

Factors Influencing Intention to Purchase Intimate Hygiene Products of Female Consumers through Online Mobile Applications in Bangkok

Received: 11 August 2024 Nonthawat Wattananont¹, Supasan Preedawiphat² and Davids Makararpang^{3*}

Revised: 21 November 2024

Accepted: 13 December 2024

Abstract

The objective of this study is to delve into the factors that significantly influence female consumers' intention to purchase intimate hygiene products via online mobile applications in Bangkok. The study specifically examined demographic factors, the 4 P's marketing mix (Product, Price, Place, Promotion), and the Technology Acceptance Model (TAM) factors that impacted the intention to purchase these products. The data were collected using an online Google Form questionnaire, with a total of 400 valid responses analyzed. Statistical measures used in this study included percentage, mean, and standard deviation. The hypotheses were tested using one-way ANOVA and multiple regression analysis. The results indicated that the factors significantly affecting the intention to purchase intimate hygiene products at a significance level of 0.05, in order of influence, were innovation and technology acceptance factors, precisely attitude towards using, and marketing mix factors were price, place, and product, respectively.

Keywords: Technology acceptance model, Marketing Mix, Attitude toward Using

*Corresponding author e-mail: david_mak@utcc.ac.th

¹ Graduate Student, College of entrepreneur, University of the Thai Chamber of Commerce. e-mail: nontrawat.wattananont@gmail.com

² Lecturer, College of entrepreneur, University of the Thai Chamber of Commerce. e-mail: Supasan_pre@utcc.ac.th

³ Lecturer, Business school, University of the Thai Chamber of Commerce. e-mail: david_mak@utcc.ac.th



Introduction

The integration of the Technology Acceptance Model (TAM) and the Marketing Mix (4 Ps) offers significant advantages in designing this study on online shopping behavior in Bangkok. This combined approach facilitates a comprehensive understanding of technological factors, such as perceived ease of use and perceived usefulness of the products, alongside marketing factors, including product, price, place, and promotion, to study customer behavior on online platforms in Bangkok's current market landscape. Together, these elements effectively describe contemporary marketing strategies employed on online platforms, providing a holistic framework for analyzing consumer decision-making in digital environments.

While existing research has explored the TAM and Marketing Mix independently in the context of online shopping, limited studies have combined these frameworks to examine their synergies in influencing consumer behavior. Female consumers of intimate hygiene products may exhibit distinct purchasing behaviors compared to other product categories, influenced by both technological acceptance and unique marketing considerations, such as sensitivity in communication and targeted promotions.

This study aims to address this gap by investigating how core aspects of TAM interact with marketing strategies, such as product positioning and promotional campaigns, in shaping online purchasing behavior for intimate hygiene products. By doing so, this research provides a deeper understanding of consumer preferences and behavior in this underrepresented product category, enabling the development of more effective strategies to meet their needs in the highly competitive online marketplace. This dual-framework approach not only fills a critical gap in the literature but also offers practical insights for businesses seeking to enhance their online marketing efforts in this niche sector.

The COVID-19 epidemic has had a significant effect on health and hygiene-related practices and awareness. Also, customers are able to access news and information more easily (Department of Mental Health, 2020). a result of the harmful substances that they come into contact with on a daily basis, individuals are more encouraged to focus on hygiene and health. These pollutants involve invisible ones like PM 2.5 dust particles (Bakal, 2021 pp.297-306), airborne bacteria, as well as visible ones like air pollution and vehicle exhaust. Sweating and body odor are common difficulties in hot and humid regions like Thailand, particularly in high humidity areas. According to (Chen et al. 2017, pp.58-67). this produces the perfect environment for the growth of pathogenic microorganisms such as bacteria, protozoa, and fungus, which can lead to irritation, itching, and unpleasant smells in men's and women's intimate areas. These smells can occur as the result of infections, dampness, sexually transmitted illnesses, or other health and hygiene problems. Cleaning the body and intimate areas on a regular basis is essential emphasizing the necessity of basic hygiene products, particularly for women (Sirithanabadeekul, 2023, pp.108-113).

It is astonishing how widespread intimate area cleaning products are growing in today's society. These products are becoming growing increasingly well-liked by various categories of female customers. At present, a larger number of brands manufacture these items, which are highly sought-after by users (Vongnaklang & Siriwattana, 2023, pp.238-251). These products are produced by manufacturers to meet consumer demands, with the goal of eliminating unpleasant odors and preventing the spread of bacteria and other illnesses. To better serve consumers and boost the performance of the products for personal hygiene, manufacturers carefully select the ingredients. Vitamins, skin softeners, and plant oils such as banana, tea tree, grapefruit, bergamot, rose, and palm oil are typical components (Department of International Trade Promotion, n.d.). Intimate cleaning demand for goods has the potential to shift based on consumer preferences and requirements. Therefore, research and strategies for marketing are essential for their success. Their ability to succeed is based on the attitudes, needs, beliefs, knowledge, and actions of their customers. Due to the shift in consumer preferences, an increasing amount of buyers constantly prefer local marketplaces like Facebook, Shopee, Lazada, and LINE, along with national ones like eBay, Amazon, Alibaba, AliExpress, Taobao, and TikTok. Obviously, online shopping has become mainstream in part to its convenience and speed. Online shopping has become widespread owing to technology and internet access (Sukkam, 2017, pp.7-11). Consumers like to make bulk purchases at lower prices without leaving their homes or the offices. This shift in consumer behavior is consistent with the "New Normal" lifestyle, which allows you more time for other pursuits such as online shopping, influencing purchasing volume. As customers increasingly use digital platforms, whether it's watching movies or playing games or even taking time to exercise. Companies have had to adapt their customer service strategies in response to the COVID-19 epidemic, particularly since a large number of employees are working remotely or from home. This implies that they have to offer simple methods to allow consumers to purchase food, products, and services via online platforms using their phones or laptops. Understanding the growth of the e-commerce sector requires the collection of predictive data (Panyaprachum, 2022, pp.7-10). Thais spent an average of seven hours and four minutes online every day, according to the Thailand Internet User Behavior (IUB) 2022 survey, which comprised 46,348 participants from various areas and ages (Electronic Transactions Development Agency, 2023). With an average of 8 hours and 55 minutes per day, Gen Y (ages 22 to 41) and Gen Z (under 22) had the highest usage of the internet. Baby Boomers and elderly people (58 years old and above) used the internet for approximately 3 hours and 21 minutes per day, while Gen X (42–57 years old) spent roughly 5 hours and 52 minutes per day online (Bratina & Faganel, 2024, pp.4).



Data on internet activity in Thailand in 2022 demonstrated that the COVID-19 epidemic and the increasing trend of using technology for safety and convenience had altered how individuals used internet access. With 86.16% of users, online medical services were the most frequently accessed. This was probably because it lowered the risk of COVID-19 and made communicating with medical professionals simpler. Other typical online activities were meeting and working (20.67%), entertainment (18.75%), live commerce (34.10%), financial transactions (31.29%), e-mailing (26.62%), online shopping (24.55%), information-seeking and reading (29.51%), and communication (65.70%). Sales on the internet in Thailand achieved an all-time record of 700 billion baht in 2023, according to Statista and the Stock Exchange of Thailand. This number is comparable to the sales of 7-Eleven, which operates over 14,000 branches. According to McKinsey, Thai e-commerce is expected to grow by twenty-five percent annually and contribute approximately two percent to the nation's GDP. Food and beverage products increased at the quickest rate, with health and beauty products following closely behind. There is a greater emphasis on female healthcare items as a result of the shift in consumer behavior following the COVID-19 epidemic, particularly among Gen Y women who reflect the highest levels of internet activity and shopping. This research examines the variables that influence consumers' decisions to purchase personal hygiene products in Bangkok via mobile internet platforms. The findings can be used to enhance marketing strategies and better serve the demands of companies and customers.

Research Objective

To identify and analyze the key factors influencing the intention of female consumers in Bangkok to purchase intimate hygiene products through online mobile applications, including technological factors from TAM model and marketing mix 4p. The results of this study will be used to develop marketing strategies for business operations. Furthermore, the findings will help entrepreneurs in the intimate hygiene product industry by providing insights and practical applications for improving their business success.

Scope of the Research

The study adopts a non-probability sampling method, in which the sample is chosen without reference to the likelihood of selection. The data was acquired using an online questionnaire distributed over internet platforms, with a sample size of 400 participants. The sample size was determined using the Taro Yamane formula (1979) at a 95% confidence level. The computation formula is shown below. In this study, a questionnaire was distributed to 400 respondents via Google Forms.



Conceptual Framework

Study of the Marketing Mix (4Ps) and Technology Acceptance Model (TAM) Factors Influencing the Purchase Intention of Intimate Cleansing Products among Female Consumers through Mobile Application Platforms in Bangkok. This study aims to examine the marketing mix (4Ps) and the Technology Acceptance Model (TAM) factors that influence the purchase intention of intimate cleansing products, specifically liquid soap, among female consumers in Bangkok through mobile application platforms. The research investigates the factors Influencing Intention to purchase Intimate hygiene products of female consumers through online mobile applications in Bangkok, including:

Marketing Mix (4Ps) Factors: 1. Product: Attributes and quality of the intimate cleansing liquid soap, 2. Price: The pricing strategies and perceived value for money, 3. Place: Distribution channels and accessibility through mobile platforms, 4. Promotion: Sales promotions, advertisements, and other promotional activities (Harris et al., 2020, pp.593-598; Lasi, 2021, pp.171-175; Chaffey & Smith, 2022, pp.676).

Technology Acceptance Model (TAM) Factors: 1. Perceived Ease of Use: How easy and convenient it is for consumers to use the mobile application platform, 2. Perceived Usefulness: The benefits and effectiveness perceived by consumers when using the mobile application platform for purchasing, 3. Attitude Toward Using: The overall attitude of consumers towards using the mobile application for their purchases (Abd Majid & Mohd Shamsudin, 2019, pp.1-10).

We collected data by analyzing the responses of 400 legitimate respondents to an online survey using Google Forms. Statistical techniques such as percentage, average, standard deviation, and multiple regression analysis were used to test the hypothesis on the data.

A questionnaire created especially for data collection serves as the main source of data for this investigation. Four hundred questionnaires were completed and returned by the sample group. The Cronbach's Alpha coefficient was used to evaluate the questionnaire's reliability; to guarantee the accuracy of the data processing, an acceptable threshold of 0.7 or higher had been selected. The questionnaire was tested with 30 sets issued to individuals outside the sample group. The Cronbach's Alpha Reliability Coefficient, which ranges from 0 to 1, was used to assess item reliability. Cronbach (1990) defines an appropriate Cronbach's Alpha value as one that is greater than 0.7. The study was carried out using SPSS software, and the results showed that all items exceeded the 0.7 criterion, supporting the questionnaire's reliability. Validity, the researcher will deliver the questionnaire to three experts, including academics and field specialists, to assess its validity. The Index of Item Objective Congruence (IOC) will be calculated to assess the alignment of each question with the research objectives. Each item will need to have a minimum acceptable IOC score of 0.5 before it can be used.

The online administration of the form by Google Forms shortened the time needed to complete data collection and made the sample group simple to reach. Individuals filled out the self-administered questionnaire on their own.

To choose the sample group, a non-probability sampling technique was used, namely voluntary response sampling, in which participants were asked to answer the questionnaire. Using online mobile applications, this method was selected to efficiently gather data from a broad sample of female consumers regarding the factors Influencing Intention to purchase Intimate hygiene products of female consumers through online mobile applications in Bangkok.

The results of this research suggest that the marketing mix and TAM characteristics are important determinants of intimate cleansing product purchase intention. These results support theoretical frameworks and offer insightful information for creating winning business plans for companies in the market for liquid soap intended for intimate washing. Through targeted mobile application platforms, the study's findings can assist firms with enhancing their marketing strategies and increasing customer trust and happiness.

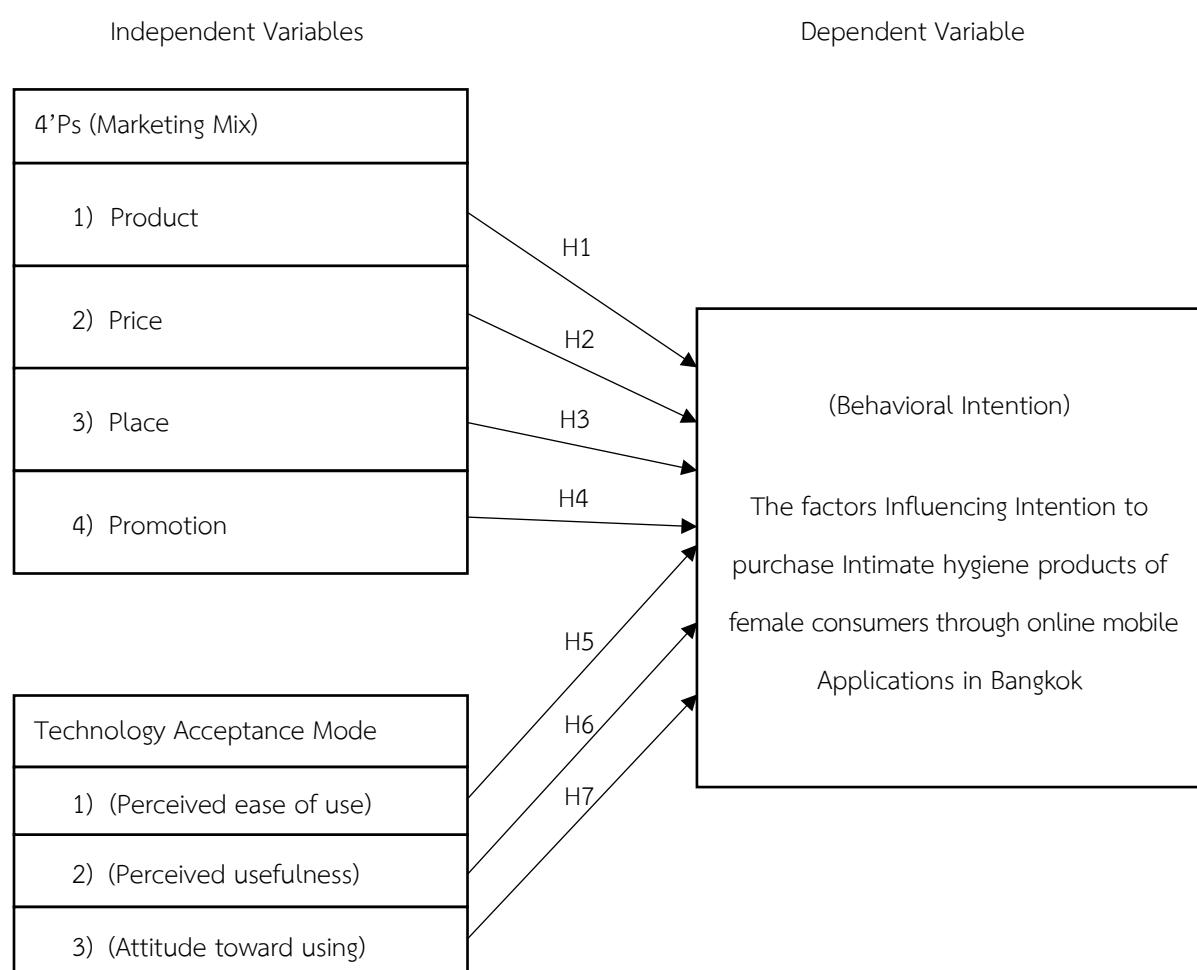


Figure 1 Behavioral Intention is the dependent variable in this research



Literature Review

Concepts and Theories of Technology Acceptance Model (TAM)

To ensure the establishment of a model that explains user behavior in the context of information technology adoption, Davis introduced the technology acceptance model (TAM) in 1985. TAM integrates basic principles with the theory of reasoned action (Aljohani, 2023, pp. 76-91). TAM evaluates how users view a system and how different parts of the model relate to one another. The model starts by considering into account external factors that have a threefold effect on user perceptions:

1) Perceived usefulness refers to the extent to which people feel that information technology improves their ability to do their jobs is known as perceived usefulness. It represents how people view information technology's contribution to increasing their productivity at work, helping them appreciate and find the technology useful for their jobs.

2) Perceived ease of users feels that there is little effort necessary for using the system is known as perceived ease of use. Users are more likely to find technology easy to use when they believe that the system can be easily and understood to use (Venkatesh & Davis, 2000, pp.238-251).

3) Attitude towards using a technology influences their behavioral intention to utilize it, which in turn influences their actual utilization (Ali et al., 2019, pp.27-30). However occasionally, individuals may develop a behavioral intention to use technology based just on the advantage they believe it to be, eschewing any attitudes they may have about utilizing it. The model demonstrates this relationship by showing a clear correlation between behavioral intention and perceived usefulness, regardless of attitude toward use. This suggests that even in the absence of a favorable attitude toward its use, people can be persuaded to accept technology based only on its alleged advantages.

Concepts and Theories of 4P's Marketing Mix

A collection of methods or techniques used by businesses to sell their names and goods in the marketplace is referred to as the 4Ps marketing mix. Product, pricing, place, and promotion are the main elements of the marketing mix, and each is essential to the total marketing plan (Soedarsono et al., 2020, pp.108-118).

1) The term “product” describes the real thing being offered. If a product doesn't provide the core value that customers want, the other marketing components lose their significance.

2) The term “price” is the product's price is its given value. Target market groups, production costs, and the market's willingness to pay all influence pricing tactics. In addition to improving the product's image, several pricing tactics are employed to be consistent with the overall business plan.

3) The term “Place” is the place where the goods is offered for sale. The goal of efficient channels of delivery is to position the product in convenient and consumer-attracting locations. To maximize sales, businesses frequently invest in upscale retail locations. This also applies to online distribution outlets in the digital age.

4) The term “Promotion” is all efforts made to increase consumer awareness of the product or service are included in promotion. It consists of public relations, word-of-mouth marketing, press releases, commissions, incentives, and prizes—like freebies, contests, and discounts—that encourage customer purchases (Qurtubi et al., 2022, pp.15-29).

Implementing the 4P's marketing mix offers several benefits: (1) Understanding customers and market—The 4P's help businesses gain deep insights into customer needs and market conditions, allowing them to develop products, set prices, choose distribution channels, and plan promotions that align with customer expectations; (2) Creating competitive advantage—Businesses using the 4P's can outperform competitors by offering distinctive and appealing products or services, thereby gaining a competitive edge; (3) Increasing sales and profits—An effective 4P's strategy can boost sales and profits by encouraging repeat purchases and positive word-of-mouth among customers; (4) Building a strong brand—Utilizing the 4P's helps in creating a strong brand that resonates with customer needs, creating a positive brand image (Cuizon & Cuizon, 2022, pp.202-223).

These principles align with various research studies. For instance, K. Selvarajah and T. studied the impact of the 4P's marketing mix on the purchasing intentions of Gen Y women for emergency contraceptives in Malaysia. They found that the lack of a comprehensive marketing mix resulted in low purchase intentions among Gen Y women. Marketers are thus advised to leverage the 4P's to attract this demographic and increase market share. Similarly, Susi Angi Purnama Sari's research on the influence of the 4P's marketing mix on purchasing decisions for fashion products on Shopee, focusing on Gen Z in Surakarta, found that price, promotion, and place had a significant positive impact on purchasing decisions, while the product itself had a significant negative impact.

Research Framework and Questionnaire

This study investigated the factors of the technology acceptance model (TAM) and the 4P's marketing mix that influence female consumers' intention to purchase intimate cleansing products through mobile applications in Bangkok. The primary data source for this study was a questionnaire specifically developed for data collection.

A total of 400 completed questionnaires were returned. The reliability of the data was assessed using Cronbach's Alpha coefficient, with an acceptable threshold set at 0.7 or higher to ensure the accuracy of the data analysis. Data was collected via an online questionnaire using Google Forms, chosen for its ease of access to the sample group and the reduced time required for data collection. The respondents completed the self-administered questionnaire. A non-probability sampling method was used to select the sample group, ensuring a diverse range of participants.

Table 1 Question items

Variables	Question Items
4P's Marketing Mix	
1. Product (Armstrong, 2009, pp.425-431)	
Pro1	1.1 Brands of intimate cleansing products must be credible and trustworthy.
Pro2	1.2 Intimate cleansing products must be of good quality, certified, and legally compliant.
Pro3	1.3 The packaging of intimate cleansing products must be attractive and interesting.
2. Price (Armstrong, 2009, pp.425-431)	
Pri1	2.1 The prices of intimate cleansing products are cheaper online than offline (in-store).
Pri2	2.2 Online platforms enable fast price comparisons of intimate cleansing products.
Pri3	2.3 You think the prices of intimate cleansing products on the market are reasonable.
3. Place (Armstrong, 2009, pp.425-431)	
Pla1	3.1 Consumers can purchase intimate cleansing products online at any time.
Pla2	3.2 Purchasing intimate cleansing products online is more convenient and easier.
Pla3	3.3 Online platforms make purchasing intimate cleansing products easier.
4. Promotion (Armstrong, 2009, pp.425-431)	
Prom1	4.1 Online advertisements inform customers about promotions, news during festivals, and important events.
Prom2	4.2 Discounts or freebies are offered under specified conditions.
Prom3	4.3 The prices of intimate cleansing products online during special occasions are lower.
Technology Acceptance Model (TAM)	
5. Perceived ease of use (Sharma & Sharma, 2019, pp.65-75)	
PEOU1	5.1 Online platforms make placing orders for intimate cleansing products easy.
PEOU2	5.2 Online platforms provide easy access to information about intimate cleansing products.
PEOU3	5.3 Online platforms facilitate easy communication with sellers and include reviews from other users.

Table 1 (Per)

Variables	Question Items
Technology Acceptance Model (TAM)	
6. Perceived usefulness (Sharma & Sharma, 2019, pp.65-75)	
PU1	6.1 You think purchasing intimate cleansing products online allows for price comparison before purchasing.
PU2	6.2 Purchasing intimate cleansing products online is time-saving and more convenient than offline purchasing.
PU3	6.3 Purchasing intimate cleansing products online allows you to purchase items that are not available in general markets.
7. Attitude toward using (Sharma & Sharma, 2019, pp.65-75)	
ATU1	7.1 Purchasing intimate cleansing products online suits your lifestyle.
ATU2	7.2 Online platforms provide detailed explanations of the ordering process before purchasing intimate cleansing products.
ATU3	7.3 Purchasing intimate cleansing products online can be done via various devices.
8. Intention to purchase intimate cleansing products (Ghali-Zinoubi, 2023, pp.175-179)	
BI1*	8.1 You intend to purchase intimate cleansing products through the online channel of your choice.
BI2*	8.2 You are likely to repurchase intimate cleansing products through online channels.
BI3*	8.3 You think purchasing intimate cleansing products online is safe and provides you with quality products.

Remarks: * = Dependent variables

Methodology

The study area for this research is Bangkok, located in the central region of Thailand. According to the announcement from the Central Registration Bureau (Central Registration Bureau Announcement on the Population of the Kingdom Based on Civil Registration Records), in 2022, there were 2,878,010 Thai female residents living in Bangkok (Thai government gazette, 2023). The participants in this study are female who live in Bangkok. A non-probability sampling method was used, with a total of 400 participants. The sample size was determined using the Taro Yamane formula (1979), with a 95% confidence level. The formula for the computation is as follows. The researcher used a sample size of 400 people for this study, and data were obtained using an online questionnaire created with Google Forms.



$$\begin{aligned} n &= \frac{2,878,010}{1+(2,878,010)\times 0.05^2} \\ n &= \frac{2,878,010}{7,196} \\ n &= 399.945 \approx 400 \end{aligned}$$

Reliability, in order to determine the dependability value using Cronbach's Alpha coefficient, the researcher gathered a different sample of thirty people. A reliability acceptability threshold of 0.7 or above was established and. Validity, the researcher will deliver the questionnaire to three experts, including academics and field specialists, to assess its validity. The Index of Item Objective Congruence (IOC) will be calculated to assess the alignment of each question with the research objectives. Each item will need to have a minimum acceptable IOC score of 0.5 before it can be used. Experts IOC by 1. Mr.Wasapa Thephasadin Na Ayutthaya, Chairman the WS929 Company Limited (SW.Brand), 2. Mrs.Chonsorn Sappawat, Pharmacist, and 3. Dr.Jaratwan Chantrat, Research Expert, as shown in Table 2.

Table 2 Reliability and Validity Assessment of the Questionnaire

No.	Independent variable	IOC	Result
1	Product	1	Validity
2	Price	1	Validity
3	Place	1	Validity
4	Promotion	1	Validity
5	Perceived ease of use	1	Validity
6	Perceived usefulness	1	Validity
7	Attitude toward using	1	Validity
8	Intention to use	1	Validity

Data Analysis

After completing the data collection, the questionnaires were checked for completeness and accuracy. The questionnaires were then coded according to statistical research methods and processed using computer software, SPSS Version 22. Multiple linear regression analysis was employed to predict the relationships between the independent variables—the Technology Acceptance Model (TAM) factors and the 4P's Marketing Mix factors—and the dependent variable—the intention to purchase intimate hygiene products. Most of the sample group is 31-40 years old, with 118 participants accounting for 29.5%. The greatest level of education is a bachelor's degree, which is held by 221 people (55.3%). The most common monthly salary is from 15,001 to 30,000 Baht, accounting for 151 persons or 37.8%. Facebook is the most popular purchasing channel, with 110 users, or 27.5%. TikTok has the highest influence on purchasing decisions, with 120 customers that contribute 30.0%.

Results

The distribution of the questionnaire resulted in a total of 400 responses. All 400 respondents were willing to participate and completed the questionnaire, successfully passing the screening questions. Therefore, all 400 questionnaires were deemed valid and usable for analysis.

Table 3 Frequency and percentage of demographic characteristics of respondents

Personal Factors	Frequency	Percentage
Age		
Under or equal to 20	95	23.8
21 – 30	90	22.5
31 – 40	118	29.5
41 and above	97	24.3
Educational Level		
Lower than a bachelor's degree	82	20.5
Bachelor's degree	221	55.3
Master's degree	79	19.8
Doctoral degree	18	4.5
Average Monthly Income		
Under or equal to 15,000 Baht	48	12.0
15,001 – 30,000 Baht	151	37.8
30,001 – 45,000 Baht	109	27.3
Higher than 45,001 Baht	92	23.0
Online Distribution Channels		
Facebook	110	27.5
TikTok	90	22.5
Shoppe	80	20.0
Lazada	69	17.3
Line	51	12.8
Media Influencing Purchasing Decisions		
Facebook	90	22.5
TikTok	120	30.0
Shoppe	75	18.8
Lazada	70	17.5
Line	45	11.3

As shown in Table 2, it was found that the majority of respondents, 118 females, were aged between 31 and 40 years. A total of 221 females (55.3%) had a bachelor's degree. The majority, 151 females (37.8%), had an average monthly income between 15,001 and 30,000 baht. Most purchases were made through Facebook, with 110 females (27.5%) using this platform. TikTok was the medium with the most significant influence on purchasing decisions among this sample group, influencing 120 females (30.0%).

Table 4 Correlations between independent variables and dependent variables

Variables	In	Pro ₁	Pri ₂	Pla ₃	Prom ₄	PEOU ₅	PU ₆	ATU ₇
BI		.559**	.750**	.704**	.661**	.753**	.700**	.796**
Pro ₁			.718**	.662**	.698**	.682**	.682**	.594**
Pri ₂				.792**	.752**	.855**	.761**	.659**
Pla ₃					.757**	.783**	.721**	.627**
Prom ₄						.829**	.751**	.598**
PEOU ₅							.846**	.703**
PU ₆								.669**
ATU ₇								

** Significant at $p < .01$

* Significant at $p < .05$

From Table 3, the correlations between the dependent variable and independent variables can be explained as follows:

1. Product directly correlated with intention to purchase intimate hygiene products at a high level ($r = 0.559$) at a statistical significance level of .05.
2. Price directly correlated with intention to purchase intimate hygiene products at a high level ($r = 0.750$) at a statistical significance level of .05.
3. Place directly correlated with intention to purchase intimate hygiene products at a high level ($r = 0.704$) at a statistical significance level of .05.
4. Promotion directly correlated with the intention to purchase intimate hygiene products at a high level ($r = 0.661$) at a statistical significance level of .05.
5. Perceived usefulness directly correlated with intention to purchase intimate hygiene products at a high level ($r = 0.753$) at a statistical significance level of .05.
6. Perceived ease of use directly correlated with intention to purchase intimate hygiene products at a high level ($r = 0.700$) at a statistical significance level of .05.
7. Attitude toward using directly correlated with intention to purchase intimate hygiene products at a high level ($r = 0.796$) at a statistical significance level of .05.

Table 5 Results of multiple regression analysis using the enter method.

Predictors	Coefficients				
	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	S. E.	β		
Constants	0.630	0.126		4.996	0.000
Product (X_{Pro})	-0.164	0.044	-0.152	-3.751	0.000*
Price (X_{Pri})	0.265	0.052	0.282	5.072	0.000*
Place (X_{Pla})	0.115	0.042	0.128	2.739	0.006*
Promotion (X_{Prom})	0.059	0.048	0.062	1.239	0.216
Perceived ease of use (X_{PEOU})	0.050	0.063	0.054	0.786	0.432
Perceived usefulness (X_{PU})	0.068	0.048	0.073	1.432	0.153
Attitude toward using (X_{ATU})	0.470	0.036	0.496	13.17	0.000*

$R = .862; R^2 = .744; R^2 \text{ adjust} = .739; \text{SEE} = .433, \text{Sig} = 0.05$

The coefficients of the variables were used to write predictive equations in the form of raw scores and standard scores to reflect female consumers' intention to purchase intimate area cleaning products through online channels in Bangkok in terms of the factors related to the technology acceptance model (TAM), attitude towards using, and the three key elements of the 4Ps marketing mix, including price, place, and product, as follows:

Raw score predictive equation:

$$\hat{Y} = 0.630 + 0.470(X_{ATU}) + 0.265(X_{Pri}) + 0.115(X_{Pla}) - 0.164(X_{Pro}) \quad (1)$$

Standard score predictive equation:

$$\hat{Z} = 0.470(X_{ATU}) + 0.265(X_{Pri}) + 0.115(X_{Pla}) - 0.164(X_{Pro}) \quad (2)$$

The following is the explanation for these equations.

Based on the raw score predictive equation, the interpretation is as follows:

- If the attitude towards using increases by one unit, the intention to purchase intimate area cleaning products increases by 0.470 units.
- If the price increases by one unit, the intention to purchase intimate area cleaning products increases by 0.265 units.
- If the place increases by one unit, the intention to purchase intimate area cleaning products increases by 0.115 units.
- If the product decreases by one unit, the intention to purchase intimate area cleaning products decreases by 0.164 units.

Based on the standardized score predictive equation, it was found that the independent variables influencing the dependent variable were attitude towards using, price, place, and product, respectively. These factors significantly affected female consumers' intention to purchase intimate area cleaning products online in Bangkok, with statistical significance at the 0.05 level.

Conclusion

Nowadays, online shopping via mobile applications is more popular than traditional shopping at malls or on computers. This is due to the convenience, speed, and ability to shop from home, often at lower prices, because of the high level of competition among numerous sellers in terms of price and quality. These mobile platforms have been rapidly developing to attract customers, especially women who prefer to purchase intimate hygiene products discreetly rather than in-store. As this study aimed to examine the factors related to the technology acceptance model (TAM) and the 4P's marketing mix that influence the intention of female consumers in Bangkok to purchase intimate hygiene products through online mobile applications, the findings revealed that factors related to the technology acceptance model (TAM), precisely attitude towards using, and the 4P's marketing mix factors, including price, place, and product, were significant to decision-making. Understanding these key factors will help businesses refine their marketing strategies, enhancing their potential for growth in the online market and increasing their chances of success.

Discussion

The respondents had a favorable assessment of the marketing mix variables (4Ps). Among them, the product dimension received the highest average score, followed by distribution channels, promotion, and price. Similarly, respondents generally agreed on technological acceptance factors (TAM). The attitude toward utilization received the highest score, followed by perceived ease of use and perceived usefulness. In terms of purchase intention characteristics, respondents demonstrated a strong predisposition, with the highest likelihood of repurchasing through online channels, followed by convenience in buying through multiple means. In conclusion, both variables significantly influence purchase intention to purchase Intimate Hygiene Products of Female Consumers through Online Mobile Applications in Bangkok that factors related to the technology acceptance model (TAM) and the 4P's marketing mix. The findings of the study can be discussed as follows:

Factors of 4P's Marketing Mix

The findings of this study indicated that the product aspect of the 4P's marketing mix significantly influenced the intention to purchase intimate cleansing products through online channels among female consumers in Bangkok. This suggests that consumers place a high value on products that effectively control Odors and have recognized safety standards, leading

to increased purchase confidence. This is consistent with Evelyne Kasongo Kkonko's research, which found that product quality and design, mediated by price, significantly affected the students' intention to purchase smart wearables (Kasongo Kkonko et al., 2019, pp.15-29). Similarly, Mei-Ling Kung, Jiun-Hao, and Chaoyun Liang's study on pork purchasing behaviour showed that the marketing mix factors positively influenced the intention to purchase and willingness to pay (Kung et al., 2021, pp.5-10).

The price aspect of the 4P's marketing mix also significantly influenced females' intention to purchase intimate cleansing products online in Bangkok. It is evident that consumers prioritize pricing, often finding online products more affordable than those available in physical stores, which impacts their buying decisions. This finding aligns with the research by Sargam Bahl and Tulika Chandra, who demonstrated that green marketing mix variables significantly affected consumer attitudes and intentions to purchase green products (Puja & Sharma, 2023, pp.1-14).

Regarding the place aspect of the 4P's marketing mix, the convenience and accessibility of online shopping significantly influenced the intention to purchase intimate cleansing products online among female consumers in Bangkok. Clearly, consumers appreciate the ability to shop at any time, enhancing their buying experience and intention. This finding is in line with Achmad Manshur Ali Suyanto and Desshandra Garcya Dewi's research on the marketing mix factors influencing the intention and decision to purchase Somethinc products, which found that product attributes, affordable pricing, easy access, and promotional pricing positively influenced consumers' purchase intentions and decisions (Suyanto & Dewi, 2023 pp. 1-21.) In addition, Wahyu Mega Kurnianto, Sylvia Sari Rosalina, and Nurminingsih Nurminingsih's study on the influence of the marketing mix and product quality on purchase decision for the Spesial SB packaging beef meatball through brand image and purchase intentions also indicated that the marketing mix positively and significantly impacted the purchase decisions for the Spesial SB packaging beef meatball (Kurnianto et al., 2019, pp.86-96).

Conversely, the promotion aspect of the 4P's marketing mix did not significantly influence the intention to purchase intimate cleansing products among female consumers in Bangkok. This result contrasts with Aristia Rosiani Nugroho and Angela Irena's study on the impact of the marketing mix, consumer characteristics, and psychological factors on consumers' purchase intentions on Brand "W" in Surabaya, which found that the marketing mix significantly impacted consumers' intention to purchase products of Brand "W" in Surabaya (Nugroho & Irena, 2017, pp.58-66). Similarly, Chaang-luan Ho, Yaoyu Liu, and Ming-Chih Chen's research on the factors influencing watching and purchase Intentions on live-streaming platforms indicated that the promotion aspect of the 7P's marketing mix positively influenced customers' intention to purchase (Ho, C.-I., Liu, Y., & Chen, M.-C. ,2022, pp.239)

Factors of Technology Acceptance Model (TAM)

In this study, it was found that the technology acceptance model (TAM) factor of perceived ease of use did not significantly influence the purchase intentions of female consumers for intimate cleansing products through online channels in Bangkok. This finding contrasts with several previous studies. For instance, Adhi Prakosa and Ahsan Sumantika's research on online shoppers' acceptance and trust toward electronic marketplaces using the TAM Model demonstrated that perceived ease of use, perceived usefulness, and trust significantly impacted the attitudes of online shoppers toward purchasing goods in electronic marketplaces (Prakosa & Sumantika, 2021, pp.546-553). Similarly, research by Zhang Ying, Zeng Jianqiu, Umair Akram, and Hassan Rasool on the TAM evidence on online social commerce purchase intentions indicated that both perceived ease of use and perceived usefulness positively influenced the intention to purchase in social commerce settings (Ying et al., 2021, pp.86-108). Furthermore, Sidra Khalid, Tariq Jalees, and Kaenat Malik expanded the TAM model to understand online purchase intentions, finding that both perceived ease of use and perceived usefulness significantly impacted consumer intentions to shop online (Khalid et al., 2018, pp.86-96).

According to the findings in this study, perceived usefulness also did not significantly affect female consumers' intention to purchase intimate cleansing products online in Bangkok. This result diverges from the findings of (Nguyen et al., 2019, pp.3-6) who investigated consumer attitudes and intentions toward online food purchases in emerging economies. The study showed that perceived usefulness, perceived ease of use, and website trust were crucial for positive attitudes toward online food shopping (Nguyen et al., 2019, pp.3-10). Aanchal Aggarwal and Manmohan Rahul, who examined the effect of perceived security on consumer purchase intentions in e-commerce, also found that perceived ease of use and perceived usefulness significantly influenced Indian consumers' online shopping intentions, aligning with the TAM and S-O-R theories (Aggarwal & Rahul, 2017, pp.160-183).

However, this current study found that the TAM factor, precisely the attitude toward using, significantly influenced purchase intentions for intimate cleansing products via online platforms among female consumers in Bangkok. This suggests that the convenience and straightforwardness of online purchasing, including easy payment processes and accessibility across multiple devices (e.g., computers, smartphones, tablets), positively affect consumer attitudes toward technology usage, thereby influencing their intention to purchase intimate cleansing products online. This finding aligns with the research by G. Syarifudin, B. S. Abbas, and P. Heriyati, which showed that perceived ease of use, perceived usefulness, and attitude toward using significantly impacted consumer purchase intentions in the context of e-commerce for airline ticket sales (Syarifudin et al., 2018, pp.1-6). Similarly, Sandra Schneider's study on Gen Y's purchase intentions for eco-friendly kitchen appliances in Germany found that attitude toward using influenced Gen Y's perceived usefulness and purchase intentions (Schneider, 2021, pp.303). In terms of research limitation, methodology, conducting in-depth interviews, such as focus group interviews, would be beneficial for gaining a deeper



understanding of purchasing behavior and the consumer journey through online mobile application platforms. This approach would provide comprehensive insights into the decision-making processes and all relevant components from various stakeholders, ensuring more accurate and thorough data. Additionally, future studies could explore issues within business groups, such as brands, stores, and organizations, to gather information that could support strategic marketing planning to boost future sales. This could also aid in developing improved methods for online advertising and targeted ad campaigns.

Recommendations

To enhance the adoption of online mobile applications for purchasing intimate hygiene products among female consumers in Bangkok, businesses should focus on the following areas that below show:

1. Targeted Marketing Campaigns should be developed to emphasize the convenience, privacy, and efficiency of online shopping, particularly highlighting the benefits of using mobile platforms. Since pricing significantly influences purchase intentions, competitive pricing strategies such as exclusive online discounts and loyalty programs should be implemented to attract cost-sensitive consumers. Improving the user experience on mobile platforms is also crucial; investments in a more intuitive and seamless interface can enhance perceived ease of use, potentially increasing purchase intentions.
2. Businesses must ensure that their products are of high quality and meet safety standards, as product quality strongly correlates with purchase intentions. Expanding product offerings to cater to diverse consumer needs and regularly updating product lines can boost consumer confidence and loyalty. Leveraging social media and influencers to reach target audiences through platforms like Facebook and TikTok is also recommended, as these platforms significantly impact purchasing decisions. Finally, addressing barriers to adoption, such as concerns about product authenticity or payment security, by providing clear and transparent information on return policies and secure payment methods, will further build consumer trust and encourage online purchases.

References

Abd Majid, F., & Mohd Shamsudin, N. (2019). Identifying factors affecting acceptance of virtual reality in classrooms based on technology acceptance model (TAM). *Asian Journal of University Education*, 15(2), 1-10.

Aggarwal, A., & Rahul, M. (2017). Impact of perceived usability and perceived information quality on Indian consumer purchase intentions in online shopping: implication of TAM and S-O-R theory. *International Journal of Technology Transfer and Commercialisation*, 15(2), 160-183. <https://doi.org/10.1504/IJTTC.2017.087683>.



Ali, S. M., Hussain, A., & Wong, S. Y. (2019). Conceptualizing Mobile Health Application Use Intention and Adoption Among Iraqi Older Adults: From the Perspective of Expanded Technology Acceptance Model. *International Journal of Interactive Mobile Technologies (IJM)*, 13, (10), 27-30. <https://doi.org/10.3991/ijim.v13i10.11285>.

Aljohani, N. (2023). Utilization of Data Science Analytics on Mobile Commerce Applications Marketing Strategies: An Example of the Influence of Personalized Offers on the Usage Intentions of Saudi Consumers. *International Journal of Interactive Mobile Technologies (IJM)*, 17, 76-91. <https://doi.org/10.3991/ijim.v17i20.43455>.

Nugroho, A. R., & Irena, A. (2017). The Impact of Marketing Mix, Consumer's Characteristics, and Psychological Factors to Consumer's Purchase Intention on Brand "W" in Surabaya. *iBuss Management*, 5(1), 58-66.

Armstrong, G. (2009). *Marketing: An Introduction*. Financial Times Prentice Hall.

Bakal, W. (2021). Legal Measure to Control and Protect PM 2.5. *Journal of Social Science for Local Development Rajabhat Maha Sarakham University*, 5(1), 297-306.

Bratina, D., & Faganel, A. (2024). Understanding Gen Z and Gen X Responses to Influencer Communications. *Administrative Sciences*, 14(2), 33. <https://doi.org/10.3390/admsci14020033>.

Chaffey, D., & Smith, P. R. (2022). *Digital marketing excellence: Planning, optimizing and integrating online marketing* (6th ed). Routledge.

Chen, Y., Bruning, E., Rubino, J., & Eder, S. E. (2017). Role of female intimate hygiene in vulvovaginal health: Global hygiene practices and product usage. *Women's Health*, 13(3), 58-67. <https://doi.org/10.1177/1745505717731011>.

Cuizon, A. L. D., & Cuizon, C. B. D. (2022). Conditional Cash Transfer (CCT): 4Ps in the Lens of Philippine Decentralization. *Thammasat Review*, 25(1), 202 - 223.

Department of International Trade Promotion. (n.d.). *Expansion of intimate cleaning products for Chinese women: Secret product market Interesting for Thai entrepreneurs*. Retrieved May 2, 2024 from https://www.ditp.go.th/contents_attach/731463/731463.pdf.

Department of Mental Health. (2020). *Knowledge on taking care of your mental health in the situation of the COVID-19 outbreak: A ready heart, refusing to get sick" edition for communicators and frontline officials in the community*. Retrieved June 1, 2024 from <https://www.dmh-elibrary.org/items/show/318>.

Electronic Transactions Development Agency. (2023). *Thailand Internet User Behaviour 2022 Survey*. Retrieved May 2, 2024 from <https://bit.ly/3OtHLBE>.

Ghali-Zinoubi, Z. (2023). Online Retailers' Perceived Ethics and Consumer Repetitive Purchases Under the Moderating Role of Reputation: A Commitment-Trust Theory Perspective. *Sage Open*, 13(4), 175-179. <https://doi.org/10.1177/21582440231207181>.

Kasongo Kkonko, E., Chiliya, N., Chuchu, T., & Ndoro, T. (2019). An Investigation into the Factors Influencing the Purchase Intentions of Smart Wearable Technology by Students. *International Journal of Interactive Mobile Technologies (iJIM)*, 13(05), 15-29. <https://doi.org/10.3991/ijim.v13i05.10255>.

Khalid, S., Jalees, T., & Malik, K. (2018). Extending the TAM Model for Understanding Antecedents to Online Purchase Intentions. *Market Forces*, 13(1), 92-95.

Kung, M. L., Wang, J. H., & Liang, C. (2021). Impact of Purchase Preference, Perceived Value, and Marketing Mix on Purchase Intention and Willingness to Pay for Pork. *Foods*, 10(10). 5-10. <https://doi.org/10.3390/foods10102396>.

Kurnianto, W. M., Rosalina, S. S., & Nurminingsih, N. (2019). Effect of Marketing Mix and Product Quality on Purchase Decision to the Spesial Sb Packaging Beef Meatball through Brand Image and Purchase Intention. *International Journal of Multicultural and Multireligious Understanding*, 6(2), 86 - 96. <https://doi.org/10.18415/ijmmu.v6i2.654>

Lasi, M. B. A. (2021). The relationship between E-marketing mix strategy and integrated marketing communication: a conceptual framework. *International Journal of Economics and Management Systems*, 6(2021), 171-175.

Mathieson, K. (1991). Predicting User Intentions: Comparing the Technology Acceptance Model with the Theory of Planned Behavior. *Information Systems Research*, 2(3), 173-191. <https://doi.org/10.1287/isre.2.3.173>.

Nguyen, T. T. H., Nguyen, N., Nguyen, T. B. L., Phan, T. T. H., Bui, L. P, & Moon, H. C. (2019). Investigating Consumer Attitude and Intention towards Online Food Purchasing in an Emerging Economy: An Extended TAM Approach. *Foods*, 8(11), 1-15. <https://doi.org/10.3390/foods8110576>.

Panyaprachum, P. (2022). *Technology Acceptance and Online Consumer Behavior Affecting on Healthy Coffee Purchase Decision of Thai Gen x Consumers*. Master of Business Administration, Faculty of Accountancy and Management, Mahasarakham University.

Prakosa, A., & Sumantika, A. (2021). An Analysis of Online Shoppers' Acceptance and Trust toward Electronic Marketplace using TAM Model. *Journal of Physics: Conference Series*, 1823(1), 546-553. <https://doi.org/10.1088/1742-6596/1823/1/012008>.

Puja, & Sharma, M. S. (2023). Impact of Marketing Mix on Consumer Attitude and Purchase Intention towards Green Product. *Journal of Integrated Marketing Communications and Digital Marketing*, 4(1), 1-14.



Qurtubi, Q., Febrianti, M. A., Sugarindra, M., Hidayat, A., & Suyanto, M. (2022). The Impact of Digital Marketing: A Systematic Literature Review. *International Journal of Interactive Mobile Technologies (ijIM)*, 16(13), 15-29. <https://doi.org/10.3991/ijim.v16i13.30609>.

Schneider, S. (2021). Purchase Intention of Frugal Household Appliances among Generation Y in Germany – Modified TAM Approach. *Marketing and Management of Innovations*, 2, 303. <https://doi.org/10.21272/mmi.2021.2-25>.

Sharma, S. K., & Sharma, M. (2019). Examining the role of trust and quality dimensions in the actual usage of mobile banking services: An empirical investigation. *International Journal of Information Management*, 44, 65-75. <https://doi.org/10.1016/j.ijinfomgt.2018.09.013>.

Sharma, S. K., & Sharma, M. (2019). Examining the role of trust and quality dimensions in the actual usage of mobile banking services: An empirical investigation. *International Journal of Information Management*, 44, 65-75. <https://doi.org/10.1016/j.ijinfomgt.2018.09.013>.

Sirithanabadeekul, P. (2023) The Efficacy Of Red Light-Emitting Diode At 633 Nanometers On Skin Rejuvenation, 108-113 from <https://rsucon.rsu.ac.th/proceeding/article/3145>.

Sirithanabodikul, P. (2023). *Secret smell that comes with the rain*. Retrieved May 3, 2024 from <https://www.samitivejhospitals.com/th/article/detail/กlinที่มากับฝน>.

Soedarsono, D. K., Mohamad, B., Adamu, A. A., & Pradita, K. A. (2020). Managing Digital Marketing Communication of Coffee Shop Using Instagram. *International Journal of Interactive Mobile Technologies (ijIM)*, 14(05), 108-118. <https://doi.org/10.3991/ijim. v14i05.13351>.

Sukkam, C. (2017). Factors Affecting Online Shopping Decision Behavior of Consumer in Muang District, Nakhon Pathom. Master of Business, Graduate School, Silpakorn University.

Suyanto, A. M. A., & Dewi, D. G. (2023). Marketing Mix on Purchase Intention and its Impact on the Decision to Purchase Something Products. *International Journal of Professional Business Review*, 8(10), e03779. <https://doi.org/10.26668/businessreview/2023.v8i10.3779>.

Syarifudin, G., Abbas, B. S., & Heriyati, P. (2018). TAM Approach On E-Commerce of Aircraft Ticket Sales On Consumer Purchase Intention. In *6th International Conference on Cyber and IT Service Management (CITSM2018)*. (pp.1-6). IEEE. <https://doi.org/10.1109/CITSM.2018.8674357>.

Thai government gazette. (2023). *Publish the announcement from the Central Registration Office regarding the number of people throughout the Kingdom in 2022*. Retrieved March 6, 2024 from <https://moe360.blog/2023/01/25/thai-population-2565/>.



Venkatesh, V., & Davis, F. D. (2000). A Theoretical Extension of the Technology Acceptance Model: Four Longitudinal Field Studies. *Management Science*, 46(2), 186-204. <https://doi.org/10.1287/mnsc.46.2.186.11926>.

Vongnaklang, N., & Siriwattana, S. (2023). Marketing mix factors affecting consumers' purchasing decision via Shopee application in Bangkok. *Journal of MCU Social Development*, 8(2), 238 - 251.

Ying, Z., Jianqiu, Z., Akram, U., & Rasool, H. (2021). TAM Model Evidence for Online Social Commerce Purchase Intention. *Information Resources Management Journal (IRMJ)*, 34(1), 86-108. <https://doi.org/10.4018/IRMJ.2021010105>.