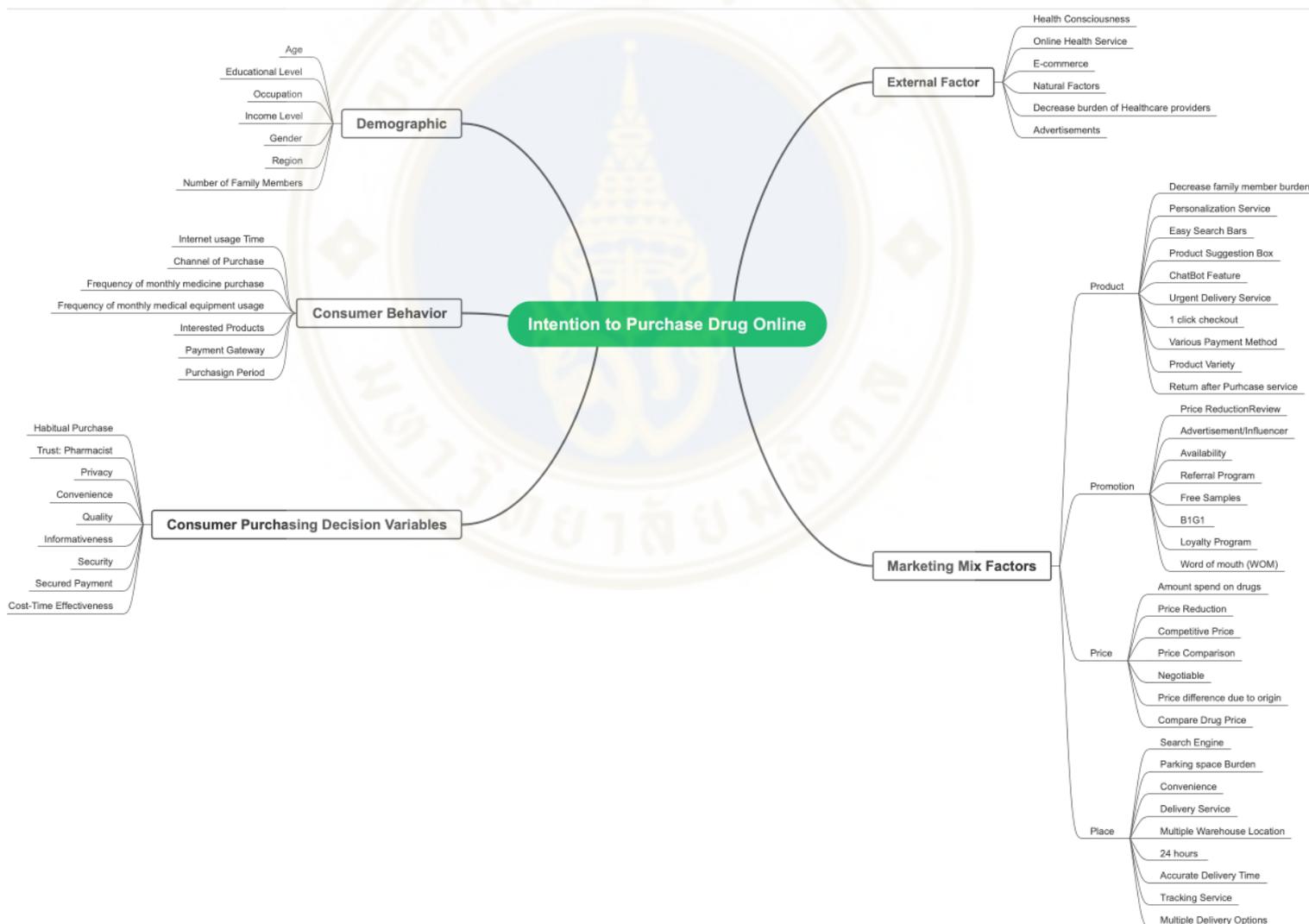
Figure 2.3: The Mind-Mapping Conceptual Research Framework of the factors influencing customers to purchase drugs online

Hypothesis 1: Differences in demographic factors lead to variations in consumer behavior when purchasing medication through online channels.

Hypothesis 2: Channel, Convenience, Sale Promotion, External Factor, Rapidity, Economical, Cheap price, Word-of-Mouth, and Review significantly influence the decision-making process related to **Safety.**

Hypothesis 3: Channel, Convenience, Sale Promotion, External Factor, Rapidity, Economical, Cheap price, Word-of-Mouth, and Review significantly influence the decision-making process related to **Trust.**

Hypothesis 4: Channel, Convenience, Sale Promotion, External Factor, Rapidity, Economical, Cheap price, Word-of-Mouth, and Review significantly influence the decision-making process related to **Influencer.**

Hypothesis 5: Channel, Convenience, Sale Promotion, External Factor, Rapidity, Economical, Cheap price, Word-of-Mouth, and Review significantly influence the decision-making process related to **Worthiness.**

CHAPTER III
RESEARCH METHODOLOGY

The aim of this study is to investigate the determinants that impact customers' behavior in purchasing drugs online and to acquire a thorough comprehension of the decision-making process among individuals in Thailand regarding online drug purchases. In order to successfully achieve the study objectives and address the research inquiries, a quantitative research approach will be utilized. Please find below-detailed information pertaining to the study's outline, demographics, sampling strategy, instruments, and data analysis.

The research will consist of four main sections including in analysis of:

1. Demographic characteristics refer to the quantifiable attributes of a population or group, such as age, gender, race, ethnicity, income level, education level.

2. Consumer behavior Factor that affects online pharmaceutical purchases

3. Consumer Purchase Decision variables regarding online pharmaceutical purchases.

4. Marketing mix factors that influence the decision-making process of purchasing medicine online.

3.1 Research Design

The objective of the current study is to collect primary data in order to address its specific research objectives. The data collection method chosen for this study involved the use of a survey, specifically conducted through an online questionnaire using Google Forms. The utilization of quantitative research provides the benefit of establishing data reliability and identifying significant variables that influence consumer behavior.

The implementation of online survey questionnaires enabled the respondents to provide timely and convenient responses to the inquiries. The questionnaires were designed using a clear and concise format, prompting respondents

to indicate their answers by selecting a checkbox rather than providing written responses. (TrustMary, 2023)

The data were gathered by distributing online questionnaires to a sample of 200 participants using Google Form platforms. The objective of this study was to examine the factors that influence the decision-making process related to the purchase of drugs through online channels.

The survey was conducted among individuals who had engaged in online and internet shopping activities within the past 12 months. The data collected from the participants will provide an accurate representation of consumer behavior and other factors associated with online shopping for pharmaceutical products.

3.2 Population & Sampling Method

Drugs play a crucial role in preserving human life, alleviating pain, and enhancing overall well-being. Pharmaceutical substances are widely available to individuals of all age groups, including newborns and the elderly. However, it is important to acknowledge that the sampling process may have limitations due to the challenges associated with children's limited ability to provide effective responses to questionnaires.

A sample size of 200 participants was chosen using random sampling in order to ensure that it accurately represents the population of each region in Thailand. Therefore, the focus of this study encompasses the recruitment of Thai individuals residing in Thailand, aged between 15 and 80 years, as participants. A multi-stage sampling approach was employed in this study, whereby participants were initially categorized based on generational cohorts, namely Generation Z, Generation Y, Generation X, and Baby Boomers. The determination of the geographical scope was conducted subsequent to the sampling efforts in order to enhance focus.

All of these participants are differentiated based on their past experience in online purchases. As a result, self-administered questionnaires utilizing a 4-point Likert scale were distributed to the respective target population residing in each geographical area. The 4-point Likert scale was used in this research instead of 5-point Likert scale

due to the tendency of people selecting neutral option as a response and might eventually have affect the overall accuracy of the collected data. (Tsang,K (2021).

3.3 Research Instrument

The utilization of a questionnaire was implemented as a research instrument in this study. The questionnaire was partitioned into four sections. The initial question is a screening inquiry pertaining to experience in online purchase such as whether the individual has ever engaged in such transactions.

Table 1.1 presents the research instrument utilized to ascertain significant factors specific to each segment. The initial segment involved gathering information regarding the age, demographic characteristics, and geographical location of the consumers.

The second segment focused on analyzing consumer behavior related to internet usage, frequency of drug purchase and usage, payment channels, purchasing period, and the types of goods typically purchased at the drug store. The aim of the second segment was to analyze the purchasing behavior of customers in relation to online drug purchases. The scope of this investigation encompassed several key areas, namely the frequency of online purchases, the specific products that consumers contemplate purchasing on an E-pharmacy website, and their corresponding purchasing behavior.

The third segment examined Consumer Purchase Decision variables that might affect the decision to purchase medicine online which includes factors such as brand loyalty, quality, security, privacy and information given.

The fourth segment assessed external factors that influence consumers to purchase medicine online and lastly the fifth segment examined the various marketing mix factors that can impact the decision-making process when purchasing medicine online. This section employed concise and straightforward statements, accompanied by a 4-point Likert scale, encompassing options ranging from 4 (Strongly Agree) to 1 (Strongly Disagree). Moreover, the incorporation of random statements in the factor

analysis methodology is anticipated to augment the precision of the results. (Tsang,K (2021).

Table 1.1 Research Questionnaire

Section 1: Demographic Factors		
Demographic	Gender	
		Male
		Female
	Age group	
		Baby Boomer
		Gen X
		Gen Y
		Gen Z
	Education	
		Less than Bachelor's degree
		Bachelor's degree
		Higher than Bachelor's degree
	Occupation	
		Student
		Private Company Employee
		Government Employee
		Entrepreneur/Business Owner
		Freelance
	Monthly Income	
		Less than or equal to 30,000 THB
		30,001 - 50,000 THB
		50,001 - 70,000 THB
		More than 70,000 THB
	Region	
		Bangkok Metropolitan Area

		Central Region
		Northern Region
		Southern Region
		Eastern Region
		Northeastern Region
		Western Region
	Family Members	
		1 – 2 people
		3 – 4 people
		More than 4 people

Section 2: Consumer Behavior		
Consumer Behavior	Daily internet usage time	
		< 1 Hr.
		1 – 2 Hrs.
		3 – 5 Hrs.
		6 – 8 Hrs.
		> 8 Hrs.
	Channel	
		Hospital
		Local Drug Store
		Chain Drug Store
		GOV Drug Store
		Online Platform
	Frequency of monthly medicine purchase	
		< 1
		1
		2 – 3
		> 3
	Frequency of monthly medical equipment usage	

	Never
	1
	2 – 3
	> 3
	Often
Products interested in purchasing	
	Baggage's and First aid
	Eye care
	Vitamin and supplement
	Long duration Treatment
	Medicine requiring prescription
	Medicine without Requiring Prescription
	Item related
	Other
Payment Gateway	
	COD
	Debit card or Credit card
	Bank transfer
	Mobile banking
Purchase period	
	Morning
	Afternoon
	Evening
	After 8 pm.

Section 3: Consumer Purchase Decision variables	
Consumer Purchase Decision variables	Decision1: I usually choose the same drug brand. (Example Tylenol for Pain

	Killer) ฉันมักจะเลือกซื้อยายี่ห้อเดิมที่ฉันคุ้นเคยทุกครั้ง เช่น ซาร่า สำหรับยาแก้ปวดทุกครั้ง
	Decision2: only trust drugs that is prescribed by pharmacists ฉันเลือกที่จะซื้อยาที่จ่ายโดยเภสัชกรหรือแพทย์เท่านั้น
	Decision3: Privacy is an important aspect when I purchase drugs online ฉันคำนึงถึงความเป็นส่วนตัวทุกครั้งที่ซื้อยาออนไลน์
	Decision4: I prefer to purchase drugs online more than through a physical store. ฉันชอบที่จะซื้อยาผ่านช่องทางออนไลน์มากกว่าที่ร้านขายยา
	Decision5: I always purchase drug from the same drug store. ฉันมักจะซื้อยาจากร้านเดิมทุกครั้ง
	Decision6: I take the trustworthiness of the drug store into account when purchasing drugs online ฉันคำนึงถึงความน่าเชื่อถือของร้านค้าเป็นอันดับแรก
	Decision7: I think quality is an important criterion when I purchase drugs ฉันคำนึงถึงความน่าเชื่อถือของยา ว่ามีใบรับรองการวิเคราะห์และผลิตยาก่อนซื้อยาทุกครั้ง
	Decision8: Every time I purchase drugs, I look at the details given on the packaging such as the expiry date, manufacturer, or lot number ฉันให้ความสำคัญกับข้อมูลบนฉลาก เช่น วันหมดอายุ วันผลิตยา เลขที่ล็อต

	Decision9: I am concerned about security when purchasing drugs online. ฉันกังวลเกี่ยวกับความปลอดภัยเมื่อซื้อยาออนไลน์ (เช่น ปัญหายาปลอม หรือ การสั่งยาผิด)
	Decision10: I considered secured payment important when I purchase drugs ฉันถือว่าการชำระเงินที่ปลอดภัยเป็นสิ่งสำคัญ เมื่อฉันซื้อยาออนไลน์
	Decision11: I think about the delivery process from product selection till product received ฉันคำนึงถึงเวลาในการเลือกซื้อสินค้าจนถึงเมื่อฉันได้รับสินค้า

Section 4 : External factor	
External Factor	External1: The reason for my drug purchase is mostly for the benefit of my health เหตุผลในการซื้อยาส่วนใหญ่ของฉันเพื่อบำรุงหรือรักษาสุขภาพของฉันเอง
	External2: I would choose E-pharmacy because of the trend towards online health service ฉันเลือกที่จะซื้อยาออนไลน์เพราะการบริการใหม่ด้านสุขภาพออนไลน์
	External3: I would choose E-pharmacy because of the E-commence trend ฉันเลือกที่จะซื้อยาออนไลน์เพราะเทรนด์ด้าน E-commerce
	External4: I believe that through drug online purchase I will be able to save energy and decrease pollution. (Natural

	factor) ฉันเชื่อว่าการซื้อยาออนไลน์ช่วยประหยัดพลังงาน และ ลดมลพิษ
	External5: I believe that purchasing drugs through E-pharmacy would reduce the burden of healthcare providers ฉันเชื่อว่าการซื้อยาออนไลน์จะช่วยและแบ่งเบาภาระของบุคลากรทางการแพทย์
	External6: My decision to purchase drugs is influenced by advertisement on social media การตัดสินใจซื้อยาออนไลน์ของฉันมีอิทธิพลส่วนใหญ่จากโฆษณาบนโซเซียลมีเดีย

Section 5: Marketing Mix Factor	
Product	Product1: I think that the service is going to help me and my family with the burden of having to go out to purchase drugs. ฉันเชื่อว่าการซื้อยาออนไลน์จะช่วยลดภาระของฉันและครอบครัวในการที่จะต้องออกไปซื้อยาที่ร้านขายค้า
	Product2: I am concerned that the E-pharmacy website has easy search bars. ฉันเห็นด้วยกับการมีแถบค้นหาสินค้าที่ง่ายต่อการใช้งาน
	Product3: It is important that the website has product suggestion box ฉันเห็นด้วยกับการมีกล่องแนะนำผลิตภัณฑ์บนหน้าเว็ปไซต์
	Product4: I'd like the website to have chatbot features. (Chatbot is a computer program designed to simulate conversation

	with humans) ฉันเห็นด้วยกับการมีบริการแชทบอทบนเว็บไซต์ และแอพลิเคชั่น
	Product5: Personalization service should be available on the website (such as monthly subscription of drugs) ฉันเห็นด้วยกับการมีบริการเสริมที่เจาะจงเฉพาะลูกค้า เช่น การปรึกษาเภสัชรายเดือน การบริการเติมยารายเดือน และการแนะนำวิตามินเสริมรายเดือน
	Product6: 1 Click checkout should be available for rapid purchase ฉันเห็นด้วยกับการมีบริการ 1 Click Checkout เพื่อการซื้อและใช้ยาแบบเร่งด่วน
	Product7: Urgent delivery service should be made available (such as 30 mins delivery) ฉันเห็นด้วยกับการมีบริการส่งสินค้าแบบเร่งด่วน เช่นการส่งสินค้าภายใน 30 นาที
	Product8: I prefer to purchase drugs online using QR code or mobile banking ฉันสะดวกชำระเงินด้วยวิธีการสแกนผ่าน คิวอาร์โค้ด โมบายแบงค์กิ้ง
	Product9: I prefer to purchase drugs online using Debit or Credit card. ฉันสะดวกชำระเงินด้วยเครดิตหรือเดบิดการ์ด
	Product10: I prefer to purchase drugs online using Cash on delivery ฉันสะดวกชำระเงินด้วยเงินสดหลังรับของ
	Product11: When purchasing drugs, I tend to take product variety as a priority. ฉันมักจะให้ความสำคัญกับความหลากหลายของผลิตภัณฑ์เป็นอันดับแรก
	Product12: I will choose to purchase drugs online if return after purchase is available in case of change of minds or any unsatisfying

	reason ฉันจะเลือกซื้อยาออนไลน์เพราะมีการรับประกันว่า สามารถเปลี่ยน หรือคืนสิ้นค้าได้
Price	Price1: How much you spend on on drugs price per visit? การไปซื้อยา 1 ครั้ง คุณใช้เงินประมาณ เท่าไร
	Price2: There should be price reduction for bulk orders ฉันคิดว่าควรมีลดราคาหากซื้อจำนวนเยอะหรือ เป็นโหล
	Price3: Price of the drugs should be similar or lower than drugs at the retail store ฉันคิดว่า ราคายาต้องเท่าหรือต่ำกว่าร้านค้าทั่วไป
	Price4: I will purchase the drugs regardless of their prices ฉันเลือกซื้อยาออนไลน์แม้ว่าจะมีราคาที่ต่าง จากร้านค้าทั่วไป
	Price5: I compare drug prices from different sources before purchasing. ฉันเปรียบเทียบราคาจาก แหล่งต่าง ๆ ก่อนซื้อยาเสมอ
	Price6: I will purchase drug if the drug price is reasonable for its quality. ฉันจะเลือกซื้อยาหาก ราคาเหมาะสมกับคุณภาพและมาตรฐานที่ได้รับ
	Price7: I prefer to purchase drugs online if the price is negotiable ฉันจะซื้อยาออนไลน์ต่อเมื่อราคา สินค้าหรือบริการสามารถต่อรองได้
	Price8: I understand that there is price difference between different dosage of drug and origin of drugs ฉันเข้าใจว่า ราคามีความแตกต่างกัน กับประเภทผลิต และ ขนาดยาแต่ละตัว

Place	Place1: Which of the search engine do you usually use to search for drugs? คุณใช้วิธีใดในการค้นหาสถานที่ซื้อยา
	Place2: I use drug online purchase because I do not have to face the burden of having to find a parking lot. ฉันเลือกที่จะซื้อยาออนไลน์เพราะไม่ต้องเป็นกังวลเรื่องที่จอดรถ
	Place3: I use drug online purchase because it is convenient and easy for me. ฉันเลือกที่จะซื้อยาออนไลน์เพราะความสะดวกสบายและง่ายในการซื้อ
	Place4: I use online drug platform because they can deliver where ever I am. ฉันชอบซื้อยาออนไลน์เพราะฉันสามารถสั่งยาที่ไหนก็ได้เมื่อฉันต้องการ
	Place5: I think it is important to have multiple warehouse location in order to aids rapid delivery. ฉันว่าเป็นการดีหากมีคลังเก็บสินค้าหลายแห่งที่เอื้อแก่การส่งยาแบบด่วน
	Place6: I think it is important for online drug store to be opened 24 hours ฉันคิดว่ามันสำคัญมากที่การซื้อยาออนไลน์จะสามารถทำได้ 24 ชม.
	Place7: I think it is important for the delivery time to be accurate and precise. ฉันให้ความสำคัญต่อความตรงต่อเวลาในการบริการจัดส่งสินคา
	Place8: It is important that customer can choose different ways of delivery according to their preference. ฉันคิดว่ามันสำคัญที่จะสามารถเลือกวิธีการจัดส่งสินค้าได้หลากหลายตามความต้องการ

Promotion	Promotion1: I mostly look at reviews before buying anything online ฉันศึกษาและอ่านรีวิวก่อนตัดสินใจซื้อยาผ่านช่องทางออนไลน์
	Promotion2 My decision to purchase drugs is influenced by advertisement on social media การตัดสินใจซื้อยาออนไลน์ของฉันมีอิทธิพลส่วนใหญ่จากโฆษณาบนโซเชียลมีเดีย
	Promotion3: The availability of products is one of the top priorities to consider when purchase drug online ความพร้อมจำหน่ายของสินค้าเป็นส่วนสำคัญในการพิจารณาซื้อยาออนไลน์
	Promotion4: I am likely to refer this online e-pharmacy service to my friends ฉันคิดว่าฉันจะแนะนำบริการการซื้อยาออนไลน์ให้เพื่อนและครอบครัวของฉัน
	Promotion5: I look at the promotion before purchasing drugs online ฉันดูรายการโปรโมชั่นก่อนซื้อยาและเวชภัณฑ์ทุกครั้ง
	Promotion6: Free Samples should be given when purchases have been made ฉันเห็นด้วยกับการมีนโยบายแจกตัวอย่างสินค้าฟรีเมื่อซื้อยา
	Promotion7: E-pharmacy should have buy1 get1 free promotion ฉันเห็นด้วยกับการมีโปรโมชั่น ซื้อ 1 แถม 1
	Promotion8: I am concern that the online drug store has a loyalty program ฉันคิดว่ามันเป็นการสำคัญที่ร้านยาออนไลน์จะมีระบบสมาชิก
	Promotion9: I am likely to buy when someone introduce the product to me other than choosing online on screen ฉันเลือกที่จะซื้อยา

	ออนไลน์ต่อเมื่อมีคนแนะนำสินค้าจากพนักงาน และฉันได้เห็น
	สินค้า

3.4 Data Analysis Method

The data analysis for this research involved the utilization of the Statistical Package for Social Sciences (SPSS) software program. Its purpose was to examine the correlation between attributes and purchasing intention. This research employs several types of analysis, including descriptive analysis, factor analysis using principal component analysis with varimax rotation, step-wise multiple regression analysis, One-way ANOVA and t-test analysis, Scree Plot/Scree Testing, and hypothesis testing with a multiple regression equation. A descriptive analysis was employed to provide a comprehensive description of personal information, encompassing both demographic factors and behavioral factors of the respondents. Statistics are employed to compute frequencies, percentages, means, and standard deviations.

CHAPTER IV
RESULTS ANALYSIS

This chapter provides an overview of the findings, which were previously discussed in chapter 3. The research collected primary data by conducting a survey using a Google Form. The survey was administered to a sample group consisting of 200 respondents. Quantitative survey questions refer to observational inquiries employed to obtain comprehensive insights from respondents regarding the research topic at hand. (Bhat, 2018)

The results were analyzed and explained to five sections:

1. Analysis of demographic characteristics

2. Analysis of mean and standard deviation for decision-making on online pharmaceutical purchases

3. Factor analysis

4. Comparison of demographic factors with medicines decision making through online pharmacies

5. Analysis of factors affecting the medicines decision making through online pharmacies

4.1 Demographic Analysis

Table 2.1: Demographic Analysis

Demographic	n	%
Gender		
Male	64	32.0
Female	136	68.0
Total	200	100.00
Age group		

	Baby Boomer	35	17.5
	Gen X	41	20.5
	Gen Y	26	13.0
	Gen Z	98	49.0
	Total	200	100.00
Education			
	Less than Bachelor's degree	17	9.0
	Bachelor's degree	74	37.0
	Higher than Bachelor's degree	109	54.5
	Total	200	100.00
Occupation			
	Student	10	5.0
	Private Company Employee	62	31.0
	Government Employee	78	39.0
	Entrepreneur/Business Owner	39	19.5
	Freelance	11	5.5
	Total	200	100.00
Monthly Income			
	Less than or equal to 30,000 THB	61	30.5
	30,001 - 50,000 THB	97	48.5
	50,001 - 70,000 THB	35	17.5
	More than 70,000 THB	7	3.5
	Total	200	100.00
Region			
	Bangkok Metropolitan Area	65	32.5
	Central Region	43	21.5
	Northern Region	31	15.5
	Southern Region	11	5.5
	Eastern Region	36	18.0
	Northeastern Region	12	6.0
	Western Region	2	1.0

		200	100.00
Family Members			
	1 – 2 people	45	22.5
	3 – 4 people	110	55.0
	More than 4 people	45	22.5
	Total	200	100.00

From Table 2.1, we can observe the following demographic characteristics of the 200 respondents. It shows that the majority of the respondents are female (68.0%), Gen Z group (49.0%), have an education level higher than a Bachelor's degree (54.5%), work as government employees (39.0%), earn between 30,001 to 50,000 THB a month (48.5%), live in the Bangkok Metropolitan Area (32.5%), and have 3 – 4 people in their families (55.0%).

Table 2.2: Consumer Behavior Analysis

Consumer Behavior		n	%
Daily internet usage time			
	< 1 Hr.	50	25.0
	1 – 2 Hrs.	66	33.0
	3 – 5 Hrs.	42	21.0
	6 – 8 Hrs.	30	15.0
	> 8 Hrs.	12	6.0
	Total	200	100.00
Channel			
	Hospital	6	3.0
	Local Drug Store	81	40.5
	Chain Drug Store	51	25.5
	GOV Drug Store	30	15.0
	Online Platform	32	16.0
	Total	200	100.00
Frequency of monthly medicine purchase			

	< 1	45	22.5
	1	103	51.5
	2 – 3	45	22.5
	> 3	7	3.5
	Total	200	100.00
Frequency of monthly medical equipment usage			
	Never	10	5.0
	1	62	31.0
	2 – 3	78	39.0
	> 3	39	19.5
	Often	11	5.5
	Total	200	100.00
Products interested in purchasing			
	Baggage's and First aid	6	3.0
	Eye care	4	2.0
	Vitamin and supplement	1	0.5
	Long duration Treatment	4	2.0
	Medicine requiring prescription	77	38.5
	Medicine without Requiring Prescription	54	27.0
	Item related	45	22.5
	Other	9	4.5
	Total	200	100.00
Payment Gateway			
	COD	130	65.0
	Debit card or Credit ดard	32	16.0
	Bank transfer	14	7.0
	Mobile banking	24	12.0
	Total	200	100.00
Purchase period			
	Morning	9	4.5
	Afternoon	29	14.5

Evening	66	33.0
After 8 pm.	96	48.0
Total	200	100.00

From Table 2.2, we can observe the following consumer behavior of the 200 respondents There are 66 respondents spend daily 1-2 hours on the Internet (33.0%), 81 respondents buy medicine from a local drug store (40.5%), 103 respondents buy medicine once a month (51.5%), 78 respondents use monthly medical equipment 2-3 times (39.0%), 77 respondents are interested in purchasing prescription-only medicines (38.5%), 130 respondents opt for Cash on Delivery (COD) (65.0%), and 96 respondents buy medicine after 8 pm. (48.0%).

4.2 Consumer Purchase Decision Analysis

The results of Consumer Purchase Decision Analysis, external factors and marketing mix are as follows;

Table 2.3 The mean and standard deviation of consumer purchase decision

Variable	Mean	Standard Deviation	Level
Consumer Purchase Decision	**3.88**	**0.28**	**High**
External Factor	**4.12**	**0.29**	**High**
Marketing Mix	**3.61**	**0.23**	**High**
Product	3.92	0.26	High
Price	3.08	0.28	High
Place	3.19	0.36	High
Promotion	3.51	0.27	High

From Table 2.3, it can be observed that consumers have a high level of decision-making towards purchasing medicine through online channels ($\bar{X}$ = 3.88, S.D.

= 0.28). They also hold a high perception of external factors ($\overline{X}$ = 4.12, S.D. = 0.29) and have a high level of opinions towards marketing mix ($\overline{X}$ = 3.61, S.D. = 0.23).

4.3 Decision Factor Analysis

In this research, exploratory factor analysis (EFA) was used as a statistical tool for analyzing the components of the following variables:

Table 2.4 Consumer Purchase Decision variables

Consumer Purchase Decision variables	Mean	Standard Deviation	Level
Decision1: I usually choose the same drug brand. (Example Tylenol for Pain Killer) ฉันมักจะเลือกซื้อยายี่ห้อเดิมที่ฉันคุ้นเคยทุกครั้ง เช่น ซาร่า สำหรับยาแก้ปวดทุกครั้ง	4.04	0.45	High
Decision2: only trust drugs that is prescribed by pharmacists ฉันเลือกที่จะซื้อยาที่จ่ายโดยเภสัชกรหรือแพทย์เท่านั้น	3.79	0.39	High
Decision3: Privacy is an important aspect when I purchase drugs online ฉันคำนึงถึงความเป็นส่วนตัวทุกครั้งที่ซื้อยาออนไลน์	3.77	0.41	High
Decision4: I prefer to purchase drugs online more than through a physical store. ฉันชอบที่จะซื้อยาผ่านช่องทางออนไลน์มากกว่าที่ร้านขายยา	3.76	0.43	High
Decision5: I always purchase drug from the same drug store. ฉันมักจะซื้อยาจากร้านเดิมทุกครั้ง	3.77	0.43	High
Decision6: I take the trustworthiness of the drug store into account when	4.03	0.47	High

purchasing drugs online ฉันคำนึงถึงความน่าเชื่อถือ ของร้านค้าเป็นอันดับแรก			
Decision7: I think quality is an important criterion when I purchase drugs ฉันคำนึงถึง ความน่าเชื่อถือของยา ว่ามีใบรับรองการวิเคราะห์และผลิตยา ก่อนซื้อยาทุกครั้ง	3.79	0.40	High
Decision8: Every time I purchase drugs, I look at the details given on the packaging such as the expiry date, manufacturer, or lot number ฉันให้ความสำคัญกับข้อมูลบนฉลาก เช่น วัน หมดอายุ วันผลิตยา เลขที่ล็อต	4.01	0.44	High
Decision9: I am concerned about security when purchasing drugs online. ฉันกังวลเกี่ยวกับ ความปลอดภัยเมื่อซื้อยาออนไลน์ (เช่น ปัญหายาปลอม หรือ การสั่งยาผิด)	4.05	0.46	High
Decision10: I considered secured payment important when I purchase drugs ฉันถือว่าการ ชำระเงินที่ปลอดภัยเป็นสิ่งสำคัญ เมื่อฉันซื้อยาออนไลน์	3.84	0.37	High
Decision11: I think about the delivery process from product selection till product received ฉันคำนึงถึงเวลาในการเลือกซื้อสินค้าจนถึงเมื่อฉัน ได้รับสินค้า	3.80	0.40	High
Total	**3.88**	**0.28**	**High**

From Table 2.4, it can be observed that consumers have a high level of consumer purchase decision through online pharmacies ($\overline{X}$ = 3.88, S.D. = 0.28). This study found that consumers concern about these issues respectively; **Decision9**: "I am concerned about security when purchasing drugs online" ($\overline{X}$ = 4.05, S.D.=0.46), **Decision1:** "I usually choose the same drug brand" ($\overline{X}$ = 4.04, S.D.=0.45), **Decision6:** "I take the trustworthiness of the drug store into account when purchasing drugs online"

($\overline{X}$ = 4.03, S.D.=0.47), **Decision8:** "Every time I purchase drugs, I look at the details given on the packaging" ($\overline{X}$ = 4.01, S.D.=0.44), **Decision10:** "I considered secured payment important when I purchase drugs" ($\overline{X}$ = 3.84, S.D.=0.37), **Decision11:** "I think about the delivery process from product selection till product received" ($\overline{X}$ = 3.80, S.D.=0.40), **Decision2:** "I only trust drugs that is prescribed by pharmacists" ($\overline{X}$ = 3.79, S.D.=0.39), is equal to **Decision7:** "I think quality is an important criterion when I purchase drugs" ($\overline{X}$ = 3.79, S.D.=0.40), **Decision3**: "Privacy is an important aspect when I purchase drugs online" ($\overline{X}$ = 3.77, S.D.=0.41), is equal to **Decision5:** "I always purchase drug from the same drug store" ($\overline{X}$ = 3.77, S.D.=0.43), and **Decision4:** "I prefer to purchase drugs online more than through a physical store" ($\overline{X}$ = 3.76, S.D.=0.43).

4.4 External Factor Analysis

Table 2.5 External factor variables

External factor	Mean	Standard Deviation	Level
External1: The reason for my drug purchase is mostly for the benefit of my health เหตุผลในการซื้อยาส่วนใหญ่ของฉันเพื่อบำรุงหรือรักษาสุขภาพของฉันเอง	4.12	0.38	High
External2: I would choose E-pharmacy because of the trend towards online health service ฉันเลือกที่จะซื้อยาออนไลน์เพราะการบริการใหม่ด้านสุขภาพออนไลน์	3.96	0.34	High
External3: I would choose E-pharmacy because of the E-commence trend ฉันเลือกที่จะซื้อยาออนไลน์เพราะเทรนด์ด้าน E-commerce	4.40	0.54	Highest

External4: I believe that through drug online purchase I will be able to save energy and decrease pollution. (Natural factor) ฉันเชื่อว่าการซื้อยาออนไลน์ช่วยประหยัดพลังงาน และ ลดมลพิษ	3.93	0.32	High
External5: I believe that purchasing drugs through E-pharmacy would reduce the burden of healthcare providers ฉันเชื่อว่าการซื้อยาออนไลน์จะช่วยและแบ่งเบาภาระของบุคคากรทางการแพทย์	4.29	0.50	Highest
External6: My decision to purchase drugs is influenced by advertisement on social media การตัดสินใจซื้อยาออนไลน์ของฉันมีอิทธิพลส่วนใหญ่จากโฆษณาบนโซเซียลมีเดีย	4.03	0.34	High
Total	**4.12**	**0.34**	**High**

From Table 2.5, it can be observed that consumers have a high level of external factor through online pharmacies ($\overline{X}$ = 4.12, S.D.=0.34). This study found that consumers concern about these issues respectively; **External3:** I would choose E-pharmacy because of the E-commence trend ($\overline{X}$ = 4.40, S.D.=0.54), **External5:** I believe that purchasing drugs through E-pharmacy would reduce the burden of healthcare providers ($\overline{X}$ = 4.29, S.D.=0.50), **External1:** The reason for my drug purchase is mostly for the benefit of my health ($\overline{X}$ = 4.12, S.D.=0.38), **External6:** My decision to purchase drugs is influenced by advertisement on social media ($\overline{X}$ = 4.03, S.D.=0.34), **External2:** I would choose E-pharmacy because of the trend towards online health service ($\overline{X}$ = 3.96, S.D.=0.34), and **External4:** I believe that through drug online purchase I will be able to save energy and decrease pollution. ($\overline{X}$ = 3.96, S.D.=0.34)

4.5 Marketing Mix Factor Analysis

Table 2.6 Marketing mix variables

Marketing Mix	Mean	Standard Deviation	Level
Product	3.92	0.26	High
Price	3.08	0.28	High
Place	3.19	0.36	High
Promotion	3.51	0.27	High
Total	**3.61**	**0.27**	**High**

From Table 2.6, it can be observed that consumers have a high level of marketing mix ($\overline{X}$ = 4.12, S.D.=0.29) and a high level of marketing mix ($\overline{X}$ = 3.61, S.D.=0.23) through online pharmacies.

Table 2.7 Product variables

Product	Mean	Standard Deviation	Level
Product1: I think that the service is going to help me and my family with the burden of having to go out to purchase drugs. ฉันเชื่อว่าการซื้อยาออนไลน์จะช่วยลดภาระของฉันและครอบครัวในการที่จะต้องออกไปซื้อยาที่ร้านขายค้า	4.31	0.48	Highest
Product2: I am concerned that the E-pharmacy website has easy search bars. ฉันเห็นด้วยกับการมีแถบค้นหาสินค้าที่ง่ายต่อการใช้งาน	3.90	0.38	High
Product3: It is important that the website has product suggestion box ฉันเห็นด้วยกับการมีกล่องแนะนำผลิตภัณฑ์บนหน้าเว็ปไซต์	4.15	0.42	High
Product4: I'd like the website to have chatbot features. (Chatbot is a computer	3.76	0.42	High

program designed to simulate conversation with humans) ฉันเห็นด้วยกับการมีบริการแชทบอทบนเว็บไซต์ และแอพลิเคชั่น			
Product5: Personalization service should be available on the website (such as monthly subscription of drugs) ฉันเห็นด้วยกับการมีบริการเสริมที่เจาะจงเฉพาะลูกค้า เช่น การปรึกษาเภสัชรายเดือน การบริการเติมยา รายเดือน และการแนะนำวิตามินเสริมรายเดือน	3.74	0.44	High
Product6: 1 Click checkout should be available for rapid purchase ฉันเห็นด้วยกับการมีบริการ 1 Click Checkout เพื่อการซื้อและใช้ยาแบบเร่งด่วน	3.90	0.36	High
Product7: Urgent delivery service should be made available (such as 30 mins delivery) ฉันเห็นด้วยกับการมีบริการส่งสินค้าแบบเร่งด่วน เช่นการส่งสินค้าภายใน 30 นาที	3.86	0.34	High
Product8: I prefer to purchase drugs online using QR code or mobile banking ฉันสะดวกชำระเงินด้วยวิธีการสแกนผ่าน คิวอาร์โค้ด โมบายแบงค์กิ้ง	4.08	0.42	High
Product9: I prefer to purchase drugs online using Debit or Credit card. ฉันสะดวกชำระเงินด้วยเครดิตหรือเดบิดการ์ด	3.85	0.41	High
Product10: I prefer to purchase drugs online using Cash on delivery ฉันสะดวกชำระเงินด้วยเงินสดหลังรับของ	3.73	0.44	High

Product11: When purchasing drugs, I tend to take product variety as a priority. ฉันมักจะให้ความสำคัญกับความหลากหลายของผลิตภัณฑ์เป็นอันดับแรก	3.85	0.44	High
Product12: When purchasing drugs, I tend to take product variety as a priority. ฉันมักจะให้ความสำคัญกับความหลากหลายของผลิตภัณฑ์เป็นอันดับแรก	3.78	0.42	High
Product13: I will choose to purchase drugs online if return after purchase is available in case of change of minds or any unsatisfying reason ฉันจะเลือกซื้อยาออนไลน์เพราะมีการรับประกันว่าสามารถเปลี่ยน หรือคืนสิ้นค้าได้	4.05	0.41	High
Total	**3.92**	**0.26**	**High**

From Table 2.7, it can be observed that consumers have a high level of marketing mix (Product) through online pharmacies ($\overline{X}$ = 3.92, S.D.=0.26). This study found that consumers concern about these issues respectively; **Product1:** I think that the service is going to help me and my family with the burden of having to go out to purchase drugs ($\overline{X}$ = 4.31, S.D.=0.48), **Product3:** It is important that the website has product suggestion box ($\overline{X}$ = 4.15, S.D.=0.42), **Product8:** I prefer to purchase drugs online using QR code or mobile banking ($\overline{X}$ = 4.08, S.D.=0.42), **Product13:** I will choose to purchase drugs online if return after purchase is available in case of change of minds or any unsatisfying reason ($\overline{X}$ = 4.05, S.D.=0.41), **Product2:** I am concerned that the E-pharmacy website has easy search bars ($\overline{X}$ = 3.90, S.D.=0.38), **Product6:** 1 Click checkout should be available for rapid purchase ($\overline{X}$ = 3.90, S.D.=0.36), **Product7:** Urgent delivery service should be made available ($\overline{X}$ = 3.86, S.D.=0.34), **Product9:** I prefer to purchase drugs online using Debit or Credit card ($\overline{X}$ = 3.85, S.D.=0.41), **Product11:** When purchasing drugs, I tend to take product variety as a priority ($\overline{X}$ = 3.85, S.D.=0.44), **Product12:** When purchasing drugs, I tend to take product variety as a priority ($\overline{X}$ = 3.78, S.D.=0.42), **Product4:** I'd like the website to have chatbot features

($\overline{X}$ = 3.76, S.D.=0.42), **Product5** ($\overline{X}$ = 3.74, S.D.=0.44), and **Product5:** Personalization service should be available on the website ($\overline{X}$ = 3.73, S.D.=0.44).

Table 2.8 Price variables

Price	Mean	Standard Deviation	Level
Price1: How much you spend on on drugs price per visit? การไปซื้อยา 1 ครั้ง คุณใช้เงินประมาณเท่าไร	3.83	0.38	High
Price2: There should be price reduction for bulk orders ฉันคิดว่าควรมีลดราคาหากซื้อจำนวนเยอะหรือเป็นโหล	4.13	0.39	High
Price3: Price of the drugs should be similar or lower than drugs at the retail store ฉันคิดว่าราคายาต้องเท่าหรือต่ำกว่าร้านค้าทั่วไป	4.17	0.46	High
Price4: I will purchase the drugs regardless of their prices ฉันเลือกซื้อยาออนไลน์แม้ว่าจะมีราคาที่ต่างจากร้านค้าทั่วไป	3.88	0.36	High
Price5: I compare drug prices from different sources before purchasing. ฉันเปรียบเทียบราคาจากแหล่งต่าง ๆ ก่อนซื้อยาเสมอ	3.87	0.37	High
Price6: I will purchase drug if the drug price is reasonable for its quality. ฉันจะเลือกซื้อยาหากราคาเหมาะสมกับคุณภาพและมาตรฐานที่ได้รับ	3.73	0.49	High
Price7: I prefer to purchase drugs online if the price is negotiable ฉันจะซื้อยาออนไลน์ต่อเมื่อราคาสินค้าหรือบริการสามารถต่อรองได้	3.14	0.69	High

Price8: I understand that there is price difference between different dosage of drug and origin of drugs ฉันเข้าใจว่า ราคามีความแตกต่างกันกับประเภทผลิต และ ขนาดยาแต่ละตัว	3.69	0.52	High
Total	**3.08**	**0.28**	**High**

From Table 2.8, it can be observed that consumers have a high level of marketing mix (Price) through online pharmacies ($\overline{X}$ = 3.08, S.D.=0.28). This study found that consumers concern about these issues respectively; Price3: Price of the drugs should be similar or lower than drugs at the retail store ($\overline{X}$ = 4.17, S.D.=0.46), Price2: There should be price reduction for bulk orders ($\overline{X}$ = 4.13, S.D.=0.39), Price4: I will purchase the drugs regardless of their prices ($\overline{X}$ = 3.88, S.D.=0.36), Price5: I compare drug prices from different sources before purchasing ($\overline{X}$ = 3.87, S.D.=0.37), Price6: I will purchase drug if the drug price is reasonable for its quality ($\overline{X}$ = 3.73, S.D.=0.49), Price1: How much you spend on on drugs price per visit? ($\overline{X}$ = 3.83, S.D.=0.38), Price8: I understand that there is price difference between different dosage of drug and origin of drugs ($\overline{X}$ = 3.69, S.D.=0.52), and Price7: I prefer to purchase drugs online if the price is negotiable ($\overline{X}$ = 3.14, S.D.=0.69)

Table 2.9 Place variables

Place	Mean	Standard Deviation	Level
Place1: Which of the search engine do you usually use to search for drugs? คุณใช้วิธีใดในการค้นหาสถานที่ซื้อยา	3.12	0.72	High
Place2: I use drug online purchase because I do not have to face the burden	3.32	0.46	High

of having to find a parking lot. ฉันเลือกที่จะซื้อยาออนไลน์เพราะไม่ต้องเป็นกังวลเรื่องที่จอดรถ			
Place3: I use drug online purchase because it is convenient and easy for me. ฉันเลือกที่จะซื้อยาออนไลน์เพราะความสะดวกสบายและง่ายในการซื้อ	3.29	0.76	High
Place4: I use online drug platform because they can deliver where ever I am. ฉันชอบซื้อยาออนไลน์เพราะฉันสามารถสั่งยาที่ไหนก็ได้เมื่อฉันต้องการ	3.33	0.51	High
Place5: I think it is important to have multiple warehouse location in order to aids rapid delivery. ฉันว่าเป็นการดีหากมีคลังเก็บสินค้าหลายแห่งที่เอื้อแก่การส่งยาแบบด่วน	3.14	0.65	High
Place6: I think it is important for online drug store to be opened 24 hours ฉันคิดว่ามันสำคัญมากที่การซื้อยาออนไลน์จะสามารถทำได้ 24 ชม.	2.86	0.65	Low
Place7: I think it is important for the delivery time to be accurate and precise. ฉันให้ความสำคัญต่อความตรงต่อเวลาในการบริการจัดส่งสินคา	2.98	0.50	Low
Place8: It is important that customer can choose different ways of delivery according to their preference. ฉันคิดว่ามันสำคัญที่จะสามารถเลือกวิธีการจัดส่งสินค้าได้หลากหลายตามความต้องการ	3.53	0.69	High
Total	**3.19**	**0.36**	**High**

From Table 2.9, it can be observed that consumers have a high level of marketing mix (Place) through online pharmacies ($\overline{X}$ = 3.19, S.D.=0.36). This study found that consumers concern about these issues respectively; Place8: It is important

that customer can choose different ways of delivery according to their preference ($\overline{X}$ = 3.53, S.D.=0.69), Place4: I use online drug platform because they can deliver where ever I am ($\overline{X}$ = 3.33, S.D.=0.51), Place3: I use drug online purchase because it is convenient and easy for me ($\overline{X}$ = 3.29, S.D.=0.76), Place2: I use drug online purchase because I do not have to face the burden of having to find a parking lot ($\overline{X}$ = 3.32, S.D.=0.46), Place5: I think it is important to have multiple warehouse location in order to aids rapid delivery ($\overline{X}$ = 3.14, S.D.=0.65), Place1: Which of the search engine do you usually use to search for drugs? ($\overline{X}$ = 3.12, S.D.=0.72), Place7: I think it is important for the delivery time to be accurate and precise ($\overline{X}$ = 2.98, S.D.=0.50), and Place6: I think it is important for online drug store to be opened 24 hours ($\overline{X}$ = 2.86, S.D.=0.65)

Table 2.10 Promotion variables

Promotion	Mean	Standard Deviation	Level
Promotion1: I mostly look at reviews before buying anything online ฉันศึกษาและอ่านรีวิวก่อนตัดสินใจซื้อยาผ่านช่องทางออนไลน์	3.47	0.51	High
Promotion2 My decision to purchase drugs is influenced by advertisement on social media การตัดสินใจซื้อยาออนไลน์ของฉันมีอิทธิพลส่วนใหญ่จากโฆษณาบนโซเซียลมีเดีย	3.16	0.57	High
Promotion3: The availability of products is one of the top priorities to consider when purchase drug online ความพร้อมจำหน่ายของสินค้าเป็นส่วนสำคัญในการพิจารณาซื้อยาออนไลน์	2.49	0.51	Low
Promotion4: I am likely to refer this online e-pharmacy service to my friends	2.47	0.51	Low

ฉันคิดว่าฉันจะแนะนำบริการการซื้อยาออนไลน์ให้เพื่อนและครอบครัวของฉัน			
Promotion5: I look at the promotion before purchasing drugs online ฉันดูรายการโปรโมชั่นก่อนซื้อยาและเวชภัณฑ์ทุกครั้ง	3.94	0.32	High
Promotion6: Free Samples should be given when purchases have been made ฉันเห็นด้วยกับการมีนโยบายแจกตัวอย่างสินค้าฟรีเมื่อซื้อยา	4.06	0.43	High
Promotion7: E-pharmacy should have buy1 get1 free promotion ฉันเห็นด้วยกับการมีโปรโมชั่น ซื้อ 1 แถม 1	4.03	0.45	High
Promotion8: I am concern that the online drug store has a loyalty program ฉันคิดว่ามันเป็นการสำคัญที่ร้านยาออนไลน์จะมีระบบสมาชิก	4.15	0.51	High
Promotion9: I am likely to buy when someone introduce the product to me other than choosing online on screen ฉันเลือกที่จะซื้อยาออนไลน์ต่อเมื่อมีคนแนะนำสินค้าจากพนักงานและฉันได้เห็นสินค้า	3.88	0.33	High
Total	**3.51**	**0.27**	**High**

From Table 2.10, it can be observed that consumers have a high level of marketing mix (Promotion) through online pharmacies ($\overline{X}$ = 3.51, S.D.=0.27). This study found that consumers concern about these issues respectively; Promotion8: I am concern that the online drug store has a loyalty program ($\overline{X}$ = 4.15, S.D.=0.51), Promotion6: Free Samples should be given when purchases have been made ($\overline{X}$ = 4.96, S.D.=0.43), Promotion7: E-pharmacy should have buy1 get1 free promotion ($\overline{X}$ = 4.03, S.D.=0.45), Promotion5: I look at the promotion before purchasing drugs online ($\overline{X}$ = 3.94, S.D.=0.32), Promotion9: I am likely to buy when someone introduce the product to me

other than choosing online on screen ($\overline{X}$ = 3.88, S.D.=0.33), Promotion1: I mostly look at reviews before buying anything online ($\overline{X}$ = 3.47, S.D.=0.51), Promotion2: My decision to purchase drugs is influenced by advertisement on social media ($\overline{X}$ = 3.16, S.D.=0.57), Promotion3: The availability of products is one of the top priorities to consider when purchase drug online ($\overline{X}$ = 2.49, S.D.=0.51), and Promotion4: I am likely to refer this online e-pharmacy service to my friends ($\overline{X}$ = 2.47, S.D.=0.51)

4.6 Factor Analysis

This study utilized Exploratory Factor Analysis (EFA) and specified the following variables:

1. Purchase Decision: A total of 11 variables related to purchase decision
2. External Factors: A total of 6 variables representing external influences.
3. Marketing Mix Components: A total of 38 variables categorized as follows:

- Product (13 variables)
- Price (8 variables)
- Place (8 variables)
- Promotion (9 variables)

4.6.1 KMO and Bartlett's Test

The purpose of factor analysis is to group variables that are closely related or have high intercorrelations, which can provide clearer interpretations (Kerlinger, 1986). The analysis involves the following steps:

The adequacy of the data was assessed by conducting the Kaiser-Mayer-Olkin (KMO) and Bartlett's test of sphericity. A KMO value ranging from 0.50 to 1 indicates suitability for factor analysis. The study revealed a Kaiser-Meyer-Olkin (KMO) value of 0.806, indicating that the dataset is appropriate for conducting factor analysis. (as shown in Table 4.11).

Table 2.11 Kaiser–Mayer–Olkin (KMO)

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.806
Bartlett's Test of Sphericity	Approx. Chi-Square	7748.108
	df	1485
	Sig.	0.000

From Table 2.11, it was found that the variables in this research are interrelated, with a Kaiser-Mayer-Olkin (KMO) value of 0.806, a Chi-Square value of 7748.108, and a p-value of 0.000. These results indicate that the variables are correlated and are suitable for further factor analysis.

The communalities represent the proportion of variance in each variable that can be explained by common factors (all factors: F1, F2, ..., F52), or the multiple correlation of the variable with the underlying factors.

Table 2.12 Communalities of Principal Component Analysis (PCA) Methods

Variables	Initial	Extraction	Variables	Initial	Extraction
A1	1.000	.809	C12	1.000	.800
A2	1.000	.804	C13	1.000	.699
A3	1.000	.711	D1	1.000	.638
A4	1.000	.814	D2	1.000	.844
A5	1.000	.858	D3	1.000	.763
A6	1.000	.647	D4	1.000	.843
A7	1.000	.676	D5	1.000	.817
A8	1.000	.766	D6	1.000	.686
A9	1.000	.792	D7	1.000	.790
A10	1.000	.672	D8	1.000	.689
A11	1.000	.583	E1	1.000	.807
B1	1.000	.548	E2	1.000	.613
B2	1.000	.613	E3	1.000	.658

B3	1.000	.715	E4	1.000	.746
B4	1.000	.547	E5	1.000	.750
B5	1.000	.705	E6	1.000	.685
B6	1.000	.713	E7	1.000	.571
C1	1.000	.646	E8	1.000	.686
C2	1.000	.718	F1	1.000	.615
C3	1.000	.716	F2	1.000	.672
C4	1.000	.779	F3	1.000	.879
C5	1.000	.810	F4	1.000	.852
C6	1.000	.654	F5	1.000	.754
C7	1.000	.705	F6	1.000	.769
C8	1.000	.724	F7	1.000	.774
C9	1.000	.702	F8	1.000	.753
C10	1.000	.712	F9	1.000	.656
C11	1.000	.740			

Source: Researcher (2023)

From Table 2.12, it found that based on the criterion for evaluating communalities, values more than 0.50 are considered acceptable (Hair et al., 2010). If any variable has a value below 0.50, it should be removed. In this research, the Initial Communalities of the Principal Component method were set to 1 for all variables, and after extracting the factors, the Extraction Communalities were analyzed. It was discovered that Variable A5 had the highest Communalities value of 0.858, while Variable B4 had the lowest Communalities value of 0.547. This indicates that the variables can be clearly grouped into one of the underlying components. The communalities represent the proportion of variance in each variable explained by the common factors, ranging from 54.7% to 85.8%, and no variables were removed from the analysis.

4.6.2 Total Variances Explained

Table 2.13: The results of the Total Variances Explained test.

	Total Variance Explained								
	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	10.570	19.217	19.217	10.570	19.217	19.217	6.922	12.585	12.585
2	6.631	12.056	31.274	6.631	12.056	31.274	4.537	8.249	20.835
3	4.586	8.338	39.611	4.586	8.338	39.611	4.268	7.759	28.594
4	3.262	5.932	45.543	3.262	5.932	45.543	3.652	6.640	35.233
5	3.011	5.474	51.017	3.011	5.474	51.017	2.984	5.425	40.658
6	2.002	3.641	54.658	2.002	3.641	54.658	2.889	5.252	45.910
7	1.916	3.483	58.141	1.916	3.483	58.141	2.844	5.171	51.081
8	1.515	2.754	60.895	1.515	2.754	60.895	2.611	4.747	55.828
9	1.458	2.651	63.546	1.458	2.651	63.546	2.602	4.731	60.559
10	1.401	2.548	66.094	1.401	2.548	66.094	1.934	3.517	64.075
11	1.215	2.208	68.302	1.215	2.208	68.302	1.811	3.294	67.369
12	1.093	1.987	70.290	1.093	1.987	70.290	1.387	2.521	69.890
13	1.029	1.871	72.161	1.029	1.871	72.161	1.249	2.271	72.161
14	.947	1.722	73.883						
15	.883	1.606	75.489						
16	.859	1.562	77.052						
17	.777	1.413	78.464						
18	.721	1.310	79.775						
19	.689	1.253	81.028						
20	.666	1.210	82.238						

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50	.114	.207	99.382
51	.103	.188	99.570
52	.094	.171	99.741
53	.072	.131	99.872
54	.047	.086	99.958
55	.023	.042	100.000

Extraction Method: Principal Component Analysis.

Source: Researcher (2023)

From Table 2.13, it was found that when performing Principal Component Analysis (PCA) with Varimax rotation to extract factors, only 13 components (factors) were identified with Total Initial Eigenvalue greater than 1. These components are labeled as variables 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, and 13.

The evaluation of Rotation Sums of Squared Loadings provides Eigenvalues, percent of Variance, and Cumulative percent for each factor, which assesses the variance contribution of factors when rotated in a way that keeps them orthogonal or independent from each other. Varimax rotation is a popular method used to rotate factors and aims to maximize the sum of squared loadings for each factor, leading to a clearer separation of variables. It attempts to have the variables with the highest or lowest factor loadings within each factor, making them more distinct.

4.7 Summary

The Principal Component Analysis (PCA) involves factor loadings, which are correlation coefficients between variables and components. The criterion for determining the grouping of variables into specific factors is based on the factor loading values. If a variable has a high factor loading value (close to +1 or -1) in a particular factor and low factor loadings (close to zero) in other factors, the variable is assigned to the factor with the highest loading. However, if the factor loadings across different

factors are not clearly distinct, it becomes challenging to allocate variables to specific factors. In such cases, a rotation of the factor axes is performed. In this study, a Varimax rotation, which aims to maximize the variance of the loadings within each factor while minimizing cross-loadings of variables, was chosen. The factor loadings should preferably not be lower than 0.3, as recommended by Burns & Grove (1993) and Stevens (1996).

Table 2.14: A summary of variables after conducting Principal Component Analysis (PCA)

	Components	Variables
1	Channel (10) Place	F6, F7, G1, G2, G3, G4, G5, G6, G7, G8
2	Safety (6)	C2, C3, C4, C5, C7, C10
3	Convenience (5)	E7, E9, E10, E11, E12
4	Sale Promotion (5)	H5, H6, H7, H8, H9
5	External Factor (5)	D2, D3, D4, D5, D6
6	Rapidly (4)	E2, E4, E5, E6
7	Trust (4)	C1, C6, C8, C9
8	Economical (4)	E13, F1, F4, F5
9	Cheap Price (4)	E3, E9, F2, F3
10	Influencer (2)	D1, E1
11	Word-of-Mount (2)	H3, H4
12	Worthiness (2)	C11, F8
13	Review (2)	H1, H2

Source: Researcher (2023)

From Table 2.14, it is found that the new variables generated after Factor Analysis using Principal Component Analysis (PCA) with Varimax rotation resulted in 13 new factors, namely Channel, Safety, Convenience, Sale Promotion, External Factor, Rapidly, Trust, Economical, Cheap Price, Influencer, Word-of-Mouth, Worthiness, and

Review, totaling 55 variables. The grouping of these new variables is shown in the Scree Plot, with 13 factors having Eigenvalues more than one (as shown in Figure 3.1).
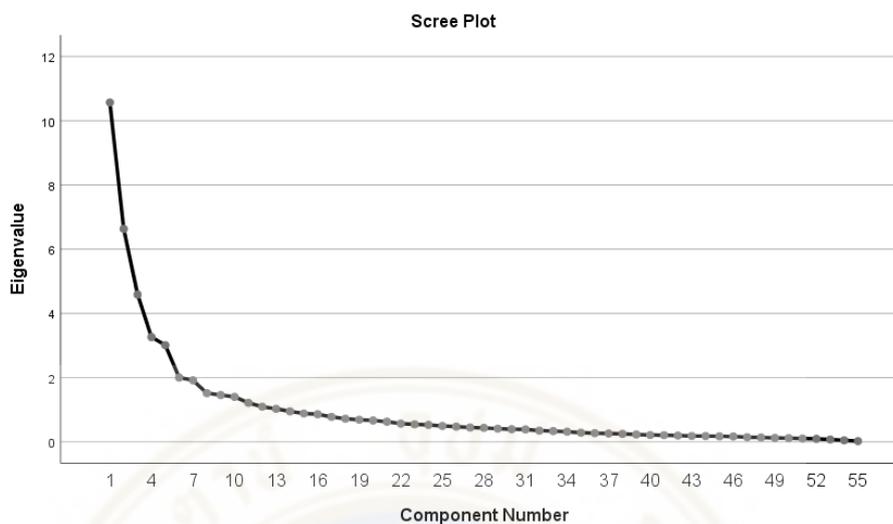

Figure 3.1: Scree Plot of New Variable Clustering After Factor Analysis

Using Stepwise Multiple Regression Analysis with 13 newly composed components, namely Channel, Safety, Convenience, Sale Promotion, External Factor, Rapidly, Trust, Economical, Cheap Price, Influencer, Word-of-Mouth, Worthiness, and Review, a total of 55 variables show the relationship as presented in Figure 3.2.
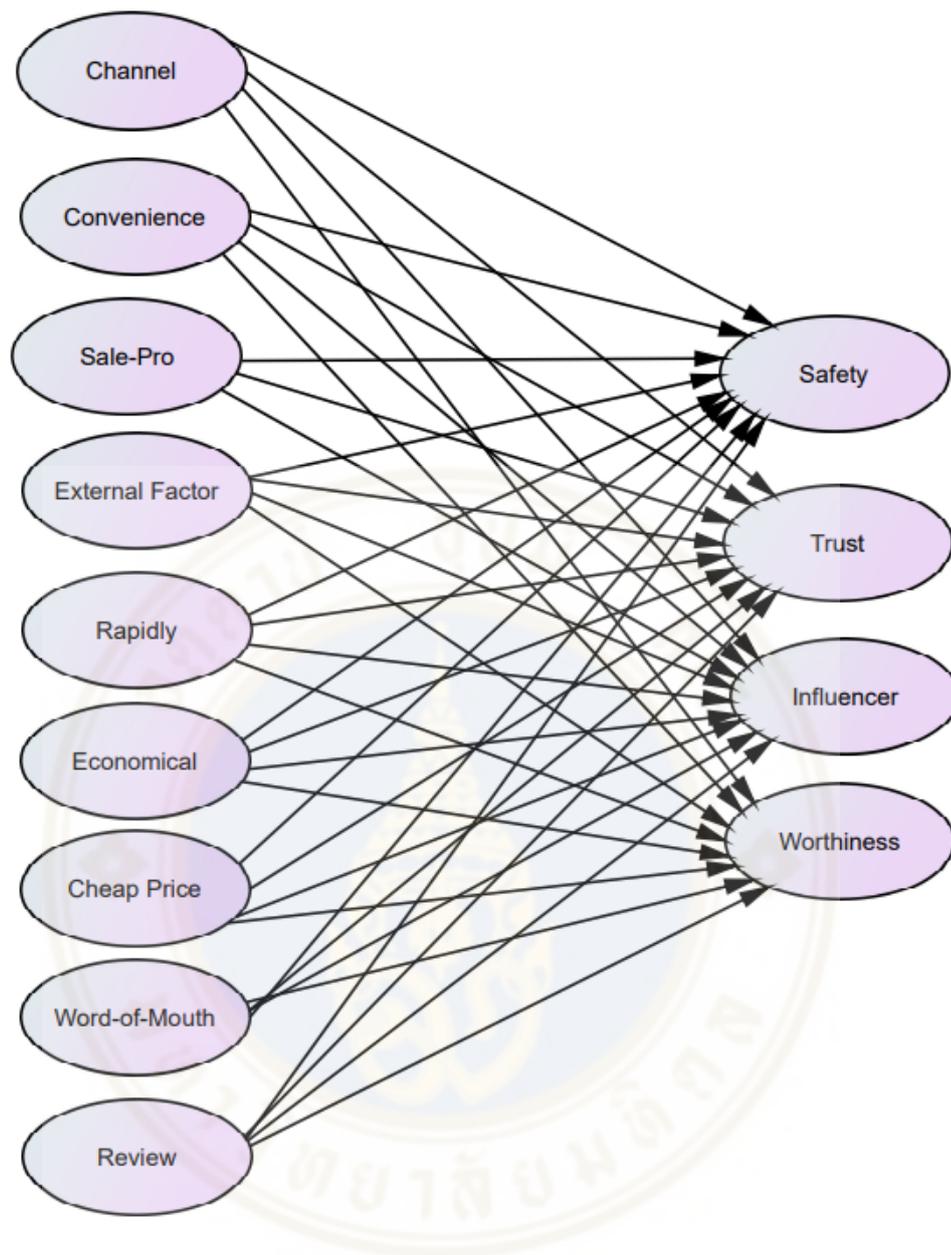
Figure 3.2: The relationship between independent and dependent variables in this study

Hypotheses Based on the Research Objectives

Hypothesis 1: Differences in demographic factors lead to variations in consumer behavior when purchasing medication through online channels.

Hypothesis 2: Factors such as Channel, Convenience, Sale Promotion, External Factor, Rapidity, Economical, Cheap Price, Word-of-Mouth, and Review have an impact on Decision Making related to Safety.

Hypothesis 3: Factors such as Channel, Convenience, Sale Promotion, External Factor, Rapidity, Economical, Cheap Price, Word-of-Mouth, and Review have an impact on Decision Making related to Trust.

Hypothesis 4: Factors such as Channel, Convenience, Sale Promotion, External Factor, Rapidity, Economical, Cheap Price, Word-of-Mouth, and Review have an impact on Decision Making related to Influencer.

Hypothesis 5: Factors such as Channel, Convenience, Sale Promotion, External Factor, Rapidity, Economical, Cheap Price, Word-of-Mouth, and Review have an impact on Decision Making related to Worthiness.

4.8 Comparison of Demographic Factors with Online Medicine Purchase Decision

The comparison of different demographic factors revealed variations in consumers' behavior towards purchasing medicine through online channels. The results of the factor analysis, which examined the factors influencing the decision to buy medicine through online pharmacies, are as follows:

Table 2.15: Comparison of Demographic Factors with Online Medication Purchase Decision

Demographics	T	Sig
Gender	83.722	0.000*
	F	Sig
Age	1.048	0.409
Education	0.567	0.897
Occupation	0.978	0.480
Monthly income	0.982	0.476

Location	0.696	0.787
Family Member	0.677	0.805

From Table 2.15, it can be inferred by t – Test and One – Way Anova that the demographic factor of gender significantly influences consumers' behavior towards purchasing medication through online channels at a statistical significance level of 0.05. However, other demographic factors do not show significant differences in consumers' behavior in online medication purchase. This significant difference based on gender can be used for customer segmentation in online medication markets.

4.9 Results of the Testing of Marketing Mix Factors through Online Medicine Purchase Decision

Hypothesis Testing:

Hypothesis 2: Factors such as Channel, Convenience, Sale Promotion, External Factor, Rapidity, Economical, Cheap price, Word-of-Mouth, and Review significantly influence the decision-making process related to Safety.

Hypothesis 3: Factors such as Channel, Convenience, Sale Promotion, External Factor, Rapidity, Economical, Cheap price, Word-of-Mouth, and Review significantly influence the decision-making process related to Trust.

Hypothesis 4: Factors such as Channel, Convenience, Sale Promotion, External Factor, Rapidity, Economical, Cheap price, Word-of-Mouth, and Review significantly influence the decision-making process related to Influencer.

Hypothesis 5: Factors such as Channel, Convenience, Sale Promotion, External Factor, Rapidity, Economical, Cheap price, Word-of-Mouth, and Review significantly influence the decision-making process related to Worthiness.

The variables in the multiple regression equation are as follows:

β_0: Intercept or constant term of the equation.

β_1, β_2,..., β_n: Coefficients or regression coefficients of the independent variables X_1, X_2, ..., X_n, respectively.

"Y_1": Dependent variable representing Safety.

"Y_2": Dependent variable representing Trust.

"Y$_3$": Dependent variable representing Influencer.

"Y$_4$": Dependent variable representing Worthiness.

"X$_1$": Independent variable representing Channel.

"X$_2$": Independent variable representing Convenience.

"X$_3$": Independent variable representing Sale Promotion.

"X$_4$": Independent variable representing External Factor.

"X$_5$": Independent variable representing Rapidly.

"X$_6$": Independent variable representing Economical.

"X$_7$": Independent variable representing Cheap Price.

"X$_8$": Independent variable representing Word-of-Mouth.

"X$_9$": Independent variable representing Review.

Hypothesis 2: Channel, Convenience, Sale Promotion, External Factor, Rapidity, Economical, Cheap Price, Word-of-Mouth, and Review have an effect on Decision Making - Safety.

Table 2.16 the results of the multiple regression analysis using the Stepwise method for Hypothesis 2

Independent variable	B	S.E.	Beta	t	Sig
Constant	3.253	0.184		17.630	0.000*
Review (X9)	0.162	0.055	0.204	2.939	0.004*
$R = 0.204^a$, $R^2 = 0.042$, SEE = 0.34247, F = 8.635, Sig = 0.004^b, * = P < 0.05					
Dubrin-Watson = 1.991					

Table 2.16 shows the results of the multiple regression analysis using the Stepwise method. The equation includes 9 independent variables, and it was found that only the variable "Review" significantly influences Decision Making - Safety at a statistically significant level of 0.05. The coefficient of determination (R) is 0.204, indicating that it can explain approximately 4.20% of the variation in Decision Making - Safety. The regression equation can be represented as follows:

The statistical equation predicts that "Review" is a significant factor influencing "Decision Making – Safety" at a statistically significant level of 0.05. In this

context, the term "Review" has a substantial impact on predicting changes in "Decision Making – Safety," being the sole significant predictor (Beta = 0.204). This indicates a unidirectional relationship between "Review" and "Decision Making – Safety," as expressed in the equation. Specifically, a one-unit increase in "Review" is associated with a 0.162-unit increase in "Decision Making – Safety," keeping other factors constant.

Hypothesis 3: Channel, Convenience, Sale Promotion, External Factor, Rapidity, Economical, Cheap Price, Word-of-Mouth, and Review have an effect on Decision Making - Trust.

Table 2.17 the results of the multiple regression analysis using the Stepwise method for Hypothesis 3

Independent variable	B	S.E.	Beta	t	Sig
Constant	4.072	0.572		8.233	0.000*
Rapidly (X5)	0.126	0.087	0.030	0.039	0.000*
$R = 0.145^a$, $R^2 = 0.212$, SEE = 0.39236, F = 0.455, Sig = 0.000^c, * = $P < 0.05$					
Dubrin-Watson = 2.004					

Table 2.17 Presents the results of the multiple regression analysis using the Stepwise method. The equation includes 9 independent variables, and it was found that only the variable "Rapidly" significantly influences Decision Making - Trust at a statistically significant level of 0.05. The coefficient of determination (R) is 0.145, indicating that it can explain approximately 21.2% of the variation in Decision Making - Trust. The regression equation can be represented as follows:

The statistical equation predicts that "Rapidly" is a significant factor influencing "Decision Making – Trust" at a statistically significant level of 0.05. In this context, the term "Rapidly" has a meaningful impact on predicting changes in "Decision Making – Trust," serving as the sole significant predictor (Beta = 0.030). This implies a

unidirectional relationship between "Rapidly" and "Decision Making – Trust," as represented in the equation. Specifically, if "Rapidly" increases by one unit, it is associated with a 0.126-unit increase in "Decision Making – Trust," while keeping other factors unchanged.

Hypothesis 4: Channel, Convenience, Sale Promotion, External Factor, Rapidity, Economical, Cheap Price, Word-of-Mouth, and Review have an effect on Decision Making – Influencer.

Table 2.18 The results of the multiple regression analysis using the Stepwise method for Hypothesis 4

Independent variable	B	S.E.	Beta	t	Sig
Constant	1.441	0.328		4.387	0.000*
External Factor (X4)	0.370	0.081	0.324	4.586	0.000*
Cheap Price (X7)	0.308	0.080	0.271	3.835	0.000*
$R = 0.517^b$, $R^2 = 0.268$, SEE = 0.31410, F = 35.997, Sig = 0.000^c, * = P < 0.05					
Dubrin-Watson = 2.004					

Table 2.18 presents the results of the multiple regression analysis using the Stepwise method. The equation includes 9 independent variables, and it was found that the variables "External Factor" and "Cheap Price" significantly influence Decision Making – Influencer at a statistically significant level of 0.05. The coefficient of determination (R) is 0.517, indicating that it can explain approximately 26.8% of the variation in Decision Making – Influencer. The regression equation can be represented as follows:

The statistical equations predict the following relationships:

"External Factor" significantly influences "Decision Making – Influencer" at a statistically significant level of 0.05. "External Factor" has the most substantial impact on predicting changes in "Decision Making – Influencer" and is the top predictor (Beta = 0.324). This implies a unidirectional relationship between "External Factor" and "Decision Making – Influencer," as expressed in the equation. Specifically, if "External

Factor" increases by 1 unit, it is associated with a 0.370-unit increase in "Decision Making – Influencer," while keeping other factors unchanged.

" Cheap Price" significantly influences "Decision Making – Influencer" at a statistically significant level of 0.05. " Cheap Price " is the second most influential predictor of changes in "Decision Making – Influencer" (Beta = 0.271). This indicates a unidirectional relationship between " Cheap Price " and "Decision Making – Influencer," as described in the equation. If " Cheap Price increases by 1 unit, it is associated with a 0.308-unit increase in "Decision Making – Influencer," while other factors remain unchanged.

Hypothesis 5: Channel, Convenience, Sale Promotion, External Factor, Rapidity, Economical, Cheap Price, Word-of-Mouth, and Review have an effect on Decision Making - Worthiness.

Table 2.19 The results of the multiple regression analysis using the Stepwise method for Hypothesis 5

Independent variable	B	S.E.	Beta	t	Sig
Constant	2.106	0.287			0.000*
Channel (X1)	0.287	0.052	0.360	5.496	0.000*
External Factor (X4)	0.175	0.064	0.178	2.720	0.007*
$R = 0.431^b$, $R^2 = 0.186$, SEE = 0.26731, F = 22.530, Sig = 0.000^b, * = P < 0.05					
Dubrin-Watson = 2.100					

Table 2.19 presents the results of the multiple regression analysis using the Stepwise method. The equation includes 9 independent variables, and it was found that the variables "Channel" and "External Factor" significantly influence Decision Making - Worthiness at a statistically significant level of 0.05. The coefficient of determination (R) is 0.431, indicating that it can explain approximately 18.6% of the variation in Decision Making - Worthiness. The regression equation can be represented as follows:

The statistical equations predict the following relationships:

"Channel" significantly influences "Decision Making - Worthiness" at a statistically significant level of 0.05. "Channel" has the most substantial impact on predicting changes in "Decision Making - Worthiness" and is the top predictor (Beta = 0.360). This indicates a unidirectional relationship between "Channel" and "Decision Making - Worthiness," as expressed in the equation. Specifically, if "Channel" increases by 1 unit, it is associated with a 0.287-unit increase in "Decision Making - Worthiness," while keeping other factors unchanged.

"External Factor" significantly influences "Decision Making - Worthiness" at a statistically significant level of 0.05. "External Factor" is the second most influential predictor of changes in "Decision Making - Worthiness" (Beta = 0.178). This implies a unidirectional relationship between "External Factor" and "Decision Making - Worthiness," as described in the equation. If "External Factor" increases by 1 unit, it is associated with a 0.175-unit increase in "Decision Making - Worthiness," while other factors remain unchanged.

Figure 3.3, the results of the marketing mix factors influencing consumers' decisions to purchase medicine through online channels can be summarized as follows:
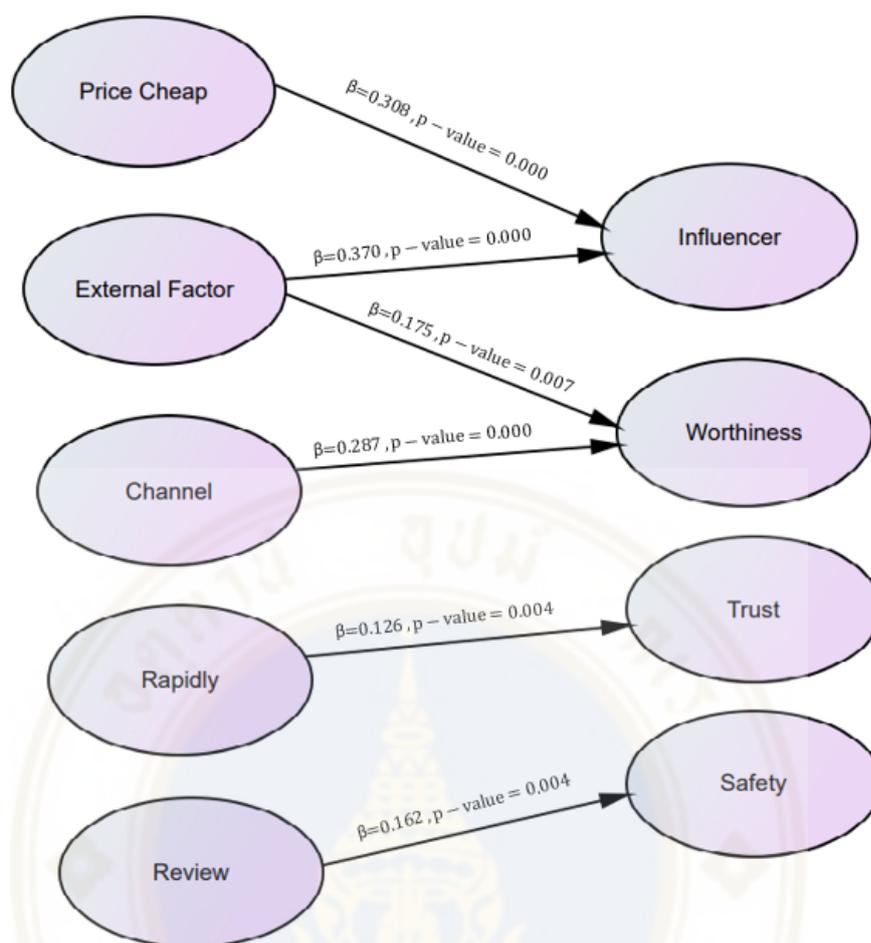
Figure 3.3 The marketing mix factors influencing consumers' decisions to purchase medicine through online pharmacies

CHAPTER V
CONCLUSION AND RECCOMENDATION

5.1 Conclusion

In the final analysis, the objective of this study was to gain insights into customer behavior regarding the purchasing decision factor, demographic factor, and the marketing mix factors that impact consumers in Thailand to purchase drugs online. These study results were expected to provide authorities, entrepreneurs, investors, and consumers with the beneficial information in doing business in the E-pharmacy sector. This will enhance the adoption and improve online services especially in the pharmaceutical field that will ultimately lead to consistent and long-lasting consumer satisfaction in the future.

Based on the findings of this research, it has been determined that individuals who are most inclined to purchase drugs online are female consumers belonging to Generation Z and possessing at least a Bachelor's degree. The target demographic profile primarily consists of employed individuals with a monthly income ranging from 30,000 to 50,000 baht, residing in Bangkok with a household size of 3 to 4 members.

Based on the analysis of consumer behavior, it has been determined that among the sample of 200 consumers, the average daily internet usage ranges from 1 to 2 hours. Additionally, these consumers demonstrate a preference for purchasing medicine from a local drug store approximately once a month. Consumers typically engage in making purchases of pharmaceutical products during the evening hours, extending until late at night, specifically around 8 pm. The primary items that draw their interest are medical equipment, such as bandages, and prescription drugs. Cash on delivery is the most preferred payment method.

The factors that positively influence customers' purchase intention to purchase online drugs are external factors, Channels, Worthiness, Influencer, Rapidity, Trust, Review, and Safety.

5.2 Recommendation according to Demographic Factors and Consumer Behavioral Factors results.

The objective of the study was to study the consumer factors, demographic factors, and marketing mix factors that influence the decision-making process when it comes to purchasing medicine through online channels.

The findings regarding demographic factors and consumers behavior indicate that individuals belonging to Generation Z exhibit a higher propensity for engaging in drug online purchases. Consequently, it is imperative to prioritize the improvement of online services in order to cater to this particular consumer segment. If an entrepreneur were to develop an E-pharmacy platform, it would be imperative to ensure that it is aligned with the consumer behavior of Generation Z and meets their satisfaction. The following is a compilation of consumer behaviors that have the potential to appeal to customers belonging to Generation Z.

• It is apparent that 53% of Gen Z consumers express a desire for brands to provide personalized or customized products. Consequently, incorporating these services would likely enhance their level of interest. Services like vitamins catered to each individual would definitely attract sales from this group of customers.

• Gen Z consumers exhibit a higher level of trust towards influencers on social media platforms as compared to companies.

• Consumers belonging to the Gen Z demographic prioritize flexibility, particularly in terms of payment options and accessibility. These factors have the potential to capture their interest. Therefore, it is important to allow multiple payment options such as multiple joint venture programs.

• The consumer behavior of Generation Z indicates a greater propensity to purchase products that are characterized by sustainability and high quality. According to recent research, a significant majority of Generation Z consumers, specifically 73%, have expressed their willingness to pay a premium of 10% for products that are environmentally sustainable.

• Gen Z consumers exhibit a tendency to be well-informed consumers, frequently engaging in research and careful consideration of various options prior to finalizing a purchase. Consumers does not exhibit a tendency to display brand loyalty,

instead would engage in comparative shopping in order to secure the most advantageous offer. (UŢĂ, 2022)

5.3 Recommendations according to Marketing Mix Factors and External Factors.

The findings regarding marketing mix recommendations for entrepreneurs can be summarized as follows.

1. Channels: Pharmacies should aim to offer accessibility through both physical and digital channels, ensuring equal focus on meeting the needs of customers at every step of their journey. By implementing an omnichannel approach, we can enhance the efficiency and flexibility of our pharmacy fulfillment operations in both the pharmacy setting and centralized pharmacy automation space. In order to accomplish this objective, it is imperative to integrate a comprehensive software platform that effectively combines prescription acquisition, prior authorization procedures, prescription fulfillment, and last mile delivery technology. Cutting-edge technologies such as artificial intelligence (AI), machine learning (ML), and cloud computing possess the capability to profoundly influence omnichannel pharmacy fulfillment. Data plays a pivotal role in all facets of this matter. Sophisticated digital and analytical tools are essential in extracting valuable insights and facilitating informed decision-making processes from large volumes of data. The objective of this solution is to enhance the efficient management of shorter promise time windows in retail, central fill, and delivery operations. (Chatterjee, 2021)

2. Worthiness: The concept of worthiness is closely tied to the value that consumers perceive in a product. Therefore, it is crucial to ascertain the needs and goals of customers in order to effectively demonstrate the value of your product. To better understand consumers, we can employ methods such as user testing, analysis of feedback, and conducting interviews. In order to better serve our customers and align our services and products with their value proposition, it is crucial to gather as much information as possible regarding their preferences. To counter this, you may provide a brief summary of how your service addresses their concerns, produces the required results, and sets you apart from the competition. The use of storytelling to illustrate the

value of your service can significantly enhance its impact and demonstrate its worthiness.

3. Influencer: In 2023, influencer marketing has played a significant role in shaping consumer behavior. The conventional advertising landscape is undergoing a transformation as influencer marketing gains prominence for its perceived authenticity and relatability in product reviews. Influencers establish significant and reliable connections with their audience, thereby prompting consumers to seek their opinions on products. As the prevalence of social media continues to grow, brands can effectively raise awareness by leveraging the voices of influencers. A pharmacist can serve as an influential figure in modern digital marketing, contributing to the positive image of the store, enhancing trust, and adding value to the services provided.

4. Rapidity: The rapid pace of technological advancements necessitates the adoption and adaptation of service that have the potential to enhance healthcare. The importance of rapid service and delivery has transitioned from being a desirable feature to an essential requirement. In terms of the online pharmacy market, potential improvements could include implementing a prompt 30-minute delivery service, which would be offered at no additional cost to customers.

5. Trust: Specifically, the strategy employed by online sellers to enhance the quality of their website and raise brand awareness will effectively enhance buyers' confidence. Greater regulatory measures and standards should be implemented to effectively support lawful online activities while simultaneously prohibiting the trade of illicit pharmaceutical products. Online pharmacies should implement effective strategies to address consumer concerns regarding the purchase of medications online and establish strong customer loyalty. For example, enhancing the quality and approval of products, ensuring prompt transportation, obtaining relevant certifications from appropriate authorities, maintaining regular communication with customers throughout the transaction process, and offering professional advice before and after the sale of pharmaceuticals can significantly enhance consumer trust in these websites. However, due to the recent emergence of online channels for pharmaceutical trading, this method has not yet been widely adopted by consumers. (Ariffin & Ab Yajid, 2020)

6. Review: As we moving into a more digitally-oriented era, the importance of utilizing online reviews remains relevant. In order to cultivate enduring relationships and foster customer loyalty, it is imperative for businesses and marketplaces to prioritize

customer satisfaction. Hence, it is advisable for online pharmacies to cultivate patient influencers as a potential direct-to-consumer pharmaceutical marketing strategy in the near future. This encompasses the patient experience and the patient journey in transitioning from illness to wellness. (Willis & Delbaere, 2022)

7. Safety: The topic of safety, particularly in relation to customer satisfaction, holds significant importance. It is imperative to establish robust safety measures in order to protect patients utilizing online services. The services provided encompass the following: The implementation of e-prescribing has facilitated the electronic transmission of patients' prescription information from prescribers to pharmacy computers. Furthermore, the implementation of electronic health records enables pharmacists to efficiently access and review essential patient drug sensitivity history. Additionally, implementing a comprehensive system that provides detailed information about the lot number, expiry date, and manufacturing location of drugs prior to purchase has the potential to enhance consumer trust and ensure their safety.

Based on the findings, it was observed that a significant proportion of customers expressed satisfaction with e-pharmacies with various advantages offered by e-pharmacies, such as attractive deals and cost savings, the convenience of home delivery, and the wider availability of products. Hence, the government sector can utilize the insights obtained from this research to establish an E-pharmacy service within the health promotion model, with the aim of attaining vertical equity in healthcare and health services.

5.4 Limitation of Research

There are a few restrictions in the current study, including 520 respondents made up the study's sample size, which may not accurately represent all of India's citizens. In addition, respondents can organize their answers under their preferences when responding to the questions. However, because they were cautious about answering some questions, respondents might have given only some information. This could be a significant roadblock in a research endeavour.

There are several limitations in the current study, including a sample size of 200 respondents, which may not provide a fully representative representation of all

citizens in Thailand. The samples were randomized and might not be a sufficient representative from each age range of demographic factors. The study is hindered by a small sample size, which may limit the generalizability of the findings.

Additionally, the survey yielded a limited number of useful responses, which may impact the overall quality of the data. Furthermore, the research on this particular topic is scarce, resulting in limited access to relevant data and insufficient inclusion of specific information or credible sources obtained from social media platforms.

A potential limitation of this study may arise from the possibility of fluctuating data as a result of time constraints. It is possible that consumer opinion may undergo a change over the course of time. Hence, in order to address this issue effectively, it is imperative to conduct a longitudinal study in the future.

5.5 Directions for future research

For the future study, it is recommended to conduct qualitative research. Through the utilization of in-depth interviews and behavioral observations, we can aim to acquire comprehensive insights and explain the underlying causes of the factors that influence satisfaction. Additionally, conducting further research to develop a business model for E-pharmacy or investigate consumer purchasing patterns on E-pharmacy platforms would provide valuable insights into the specific details and factors influencing consumer preferences.

Given the transition towards an aging society, medication has become an integral part of the daily lives of individuals. The utilization of technology, specifically E-pharmacy, has the potential to greatly enhance the well-being of the elderly population and improve their overall quality of life. Nevertheless, the elderly population continues to adhere to traditional practices, such as visiting traditional shops, and harbors apprehension towards technology and societal shifts. Hence, if we can encourage their inclination towards utilizing E-pharmacy services, it would greatly benefit caregivers, communities, governments, and society at large.

E-pharmacy has several benefits that are readily apparent to the elderly population. Seniors must realize it may be beneficial in terms of price, convenience, and

variety of offers if they were able to compare pharmacies and therefore profit from the competition. This technological advancement addresses the growing concerns of the senior population about medication independence. Lasserez, H. (2013)

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