



RESEARCH ARTICLE

Factors Affecting Specialty Coffee Beans Subscription Decision-Making in Thailand

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ARTICLE INFO	ABSTRACT
Received: Apr 28, 2024 Accepted: Aug 13, 2024	This study investigates the factors influencing consumer decision-making in specialty coffee bean subscriptions, using a quantitative approach. The research focuses on the impact of demographic characteristics, the 4P marketing mix, perceived ease of use, and consumer attitude on subscription choices. The findings reveal that demographic factors, such as age, gender, and income, do not significantly influence subscription decisions. Instead, brand information and trustworthiness have the strongest impact on consumer choices, followed by price and promotion, consumer attitude, service membership conditions, and convenience. Price and promotion emerged as the most significant predictors of consumer decisions, while perceived ease of use—particularly through service conditions and convenience—also plays a crucial role. This study contributes to the literature by filling a gap in understanding how non-demographic factors drive subscription decisions in the specialty coffee market. The results suggest that businesses should focus on creating easy-to-use platforms, offering clear and flexible subscription options, and ensuring that their pricing aligns with the perceived value of the product to enhance consumer satisfaction and loyalty.
Keywords Specialty coffee Subscription Decision-making Perceived ease of use Attitude	
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INTRODUCTION

Coffee, a tropical plant thriving at altitudes of 600–1800 meters (Buffo, 2004), has evolved from a basic "energy drink" to a global cultural staple. Over centuries, it has become deeply embedded in daily life and social rituals worldwide, reflecting a growing appreciation for its variety and the experience it offers (Triolo et al., 2023). Beyond its cultural significance, coffee is a critical driver of socio-economic growth, particularly in regions where its cultivation and trade are integral to the economy (Vegro & de Almeida, 2020). The rise of the specialty coffee industry, spurred by the Third Wave Coffee Movement, emphasizes the artisanal nature of coffee production and consumption, focusing on quality, origin, and consumer experience (Boaventura et al., 2018; Fischer, 2022).

The concept of coffee "waves" illustrates the evolution of coffee culture, from mass-produced, lower-quality products in the First Wave to the artisanal, quality-focused specialty coffees of the Third Wave (Boaventura, 2018). In this context, Bangkok has emerged as a key player in Southeast Asia's specialty coffee scene, driven by the city's creative economy and coffee tourism (Maspul, 2024; Madhyamapurush, 2020). The Specialty Coffee Association of America (SCAA) defines specialty coffee as high-quality coffee grown in optimal conditions and scoring 80 or higher on a 100-point scale (Quiñones-Ruiz, 2020; Błaszkiwicz et al., 2023).

Parallel to the growth of specialty coffee is the expansion of the digital economy, which has revolutionized business models, including the specialty coffee sector, through subscription-based services. These services, characterized by recurring payments, have become integral to modern consumer behavior, offering convenience, cost savings, and access to exclusive products (Roy & Ortiz, 2022; Zhang & Seidmann, 2010). The COVID-19 pandemic accelerated the adoption of these models, as more consumers turned to home brewing and sought reliable sources for high-quality coffee (Arab, 2022; Peluso, 2023).

In Thailand, the specialty coffee subscription model is gaining traction, supported by technological advancements and a shift in consumer preferences toward digital solutions. Local coffee roasters are increasingly adopting subscription models to deliver freshly roasted beans to consumers regularly, fostering customer loyalty and enhancing business sustainability (Iyengar et al., 2022).

This study explores the factors influencing consumers' decisions to opt for specialty coffee subscriptions, focusing on the roles of demographics, 4P marketing mix elements, perceived ease of use, consumer attitude, and brand trustworthiness. Understanding these factors will provide valuable insights for businesses looking to optimize their marketing strategies, align with consumer preferences, and strengthen their competitive position in the evolving coffee market.

LITERATURE REVIEW

Coffee Waves, Specialty Coffee, and Specialty Coffee in Thailand

The concept of 'coffee waves,' was first coined in 2004 by Trish Skeie in the newsletter "The Flame Keeper," a guide published by the Specialty Coffee Association of America (SCAA) (Plese, 2017), describes the evolving stages of coffee consumption, each with distinct philosophies, priorities, and target consumers (Boaventura, 2018). These waves co-exist but differ significantly in their approach to coffee.

The First Wave of coffee is marked by mass consumption of lower-quality coffee, driven by commoditized production processes and a focus on large-scale distribution. This wave catered to a broad audience, emphasizing convenience and affordability over quality.

The Second Wave introduced higher-quality coffees, including specialty coffees with controlled production origins. This period saw the emergence of specialized coffee shops, with Starbucks in the United States and Fran's Café in São Paulo, Brazil, becoming iconic brands. These establishments provided quality products and standardized, enjoyable environments, making premium coffee more accessible to consumers (Fischer et al., 2021; Teles & Behrens, 2020).

The Third Wave represents a significant shift in coffee culture, emphasizing the artisanal nature of coffee. In this wave, coffee is treated with the same level of sophistication and appreciation as wine. Key characteristics include limited availability (micro lots), special varieties, distinct coffee origins, and the historical methods of harvest and preparation employed by growers. This wave also emphasizes environmental and social factors, with a notable effort to strengthen connections between producers and consumers (de Luca et al., 2020; Angelo, 2024).

The SCAA defines specialty coffee as coffee grown in unique and optimal climates, characterized by distinct taste and flavor profiles, with minimal to no defects. To be classified as specialty coffee, it must receive a quality score of 80 or higher on a 100-point scale through a coffee-tasting evaluation (Błaszczewicz et al., 2023; Quiñones-Ruiz, 2020).

The Third Wave coffee movement has rapidly expanded, positioning Bangkok as a leading specialty coffee destination in Southeast Asia, rivaling cities like Jakarta and Singapore (Maspu, 2024). The growth of coffee tourism in Thailand, especially in the northern regions, has been significant in recent years, with tourists visiting cafes in both major and secondary cities and exploring various coffee

plantations. This expansion highlights the role of the coffee industry in driving tourism (Madhyamapurush, 2020).

Maspul (2024) also emphasizes that Bangkok's rise as a specialty coffee hub is closely tied to the creative economy. The city's specialty coffee sector involves creative processes in selecting and roasting beans, preparing drinks, designing cafés, and marketing. Bangkok's coffee shops aim to offer more than just coffee; they strive to create immersive, memorable experiences for their patrons. These establishments provide personalized service, educational sessions, and unique menu items, and serve as social hubs where people can connect, share ideas, and build relationships. This phenomenon aligns with the concept of "place attachment," where coffee shops become integral to the city's cultural and social landscape.

Recent studies have explored the modern coffee industry's linkages to the digital economy, examining various aspects of this evolving market (Hidalgo et al., 2023; Kittichotsawat et al., 2021; Sabatini et al., 2021).

Subscription Model

A subscription model involves fixed-rate installments, such as monthly, quarterly, or annually. In this model, consumers of a cloud-based platform pay for the right to access and consume a specific service provided by the platform. Rather than selling services individually, subscriptions allow media to be bundled and sold as packages (Threechownon, 2020). Zhang and Seidmann (2010) define subscription commerce as a business model where consumers exchange a form of payment, often a small portion, to gain full access to a product or service. When applied to intangible goods, this model involves recurring payments at regular intervals.

Subscription commerce has become an integral part of today's consumer landscape (Roy & Ortiz, 2022). In a subscription-based model, consumers make recurring payments to access products and services. People opt for such subscriptions for various reasons, including cost savings, access to exclusive content, and a broader range of product choices. Pricing plays a pivotal role in the growth of this e-commerce sector. Subscription prices are typically based on the duration of the subscription, with monthly and yearly options being the most common. While some companies offer both monthly and yearly subscriptions, others provide only one option.

Subscription pricing can be more advantageous in scenarios where per-use pricing might initially seem preferable (Cachon & Feldman, 2011). This is particularly true in industries where a standard pricing model is established, customers spend minimal time in the service process, or when customers strongly dislike time-based billing.

Subscription Decision Making (SDM)

In Bangkok, Jitsoonthornchaikul (2022) explored the key service marketing factors that influence consumer preferences for online food delivery services using a subscription-based model. The study found that the processes involved in service delivery and promotional strategies had the most significant impact on consumer demand for these services. Similarly, a study by Sorathia and Morosan (2023) examined the intentions of 573 American consumers to use online food delivery subscription services (OFDSSS). The findings highlighted that social influence was the most critical factor affecting consumers' intentions to subscribe to these services. In contrast, factors like effort expectancy and perceived security were found to have a less substantial impact. The study also emphasized the importance of compatibility with consumer preferences and the convenience orientation of the service, both of which significantly shaped consumer perceptions of OFDSSS.

De Bernardi et al. (2020) underscored the importance of digitization and artificial intelligence in transforming food production systems to better address contemporary sustainability and health challenges. This digital transformation is essential for aligning the food sector with modern demands for sustainability. Similarly, Riesener et al. (2020) and Williams (2021) highlighted that the rise of

Industry 4.0 and the integration of digitization have facilitated the development of innovative subscription-based business models (SBBM). These models contribute to the sustainable and efficient use of product-service systems by enabling organizations to continuously meet customer needs and maintain long-term business relationships.

Lastly, Lindström et al. (2024) examined how the SBBM is reshaping the business strategies of tech firms. The study suggested that for an SBBM to succeed, it must capture value through sustainable revenue streams and adapt its value proposition, creation, and capture processes. Continuous improvement through business value analysis is crucial, as is the implementation of an agile operations system. Such a system is necessary to manage revenue complexities, enhance data collection, and drive service innovation, which is essential for reducing churn rates and improving customer retention in SBBM environments.

4Ps Marketing Mix (4PMM)

Kotler defined the marketing mix in two key ways (Yusuf et al., 2022). First, it was described as a set of controllable variables that a firm can use to influence the buyer's response (Marpaung, 2022). Second, he viewed the marketing mix as a set of tools that organizations can continuously use to achieve their marketing goals in their target markets (Kotler & Keller, 2012; Yusuf et al., 2022). The original marketing mix, often referred to as the "four Ps" introduced by McCarthy—product, place, price, and promotion—has been frequently criticized as limited, particularly in the context of service marketing (Al Karim & Habiba, 2020).

Techarichet (2020) conducted a study on the factors affecting online shopping choices and found that the 4Ps of the marketing mix significantly influenced the purchasing decisions of working-age individuals in Bangkok. Among the 4Ps, distribution channels (place) were considered the most important. Additionally, the study revealed that promotion factors were crucial in determining the frequency of monthly online purchases, especially within the framework of sustainable consumption. This insight can be leveraged to formulate effective marketing strategies, such as selecting appropriate online channels for communication, designing promotions that cater to consumer needs, and establishing strong brand communication.

Karima and Mulia (2021) examined the factors influencing online coffee purchases among 240 coffee drinkers in Indonesia during the COVID-19 pandemic. Their analysis revealed the following findings:

1. Communication, process, product, and character all positively and significantly influenced online coffee purchasing decisions.
2. Price had a negative but significant impact on these decisions.
3. Risk did not have a significant effect on online coffee purchasing decisions.

Despite the classical concept of the 4P Marketing Mix, recent studies continue to report its direct effect on consumer decision-making (Auapinyakul et al., 2022; Hanaysha et al., 2021; Lahtinen et al., 2020).

Perceived Ease of Use (PEOU)

PEOU is a key construct in the Technology Acceptance Model (TAM), representing an individual's belief that using a system will require minimal effort. Davis (1989) defined PEOU as "the degree to which a person believes that using a particular system would be free of effort" (Khan & Dominic, 2014). This concept is closely related to self-efficacy, which refers to a person's confidence in their ability to perform tasks in specific situations. Lin and Sun (2009) further emphasize that PEOU is characterized by the user's belief that utilizing a service will be straightforward and effortless.

PEOU, often synonymous with convenience, is considered a critical factor influencing customer attitudes and behaviors in online environments (Threechownon, 2020). In a study conducted in Thailand, Panyaprachum and Hinthaw (2022) investigated the impact of technology acceptance on the online coffee purchase behavior of 384 consumers. They found that social media has significantly altered consumption habits, leading to highly favorable purchase decisions among most buyers.

Bray et al. (2021) examined the motivations behind subscribing to online subscription services and identified platform factors such as ease of use and convenience as primary motivators for consumers. The study highlighted two key aspects:

1. **Convenience:** This refers to the user's ability to easily access or use the service with minimal effort. For instance, on platforms like Netflix, users can resume watching content from where they left off without having to restart. The platform remembers their previous actions, allowing them to continue with just a few clicks.
2. **Ease of Use:** This aspect involves the simplicity of signing up for or canceling a service. Users can complete the registration process quickly by entering only the essential information. Similarly, canceling a membership is straightforward and can be done in just a few clicks, with no complicated procedures involved.

Consumer Attitude (CA)

Attitude can have either a positive or negative affect on behavior, serving as an internal factor that influences the execution of actions (Ajzen et al., 2018). Attitude is also a learning methodology that motivates one's subjective preferences or dislikes. In Brazil, Ramírez-Correa et al. (2023) indicated that there is a strong and positive relationship between CA towards specialty coffee and the purchase intention of the products.

Conceptual Framework

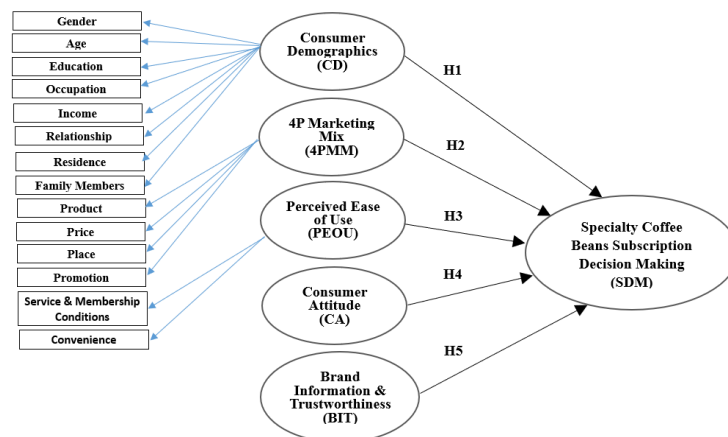


Figure 1: Research Model

Research Hypothesis

The theoretical concepts and research outlined emphasize the importance of various factors that can influence consumers' decisions regarding subscription services. The hypotheses are organized into five main categories, each addressing different aspects of consumer decision-making.

Hypothesis Category 1: Consumer Demographics (CD)

This category examines whether demographic factors influence consumers' decisions to choose subscription services.

H1.1: Gender does not influence consumers' decisions to choose subscription services.

H1.1a: Gender influences consumers' decisions to choose subscription services.

H1.2: Age does not influence consumers' decisions to choose subscription services.

H1.2a: Age influences consumers' decisions to choose subscription services.

H1.3: Education does not influence consumers' decisions to choose subscription services.

H1.3a: Education influences consumers' decisions to choose subscription services.

H1.4: Occupation does not influence consumers' decisions to choose subscription services.

H1.4a: Occupation influences consumers' decisions to choose subscription services.

H1.5: Income does not influence consumers' decisions to choose subscription services.

H1.5a: Income influences consumers' decisions to choose subscription services.

H1.6: Marital status does not influence consumers' decisions to choose subscription services.

H1.6a: Marital status influences consumers' decisions to choose subscription services.

H1.7: Residential status does not influence consumers' decisions to choose subscription services.

H1.7a: Residential status influences consumers' decisions to choose subscription services.

H1.8: The number of family members does not influence consumers' decisions to choose subscription services.

H1.8a: The number of family members influences consumers' decisions to choose subscription services.

Hypothesis Category 2: 4P Marketing Mix (4PMM)

This category explores how elements of the marketing mix impact consumers' subscription decisions.

H2.1: Taste does not positively affect consumers' decisions to choose subscription services.

H2.1a: Taste positively affects consumers' decisions to choose subscription services.

H2.2: Variety of origins does not positively affect consumers' decisions to choose subscription services.

H2.2a: Variety of origins positively affects consumers' decisions to choose subscription services.

H2.3: Variety of roasters does not positively affect consumers' decisions to choose subscription services.

H2.3a: The variety of roasters positively affects consumers' decisions to choose subscription services.

H2.4: Freshness does not positively affect consumers' decisions to choose subscription services.

H2.4a: Freshness positively affects consumers' decisions to choose subscription services.

H2.5: Logistics does not positively affect consumers' decisions to choose subscription services.

H2.5a: Logistics positively affects consumers' decisions to choose subscription services.

H2.6: Prices and promotions do not positively affect consumers' decisions to choose subscription services.

H2.6a: Prices and promotions positively affect consumers' decisions to choose subscription services.

H2.7: Benefits do not positively affect consumers' decisions to choose subscription services.

H2.7a: Benefits positively affect consumers' decisions to choose subscription services.

Hypothesis Category 3: Perceived Ease of Use (PEOU)

This category assesses the impact of perceived ease of use on consumers' subscription choices.

H3.1: Service and membership conditions do not positively affect consumers' decisions to choose subscription services.

H3.1a: Service and membership conditions positively affect consumers' decisions to choose subscription services.

H3.2: Convenience does not positively affect consumers' decisions to choose subscription services.

H3.2a: Convenience positively affects consumers' decisions to choose subscription services.

Hypothesis Category 4: Consumer Attitude (CA)

This category investigates how consumer attitudes influence their decisions to subscribe.

H4: Attitude does not positively affect consumers' decisions to choose subscription services.

H4a: Attitude positively affects consumers' decisions to choose subscription services.

Hypothesis Category 5: Brand Information and Trustworthiness (BIT)

This category examines the role of brand information and trustworthiness in shaping subscription decisions.

H5: Brand information and trustworthiness do not positively affect consumers' decisions to choose subscription services.

H5a: Brand information and trustworthiness positively affect consumers' decisions to choose subscription services.

METHODOLOGY

Research Design

A quantitative methodology was used to investigate the factors influencing consumers' decisions to choose subscription services, specifically in the context of specialty coffee in Thailand. To make sure of the reliability and validity of the factors examined, in-depth interviews were conducted with five individuals who were involved in the specialty coffee industry in various capacities.

The study utilizes a purposive sampling method to align with the research objectives. After the questionnaire's creation, Google Forms and social media were used to disseminate the survey. Additionally, in person collection was also used to ensure a complete data collection process. The data collected was analyzed using Statistical Package for Social Science (SPSS) software.

Research Method and Data Sampling

The study employed a purposive sampling method to select participants who met specific criteria: residents of Thailand aged 20 years or older who regularly brew and drink specialty coffee and are potential subscribers to specialty coffee bean services. The study focused exclusively on Thai residents to minimize cultural bias and ensure the relevance of the findings to the Thai specialty coffee market.

Sample Size

The sample consisted of 400 individuals, selected based on the criteria mentioned above. The sample size was determined using a formula that accounts for a 95% confidence level and a 5% margin of error, resulting in a target of 384 respondents. An additional 15 participants were included to account for potential errors in the questionnaire, bringing the total sample size to 400.

Research Instrument

The online questionnaire consisted of 32 items measured on a 5-point Likert scale, ranging from 1 (least important) to 5 (most important). The Likert scale was used to quantify the importance of various factors influencing subscription decisions.

Reliability Analysis

To assess the reliability of the measurements, Cronbach's alpha was used to analyze the internal consistency of the tests. The results indicated that all variables had Cronbach's alpha values above 0.7, indicating acceptable reliability. Specifically, the analysis revealed the following Cronbach's alpha values for each variable: price and promotion: 0.746 (3 items), logistics: 0.711 (3 items), benefits: 0.703 (4 items), service and membership conditions: 0.876 (3 items), convenience: 0.911 (4 items), attitude: 0.938 (5 items), brand information and trustworthiness: 0.94 (6 items), and subscription decision making: 0.928 (4 items). These results demonstrate that all the variables measured in the study exhibit strong internal consistency, confirming the reliability of the instrument used.

Data Collection

Data collection was carried out using an online questionnaire administered through Google Forms. The survey was distributed to 400 participants who met the study's inclusion criteria. After data collection, the completeness of the collected data was checked and the data was coded, with responses categorized according to various variables. After that, the coded data was analyzed using the SPSS statistical software. This structured approach ensured that the study's findings were reliable and valid, providing meaningful insights into the factors influencing consumer decisions to subscribe to specialty coffee services in Thailand.

Statistical Analysis

Data analysis was conducted using SPSS. The analysis included both simple and multiple regression analyses to explore the relationships between the dependent variable (consumer decision-making) and multiple independent variables. Descriptive statistics were used to summarize demographic information, and variations between groups of respondents were assessed using T-tests and ANOVA.

RESULTS

Demographic Information

Table 1 shows the personal characteristics of the 400 respondents in the study. The respondents' monthly income levels varied, with the largest group (27.5%) earning between 20,001 and 30,000 baht (\$569-\$854) per month. Additionally, 23.8% of respondents reported earning more than 50,001 baht (\$1,423), while 20.5% earned below 20,000 baht (\$569). Regarding relationship status, a significant majority of the respondents were single (75%), with married individuals making up only 23.3%.

The respondents' living arrangements also varied, with 44% residing in houses, 22.3% in condominiums, 22% in townhouses or shophouses, and 11.8% in dormitories. In terms of family size, 32% of respondents reported having four family members, followed by 23.3% with three members and 15.5% with two members. When considering the overall family size distribution, 55.3% of respondents had families consisting of three to four people, 22.5% had fewer than three family members, and 22.3% had more than four members.

Table 1: Respondents' demographic information (n = 400)

Gender	Frequency	Percentage (%)
Monthly income		
20,000 baht or less (\$569)	82	20.5
20,001 - 30,000 baht (\$569-\$854)	110	27.5
30,001 - 40,000 baht (\$854-\$1,137)	72	18
40,001 - 50,000 baht (\$1,137-\$1,423)	41	10.3
50,001 baht (\$1,423) or more	95	23.8
Marital Status		
Single	300	75
Married	93	23.3
Divorced	7	1.8
Residence		
House	176	44
Condominium	89	22.3
Townhouse or shophouse	88	22
Dormitory	47	11.8
Family members		
Less than 3 people	90	22.5
3 - 4 people	221	55.3
More than 4 people	89	22.3

Statistical Analysis

A one-way ANOVA was performed to test the differences between the groups.

One-Way ANOVA

Table 2 presents the results of a one-way ANOVA conducted to examine whether various demographic factors—such as gender, age, education, occupation, income, marital status, residential status, and number of family members—significantly influence the decisions related to subscription services. The ANOVA compares the variance between groups (based on different demographic factors) to the variance within groups, to determine if there are statistically significant differences. The key takeaway from the table is that none of the demographic factors show statistically significant differences concerning subscription decisions. This is evident from the p -values associated with each factor, all of which are above the commonly accepted significance thresholds ($p < 0.05$, $p < 0.01$, and $p < 0.001$). For example, gender has a significance value of 0.861, age has 0.883, and income has 0.915, all of which indicate no significant effect.

This finding is important because it suggests that demographic factors such as gender, age, income, and others may not play a critical role in influencing consumer decisions to subscribe to services. This insight can be valuable for businesses and marketers, indicating that targeting based on these demographic categories alone might not be effective and that other factors, possibly psychographic or behavioral, may need to be considered for more effective segmentation and marketing strategies.

Table 2: ANOVA results of demographic factors

Test Item	Source	Sum of Squares	df	Mean Square	F Value	Significance
Gender	Between Groups Within Groups	0.263 349.542	2 397	0.131 0.880	0.149	0.861
Age	Between Groups Within Groups	1.030 348.775	4 395	0.258 0.883	0.292	0.883
Education	Between Groups Within Groups	0.084 349.720	2 397	0.042 0.881	0.048	0.953
Occupation	Between Groups Within Groups	7.443 342.362	6 393	1.240 0.871	1.424	0.204
Income	Between Groups Within Groups	0.852 348.952	4 395	0.213 0.883	0.241	0.915
Marital Status	Between Groups Within Groups	1.104 348.701	2 397	0.552 0.878	0.629	0.534
Residential Status	Between Groups Within Groups	1.495 348.310	3 396	0.498 0.880	0.566	0.637
Family Number	Between Groups Within Groups	11.408 338.397	8 391	1.426 0.865	1.648	0.110
Total		349.805				

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

Multiple Regression Analysis (MRA)

MRA was conducted to examine whether the independent variables, as outlined in Hypotheses 2 and 3, have a significant effect on the dependent variable—consumer decisions regarding subscription services. This analysis uses several independent variables (e.g., taste, variety of origins, etc.) to predict or explain the outcome of the dependent variable. A hypothesis is considered supported if the significance level (p -value) is less than 0.05.

First, Table 3 presents the results of the regression analysis related to the 4P Marketing Mix (4PMM) factors, perceived ease of use (PEOU) on consumer decisions, consumer attitude (CA), and brand information and trustworthiness (BIT).

Table 3: MRA of 4PMM, PEOU, CA, and BIT

Coefficients						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
H2	(Constant)	-1.030	0.408		-2.527	0.012
	Taste	0.062	0.056	0.043	1.109	0.268
	Variety of origins	-0.021	0.047	-0.017	-0.443	0.658
	Variety of roasters	0.029	0.031	0.036	0.951	0.342
	Freshness	0.027	0.039	0.027	0.687	0.493
	Logistics	0.023	0.044	0.021	0.528	0.598
	Price and promotion	1.110	0.060	0.680	18.402	0.000*
	Benefits	-0.016	0.047	-0.014	-0.347	0.728
R = 0.688, R ² = 0.473, Adj. R ² = 0.464, F = 50.252, Sig. = 0.000*						
H3	(Constant)	0.354	0.128		2.768	0.006
	Service and membership conditions	0.638	0.051	0.608	12.413	0.000*
	Convenience	0.276	0.053	0.256	5.230	0.000*
R = 0.831, R ² = 0.690, Adj. R ² = 0.689, F = 442.478, Sig. = 0.000*						
H4	(Constant)	1.233	0.171		7.227	0.000
	CA	0.665	0.040	0.639	16.566	0.000*
R = 0.639, R ² = 0.408, Adj. R ² = 0.407, F = 274.438, Sig. = 0.000*						
H5	(Constant)	1.635	0.117		13.987	0.000
	BIT	0.645	0.031	0.725	21.010	0.000*
R = 0.725, R ² = 0.526, Adj. R ² = 0.525, F = 441.430, Sig. = 0.000*						

For the 4PMM, the regression model shows an R-value of 0.688, reflecting a strong relationship between the independent and dependent variables. The R² value of 0.473 indicates that the independent variables account for about 47.3% of the variance observed in the dependent variable within this model. The adjusted R² value of 0.464 indicates that the model is a good fit even when adjusted for the number of predictors. The F-statistic is 50.252, with a significance level of 0.000, indicating that the overall model is statistically significant. In examining the individual coefficients:

Price and Promotion emerged as the most significant predictor of consumer decisions, with a standardized beta coefficient of 0.680 and a *p*-value of 0.000, which is well below the 0.05 threshold. Other variables, such as *taste*, *variety of origins*, *variety of roasters*, *freshness*, *logistics*, and *benefits*, did not show a statistically significant impact, as their *p*-values exceeded the 0.05 threshold. These results highlight that, among the 4P Marketing factors, *Price and promotion* play a crucial role in influencing consumer subscription decisions, while other factors, such as *taste and freshness*, do not have a significant effect in this context.

PEOU focused on two key factors. These were *service and membership conditions*, and *convenience*. The regression analysis reveals that both variables significantly influence consumer decisions, with *p*-values well below the 0.05 threshold. The *service and membership condition* variables are particularly impactful, with a standardized beta coefficient of 0.608, indicating a strong positive relationship with the dependent variable. *Convenience* also plays a significant role, with a beta coefficient of 0.256, though its impact is slightly less pronounced. The model demonstrates a high

explanatory power, with an R-value of 0.831 and an R^2 value of 0.690, meaning that 69% of the variance in consumer decisions can be explained by these two factors. The overall model is statistically significant, as indicated by an F-value of 442.478 and a p-value of 0.000. This suggests that perceived ease of use, particularly through service conditions and convenience, is a critical determinant in subscription decisions.

The influence of consumer attitude (CA) on subscription decisions showed from the regression analysis that *attitude* is a significant predictor, with a standardized beta coefficient of 0.639 and a highly significant p-value of 0.000. The R-value of 0.639 and R^2 of 0.408 indicate that attitude explains approximately 40.8% of the variance in consumer decisions. Although this model's explanatory power is lower than that seen in the analysis of PEOU, the high F-value of 274.438 confirms the model's statistical significance. The results suggest that CA is a substantial factor influencing subscription decisions, though it explains less variance compared to PEOU factors.

Finally, the impact of brand information and trustworthiness (BIT) on consumer decisions from the regression analysis highlighted its significant role, with a standardized beta coefficient of 0.725, indicating a strong positive effect on subscription decisions. The R-value of 0.725 and R^2 of 0.526 shows that this factor explains 52.6% of the variance in consumer decisions, suggesting a robust influence. The model is highly statistically significant, with an F-value of 441.430 and a p-value of 0.000. These results underscore the importance of brand information and trustworthiness as key drivers of consumer behavior in subscription services, with a significant portion of decision-making explained by these factors.

In summary, the regression analyses highlight the critical factors influencing consumer subscription decisions. Perceived ease of use, particularly through service conditions and convenience, has the strongest explanatory power, followed by brand information and trustworthiness, and then consumer attitude. Each of these factors plays a significant role in shaping consumer behavior, emphasizing the importance of these elements in the design and marketing of subscription services.

Summary of Hypotheses Testing

The study tested several hypotheses grouped under five main categories. Category 1 encompassed demographic factors, while Category 2 focused on 4P Marketing elements, Category 3 on perceived ease of use, Category 4 on consumer attitude, and Category 5 on brand information and trustworthiness.

The first set of hypotheses, Category 1: Demographic Factors, was analyzed using One-Way ANOVA (Pimdee & Pipitgool, 2023). The results indicated that none of the demographic factors—including gender, age, education, occupation, income, marital status, residential status, and number of family members—significantly influenced consumers' decisions to choose subscription services.

Category 2: 4P Marketing Factors was analyzed using MRA. Among these factors, only prices and promotions showed a significant positive effect on subscription decisions, while other factors like taste, variety of origins, variety of roasters, freshness, logistics, and benefits did not show significant effects.

Category 3: Perceived Ease of Use was also analyzed using MRA. The results showed that both service and membership conditions and convenience had significant positive effects on consumers' subscription decisions.

Category 4: Attitude was tested using simple regression analysis, revealing that consumer attitude positively influenced subscription decisions.

Finally, Category 5: Brand Information and Trustworthiness was tested using simple regression analysis as well, and the results showed a significant positive effect on subscription decisions. Table

4 summarizes the results of the hypotheses testing, clearly indicating which hypotheses were supported:

Table 4: Final hypotheses testing results

Hypothesis Category	Sub-Hypotheses	Sig.
Category 1: Demographic Factors		
H1.1: Gender influences subscription decisions.	0.861	No
H1.2: Age influences subscription decisions.	0.883	No
H1.3: Education influences subscription decisions.	0.953	No
H1.4: Occupation influences subscription decisions.	0.204	No
H1.5: Income influences subscription decisions.	0.915	No
H1.6: Relationship status influences subscription decisions.	0.534	No
H1.7: Residential status influences subscription decisions.	0.637	No
H1.8: The number of family members influences subscription decisions.	0.110	No
Category 2: 4P Marketing Factors		
H2.1: Taste positively affects subscription decisions.	0.268	No
H2.2: Variety of origins positively affects subscription decisions.	0.658	No
H2.3: The variety of roasters positively affects subscription decisions.	0.342	No
H2.4: Freshness positively affects subscription decisions.	0.493	No
H2.5: Logistics positively affects subscription decisions.	0.598	No
H2.6: Prices and promotions positively affect subscription decisions.	0.000*	Yes
H2.7: Benefits positively affect subscription decisions.	0.728	No
Category 3: Perceived Ease of Use		
H3.1: Service and membership conditions positively affect subscription decisions.	0.000*	Yes
H3.2: Convenience positively affects subscription decisions.	0.000*	Yes
Category 4: Attitude		
H4: Attitude positively affects subscription decisions.	0.000*	Yes
Category 5: Brand Information and Trustworthiness		
H5: Brand information and trustworthiness positively affect subscription decisions.	0.000*	Yes

*Note: * $p < 0.05$, Sig. = Significance

DISCUSSION

This study aimed to examine the factors influencing Thai consumers' decision-making regarding specialty coffee bean subscription services, focusing on demographic characteristics, the 4P marketing mix, perceived ease of use, and consumer attitudes. Conducted through a quantitative research methodology, the study surveyed 400 Thai specialty coffee consumers aged 20 and above using an online questionnaire. The findings indicate that among the five hypotheses tested, four—4P marketing, perceived ease of use, consumer attitude, and brand information and trustworthiness—were found to have a significantly positive impact on consumers' decisions to subscribe to specialty coffee services.

The results reveal that brand information and trustworthiness exert the greatest influence on subscription decisions ($\beta = 0.725$), followed by price and promotion ($\beta = 0.680$), consumer attitude ($\beta = 0.635$), service membership and conditions ($\beta = 0.608$), and convenience ($\beta = 0.256$). However, demographic factors did not show any significant effect on consumer decisions regarding specialty coffee subscriptions. These insights underscore the importance of four key factors in influencing consumer decisions about specialty coffee bean subscription services.

Price and Promotion

Price and promotion emerged as crucial factors in consumer decision-making, particularly among a range of considerations such as taste, variety of origins, variety of roasters, freshness, logistics, and benefits. Participants generally indicated that favorable pricing positively influences their subscription decisions. This finding aligns with previous research on food subscription services, which also emphasized the importance of price and promotion in monthly online purchases (Techasirichet, 2020). Affordable pricing is a significant determinant in Thai consumers' decision-making processes when it comes to specialty coffee subscription services.

Service Membership and Convenience

Service membership and convenience also positively impact consumer decision-making. According to Forbes, the most effective subscription services streamline the process and offer subscribers the flexibility to easily adjust their orders (Crosthwaite, 2024). The simplicity of the subscription process, including easy registration and management, is a key motivator for consumers to choose such services. Studies by Servín-Juárez et al. (2021) and Shrivastav (2020) further support the notion that convenience is a powerful motivator for consumers to subscribe to services. This suggests that the ease of understanding and using the subscription service, including cancellation options, significantly influences consumers' decisions to subscribe to monthly specialty coffee services.

Additionally, the convenience of coffee sales is evident in the mainstream market, as seen with FamilyMart and 7-Eleven convenience stores, which globally sell 430 million cups of coffee annually (Yen, 2023). The popularity of quick, affordable takeaway coffee highlights the importance of convenience in consumer preferences.

Consumer Attitude (CA)

Consumer attitude also plays a significant role in subscription decisions. Kamon-ard (2021) found that a positive attitude towards products within a subscription-based model significantly increases the likelihood of repurchase. In the context of specialty coffee subscriptions, participants indicated that if the service saves them time, they are more likely to use it (Yen, 2023). This implies that fostering a positive consumer perception of the brand and service is crucial for encouraging subscription uptake.

Brand Information and Trustworthiness (BIT)

Finally, BIT was found to have a significant positive impact on consumer decisions (Mbeté & Tanamal, 2020). Participants placed considerable importance on recommendations from friends or acquaintances when choosing a subscription service, underscoring the value of building trust and providing reliable information.

Managerial Implications

Subscription commerce has become an integral part of today's consumption landscape (Roy & Ortiz, 2022). As a cloud-based platform where consumers pay for and consume specific services (Threechownon, 2020; Zhang & Seidmann, 2010), subscription models are characterized by recurring deliveries rather than single purchases (Chen et al., 2018). Startups often adopt subscription boxes due to their innovative nature (Rodríguez-García et al., 2022). Based on the findings of this study, there are three key recommendations for entrepreneurs, marketers, and stakeholders:

1. **User-Friendly Platforms:** Entrepreneurs should create platforms that are convenient and easy to use, allowing users to apply for services in just a few steps. The system should reduce the hassle for members, making it accessible to users of all ages. Companies need to invest in the capacity to meet established standards or reduce service times (Cachon & Feldman, 2011).
2. **Subscription Duration and Pricing Options:** Subscription prices are typically determined by the subscription's duration, with monthly and yearly options being the most common (Roy & Ortiz, 2022). Offering clear periods and a variety of subscription options will help consumers choose the level of service that best suits their needs.
3. **Price Differentiation and Value:** While per-use pricing may initially seem appealing, subscription pricing often proves more beneficial. To sustain the business, companies may need to employ price differentiation, bundle other commodities, or adjust prices based on product quality (Gabszewicz & Sonnac, 1997). Therefore, offering affordable pricing while delivering valuable products is likely the best strategy to encourage consumers to register for subscription services.

CONCLUSION

This study enhances the understanding of the factors affecting Thai consumers' decisions to subscribe to specialty coffee bean services and provides implications for entrepreneurs, marketers, and stakeholders. The findings indicate that brand information and trustworthiness have the most significant influence on consumers' decisions, followed by price and promotion, consumer attitude, service conditions, membership, and convenience. Demographic factors, however, did not influence consumer intention to subscribe. The study offers three key implications for businesses to develop strategies tailored to the subscription business model.

Limitations

While the study offers significant insights into consumer perspectives, it is important to acknowledge its limitations and suggest directions for future research:

1. The study focused on Thai specialty coffee consumers. Future research could explore this topic in countries where specialty coffee subscriptions are more widely used to compare and contrast findings.
2. Although price and promotions significantly impacted subscription service usage, other factors within the 4P marketing mix did not. Future studies could investigate customer-centric factors to better understand what other elements influence the selection of subscription services.

3. This study primarily examined factors affecting monthly subscription services. Future research could explore how platform usage affects monthly specialty coffee subscriptions to gain a broader perspective and inform business strategy development.

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TRANSPARENCY

The author confirms that the manuscript is an honest, accurate, and transparent account of the study, that no vital features of the study have been omitted, and that any discrepancies from the study as planned have been explained.

ETHICS STATEMENT

Ethical approval for the research was obtained from the Mahidol University Central Institutional Review Board (COE No. MU-CIRB 2024/135.0504). The study followed all ethical practices during writing. Participant confidentiality was strictly maintained, and no identifying information was collected. Participants completed the survey voluntarily and were informed that they could withdraw at any time. Confidentiality was maintained throughout the study with participants providing informed consent, with the option to withdraw from the study at any time.

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