ENCOURAGE CUSTOMERS TO USE AI-POWERED CHATBOTS TO PURCHASE: MANAGEMENT FOR HERBAL PRODUCT COMMUNITY ENTERPRISES

Noppadol Saikatikorn[1], Aungkana Jattamart[1], Paingruthai Nusawat[1], Napharat Chooprai[2], Lakkana Bunnarong[3] and Achaporn Kwangsawad[1*]

[1] Department of Business Information Technology, Faculty of Business Administration, Rajamangala University of Technology Rattanakosin, Wang Klai Kangwon Campus, Prachuap Khiri Khan 77110, Thailand
[2] Department of Information Technology, Faculty of Industry and Technology, Rajamangala University of Technology Rattanakosin, Prachuap Khiri Khan 77110, Thailand
[3] Department of Business English, Faculty of Business Administration, Rajamangala University of Technology Rattanakosin, Wang Klai Kangwon Campus, Prachuap Khiri Khan 77110, Thailand

***Abstract*— Artificial intelligence (AI) is acknowledged in marketing for its substantial capacity to transform brand-consumer interactions. Marketers are utilizing AI to engage a larger customer base and address their needs instantly. This study introduces a conceptual framework for analyzing the key factors influencing the adoption of AI-driven chatbots by community enterprises in the procurement of herbal products. This research offers an empirical validation of the model through partial least squares structural equation modeling (PLS-SEM). The sample cohort consisted of 415 individuals with at least three months of prior experience purchasing herbal products from community enterprises through AI chatbots. The results demonstrate that PU, PEOU, PE, CTQ, and CTV influence consumers' attitudes (ATT) regarding the utilization of AI. ATT influences both SA and INT. Furthermore, SA exerts an influence on INT. Our findings, however, demonstrate no correlation between the use of AI and PPV. This review presents definitive evidence of the correlation between AI and consumer and herbal products within the framework of community enterprises. We also delineate the theoretical and practical ramifications from the management viewpoints of marketers and AI developers.**

***Keywords*— AI-powered, Chatbots, Artificial intelligence marketing, Community enterprise, Herbal, Intention to purchase.**

1. INTRODUCTION

Technological advancement results in continual changes within the marketing sector. Artificial intelligence (AI) seems to be impacting marketing strategies, business models, sales processes, customer service decisions, and consumer behavior [1]. The integration of AI in marketing has profoundly altered organizational operations by enhancing and augmenting the efficiency of processes executed through intelligent agents or systems [1, 2]. The distinctive attributes of AI facilitate lead nurturing in digital marketing and direct customers toward alignment with business objectives [3]. AI aggregates information from various sources to produce and deliver relevant content to software users. AI enables comprehensive analysis of user needs and increases the probability of successfully reaching customers with attractive advertisements at optimal times, commonly known as Artificial Intelligence Marketing (AIM).

Yau, et al. [4] assert that AIM employs artificial intelligence to effectively manage large quantities of data and information related to the marketing mix to produce knowledge. AIM utilizes its expertise to optimize the marketing process, ensuring that each customer understands their needs. AIM possesses the ability to meticulously examine the distinct actions and behaviors of each customer concerning diverse activities linked to a product or service. This analysis enables AIM to produce pertinent content and recommend offers that align with the customer's profile. AI aids marketers in recognizing and predicting trends, thus averting organizations from unnecessary spending on digital advertising [5]. Progressive marketers remain informed about online trends to enhance creativity and innovative thought[6]. Consequently, customers derive enhanced value from employing AIM.

Recent research has focused on investigating AI's ability to improve marketing. For example, Explaining the AIM framework from an interdisciplinary perspective to improve customer relationships [4], examining the influence of AI on brand preferences for banks [7], Examining the factors that influence consumers' intention to continue using chatbot services in community enterprises [8], studying the influence of individual differences on the likelihood of purchasing products at Recommended by chatbots [9], examining experiences and expectations that influence customer interaction with chatbots and continued purchase intentions in retail [10, 11]. Despite the widespread acceptance of chatbot capabilities in the business sector, there are apprehensions regarding their efficacy in addressing specific issues relative to human intervention. Concerns specifically pertain to privacy, response time, and customer

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satisfaction in interactions with humans versus chatbots[12, 13].

Large organizations are adopting new technologies as a marketing communication medium to enhance organizational success. Chatbots are increasingly popular as AI chatbots improve customer experiences and offer companies avenues for customer interaction. They can also improve customer experiences and elevate customer satisfaction [14]. Concerns regarding AI's capacity to engage with customers persist in academic discourse, potentially impacting satisfaction and sustainability. Small and medium-sized enterprises (SMEs) have increasingly adopted chatbot technology to enhance customer communication, optimize employee efficiency, elevate customer satisfaction, assist customers in making purchasing decisions, disseminate information about services or products, and address frequently asked questions, thereby improving their innovative service delivery and gaining a competitive advantage [15]. Conversely, challenges persist in the adoption of chatbots [16], alongside apprehensions regarding application development due to the substantial costs and time associated with AI implementation, leading to a significant risk of failure [17].

A community enterprise consists of a collective of local members aimed at generating income and achieving sustainable self-reliance within their communities. It aims to cultivate community entrepreneurs by augmenting the community's potential and function through utilizing local resources. Community enterprises engage in diverse activities, including production, service delivery, and natural resource management [18, 19]. Issues identified in the formation of community enterprises historically include deficiencies in organizational management experience, financial constraints, suboptimal packaging design, and inadequate entrepreneurial skills [8, 20, 21]. Given that the majority of community enterprise members are small-scale farmers with limited entrepreneurial experience, the implementation of AI as a marketing instrument necessitates comprehensive research to assess the potential and sustainability of AI integration, particularly in enterprises focused on herbal products. Medicinal plants have been utilized globally since antiquity. At present, medicinal plants are utilized to create diverse products that enhance human health, including pharmaceuticals, owing to the growing recognition of their enduring health advantages [22]. The World Health Organization has indicated a notable increase in the utilization of traditional and complementary medicine (T&CM) across 170 member nations (88%), frequently for the prevention and management of chronic lifestyle-related ailments, due to the presence of specific bioactive compounds in plants. The WTO has concentrated on developing public policies to enhance awareness and ensure the safe utilization of traditional medicines and herbal products [23, 24].

Scholarly discussions concerning the practicality of employing AI for customer communication continue, possibly influencing satisfaction and long-term sustainability. This pertains to small and medium-sized enterprises implementing innovations to enhance customer service. This outcome may impact the long-term sustainability of customers' engagement with chatbots or other technological innovations. This arises from the collaboration of community members to generate income and foster sustainable reliance on local communities [19]. However, some of the problems encountered in the establishment of community enterprises have been summarized in the past, such as a lack of organizational experience, funding problems, ineffective packaging design, and entrepreneurial skills [8, 20, 21]. This is due to the fact that the majority of community enterprise members are local small-scale farmers possessing limited entrepreneurial experience. Consequently, utilizing AI as a marketing instrument for community enterprises requires comprehensive analysis to evaluate the potential and sustainability of AI application.

While there has been a growing focus on the literature regarding AIM and its implementation in organizational operations, there is currently a lack of research on the relationship between AIM and community enterprises. Several studies have begun to examine the application of chatbots in community enterprises, as well as consumers' intentions to utilize chatbots in the future [8]. Vera and Palaoag [25] conducted a study that created a prototype platform for an intelligent interactive system integrating chatbot technology with artificial intelligence (AI) to address inquiries concerning treatment alternatives and the application of various herbal plants for health issues. The platform is an online chat service dedicated to consumer health and the utilization of herbal plants. The study's results assessed the prototype platform's development in terms of effectiveness, efficiency and customer satisfaction. Nonetheless, the study's findings solely assess the dimension of platform development. An analysis is absent regarding the factors that affect user behavior.

This study aimed to investigate the factors that incentivize customers to utilize AI-driven chatbots for purchasing herbal products from community enterprises. This study is the inaugural examination of the utilization of chatbots to enhance the marketing of herbal products. We posed the research question: What factors influence the utilization of AI in the marketing of herbal products within community enterprises? It provides insight into the correlation between AI, consumers, and herbal products within the framework of community enterprise. The findings of this study will be valuable for community enterprises and marketing professionals seeking to leverage AI to enhance sales and generate value for herbal products.

2. LITERATURE REVIEW

2.1 Chatbot adoption

AI enables machines to perform business functions usually carried out by humans. The aim of AI is to enable computers to replicate human intelligence, allowing them to gain knowledge, experience emotions, perform cognitive

tasks, and undertake actions. It also facilitates the acquisition of insights for analytical purposes [26]. Following the COVID-19 pandemic, AI-powered marketing tools have become increasingly important in improving interactions between customers and brands [7]. AI that is a conversational agent that interacts with users through text is called a chatbot. Meanwhile, conversational agents that interact with users using their voice are called digital voice assistants [27]. In the context of service Chatbots make the transition between connecting better with customers in the digital marketing era [28]. Because it contributes to providing customers with convenience 24 hours a day.

The quality of chatbots encompasses five dimensions: 1) Response time denotes the duration before a message receives a reply; 2) Usability signifies the user-friendliness of the chatbot; 3) Reliability pertains to the accuracy of the information supplied; 4) Availability indicates the capacity to access the chatbot at any time and from any location; and 5) Adaptability. To assess the technical efficacy of the chatbot, it is essential for users to find it user-friendly, thereby enhancing the customer experience during product interactions or orders [15, 29].

Previous studies have investigated the correlation between chatbots and user behavior across various domains. For example, Verify that consumers' retention intention pays through the value of using chatbots [30], examine the likelihood of purchasing products recommended by chatbots [9], examined the role of data features. Technology-related characteristics and attitudes towards AI in purchase intention [31], study of user satisfaction and loyalty towards chatbot services [32]. Including checking customers' continued intention to use chatbots [8, 33]. As chatbots proliferate, user satisfaction and acceptance of their utilization and interaction rise.

Implementing chatbots in SMEs or community organizations offers prospects for cost and time savings while enhancing customer experience [34]. The perception of data quality from chatbots significantly enhances customers' positive sentiments towards chatbot interactions and encourages ongoing utilization of chatbots in community enterprises [8]. Selamat and Windasari [35] conducted a survey of SME proprietors and identified four critical chatbot attributes for SMEs: responsive functionality, straightforward action prompts to motivate customer engagement, human-centric dialogue, and tailored recommendations. Nonetheless, the implementation of chatbots for the procurement of herbal products by community enterprises remains innovative. Previous studies have primarily concentrated on creating platforms equipped with AI tools to disseminate herbal information and assessing these platforms, including the utilization of AI tools (ChatGPT) for content generation within Thailand's One Tambon One Product (OTOP) initiative. The study utilized herbal skincare and cosmetics as product groups. The methodology employed to evaluate entrepreneurs' preparedness for utilizing AI tools like ChatGPT in their social commerce strategies [36], the development of a prototype platform for an intelligent interactive system utilizing chatbot technology to address inquiries regarding treatment options and the application of various herbal plants for health conditions [25], and the creation of a chatbot that leverages natural language processing and image recognition features to facilitate the identification of herbal plants and respond to related queries [37]. Therefore, this research aims to investigate the behavior of customers purchasing herbal products from community enterprises, specifically examining the factors influencing their acceptance of chatbots for this purpose.

2.2 Technology acceptance models

Technology acceptance models (TAM) serve as a prevalent theoretical framework for examining user acceptance and adoption of technology. TAM comprises five components: perceived utility, perceived simplicity of use, attitude towards, behavioral intention, and actual utilization [38]. TAM has been widely used as a theory for evaluating user acceptance of chatbots [31, 39-41]. Previous research indicates that the adoption of chatbots is significantly influenced by factors including the credibility of the information presented, individuals' attitudes toward artificial intelligence, the perceived utility of chatbots, the degree of interactivity they provide, and the potential advantages of relationship building. Moreover, the quality and persuasiveness of the information augment its credibility. The credibility of information and individuals' perceptions of AI are critical determinants that affect the perceived utility of AI. The determination of purchase intent is fundamentally influenced by the deployment of chatbots and the credibility of the data.

3. RESEARCH MODEL AND HYPOTHESIS DEVELOPMENT

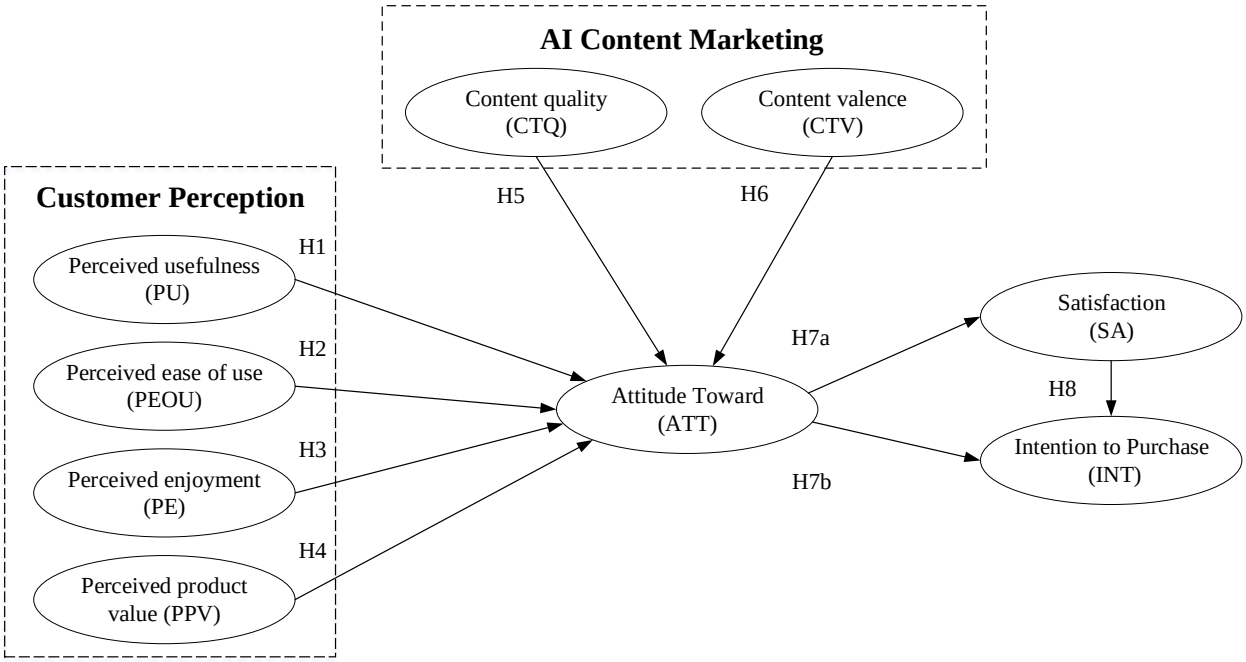

Figure 1. Proposed research model.

3.1 Customer Perception

Previous literature analysis indicates that the TAM has been employed to explain user acceptance behavior toward novel technologies. TAM comprises five elements: 1) perceived usefulness, 2) perceived ease of use, 3) attitude toward use, 4) behavioral intention and 5) actual usage [38]. TAM has recently gained prominence in characterizing chatbot user behavior [31, 40]. This study examines factors influencing consumer perception, specifically perceived ease of use (PEOU), defined as the belief that technology requires minimal effort to utilize; perceived usefulness (PU), defined as the belief that technology enhances work efficiency [42]; and perceived enjoyment (PE), defined as the extent to which individuals derive enjoyment, pleasure, or amusement from using technology. The extent of enjoyment individuals gets from utilizing an e-wallet correlates inversely with their anxiety levels; greater perceived enjoyment results in diminished anxiety [43]. The utilization of chatbots has been established as a determinant of consumer purchase intention. Previous research indicates that PEOU affects chatbot adoption, specifically that Perceived Enjoyment and Usefulness impact customer purchasing behavior and the intention to utilize chatbots in small and medium-sized enterprises [35]. Wang, et al. [44] found that PU also had a positive effect on attitude towards use and intention to use AI technology. This is consistent with Jo [45] study, which found that PU, PEOU and PE influence AI use. The combination of PU, PEOU, and PE contributes to the formation of customer perceptions regarding AI technology. To comprehend the utilization of chatbots to promote herbal products within the framework of community enterprises. Thus, to comprehend the implementation of chatbots to promote herbal products in community enterprises, we employ these factors to develop the subsequent hypotheses:

H1: PU has a positive impact on Attitude Toward (ATU) in using AI chatbots to purchase herbal products for community enterprises.

H2: PEOU has a positive impact on ATU in using AI chatbots to purchase herbal products for community enterprises.

H3: PE has a positive impact on ATU in using AI chatbots to purchase herbal products for community enterprises.

Perceived product value (PPV) is a concept through which consumers evaluate a product's worth by juxtaposing the benefits it offers against the value they obtain [46, 47]. Customer perception of product value may occur at different stages from pre-purchase, purchase, and post-purchase [48]. When customers perceive the value of the product as being higher, they are more likely to be satisfied and become repeat customers. Additionally, PPV can predict customer satisfaction and loyalty [49]. Consequently, to understand customers' perceptions of the value of herbal products within community enterprises, we developed the following hypotheses utilizing the PPV factor:

H4: PPV has a positive impact on ATU in using AI chatbots to purchase herbal products for community enterprises.

3.2 AI Content Marketing

The dependability of disseminated information is essential for a business's marketing success and fosters the cultivation of favorable customer perceptions regarding services [50]. Peters, et al. [51] classified marketing-promoting content into three categories: 1) Content valence refers to emotions and sentiments associated with the content, such as joy, novelty, clarity, or relaxation; 2) Content quality pertains to the perceived clarity of the content, including attributes like interactivity and vividness; and 3) Content volume comprises the frequency and quantity of content. Previous research has found that content quality (CTQ) and content valence (CTV) play an important role in stimulating viewers' interest in booking rooms through hotel live broadcasts [52]. Our research is focused on investigating the potential of CTQ and CTV to pique the interest of chatbot users in ordering herbal products from community enterprises. This study did not concentrate on content volume because we argue that the frequency and volume of content provided by chatbots are user-controlled actions that initiate interactions, making high-frequency or high-volume content a controllable factor. In contrast, CTQ and CTV are influenced by the chatbot's design by the provider to elicit user behavior during the conversation. Consequently, we propose the subsequent hypothesis:

H5: CTQ has a positive impact on ATU in using AI chatbots to purchase herbal products for community enterprises.

H6: CTV has a positive impact on ATU in using AI chatbots to purchase herbal products for community enterprises.

3.3 Attitude Toward

Fishbein [53] defines attitude as an individual's positive or negative evaluation of their response to a product or technology. Prior research has demonstrated that consumer purchase intentions are influenced by their attitudes toward technology [8, 54]. Consistent with the results of a study by Bhagat, et al. [55], which discovered that AI influences consumer purchasing behavior positively and increases consumer purchase intentions, the present findings support this notion. Additionally, satisfaction (SA) has been discovered to be associated with AI user experience [56]. A study conducted by Ashfaq, et al. [57] investigated the determinants influencing user satisfaction and the intention to utilize chatbots. The findings indicated that user satisfaction with chatbot e-services was a significant determinant and predictor of users' intention to continue using chatbots. This study aimed to investigate the influence of attitude toward AI (ATT) on users' satisfaction and interest in ordering herbal products from a community enterprise. Consequently, we proposed the following hypothesis:

H7a: ATT has a positive impact on SA in using AI chatbots to purchase herbal products for community enterprises.

H7b: ATT has a positive impact on intention to purchase (INT) in using AI chatbots to purchase herbal products for community enterprises.

H8: SA has a positive impact on INT in using AI chatbots to purchase herbal products for community enterprises.

4. METHODOLOGY

4.1 Sampling and data collection

The data collection period for this cross-sectional study began in April 2024. To validate the study hypotheses, data were collected through an online questionnaire utilizing the purposive sampling method. The sample consisted of customers who had employed AI chatbots to acquire herbal products from community enterprises for at least three months. Invitations to participate were disseminated via the community enterprise's e-commerce website, Facebook, and Line. The institutional review board of Rajamangala University of Technology Rattanakosin, Thailand, has an ethics committee that approves measures for human research. The study's objectives and measures are clarified at the beginning of the questionnaire. Subsequent to the participant's voluntary consent to engage in the study. By initiating the online questionnaire and finalizing the online consent form, they can confirm their participation.

4.2 Measurement instrument

The questionnaire was designed according to a theoretical framework derived from an extensive review of the existing literature. Participants were asked about their familiarity with utilizing AI chatbots for ordering community enterprise herbal products, specifically whether they possessed a minimum of three months of experience. If the response is "no", the survey will finish. If the response is "yes" the questionnaire was included in Section 1, which pertains to demographic information, Section 2, which addresses the variables under study and Section 3, which encompasses the suggestions provided by the respondents. The items were evaluated using a 5-point Likert scale that ranged from 1 (indicating strong disagreement) to 5 (indicating strong agreement).

4.3 Data analysis

The data were analyzed for descriptive statistics utilizing the SPSS for Windows software. The correlation among the assumptions was analyzed utilizing partial least squares structural equation modeling (PLS-SEM) statistics, executed through the SmartPLS software. PLS-SEM is suitable for this study as it facilitates the concurrent analysis of measurement and the structural model. Moreover, empirical evidence has confirmed the efficacy of PLS-SEM as a reliable approach for forecasting individuals' behavior with technology [8, 31, 52, 58]. PLS-SEM is an appropriate model for this study in light of the aforementioned factors.

5. RESULTS

Following our examination of the data, we identified 415 comprehensive results. According to the survey

results, the majority of respondents (63.37 percent) were female, 65.93 percent were between the ages of 20 and 30, 65.52 percent were students and 68.09 percent held a bachelor's degree. Mobile phones were the most frequently used devices that utilized AI, accounting for 64.00 percent. Additionally, 72.73 percent of respondents spent more than 12 hours per day on the internet.

Table 1: Measures of internal consistency reliability and convergent validity**.**

Constructs	Items	Loading (> 0.70)	Cronbach's alpha (> 0.70)	Composite reliability (> 0.70)	AVE (> 0.50)
Attitude Toward (ATT)	ATT1	0.788	0.851	0.894	0.627
	ATT2	0.813			
	ATT3	0.780			
	ATT4	0.765			
	ATT5	0.814			
Content valence (CTV)	CTV1	0.806	0.837	0.891	0.671
	CTV2	0.840			
	CTV4	0.803			
	CTV5	0.828			
Content quality (CTQ)	CTQ1	0.832	0.772	0.868	0.687
	CTQ3	0.828			
	CTQ4	0.826			
Intention to purchase (INT)	INT1	0.838	0.842	0.894	0.679
	INT3	0.804			
	INT4	0.839			
	INT5	0.814			
Perceived enjoyment (PE)	PE3	0.879	0.795	0.868	0.766
	PE4	0.872			
Perceived ease of use (PEOU)	PEOU1	0.848	0.791	0.878	0.705
	PEOU2	0.848			
	PEOU3	0.823			
Perceived product value (PPV)	PPV1	0.854	0.810	0.888	0.725
	PPV2	0.856			
	PPV5	0.844			
Perceived usefulness (PU)	PU2	0.795	0.808	0.874	0.634
	PU3	0.789			
	PU4	0.805			
	PU5	0.796			
Satisfaction (SA)	SA1	0.823	0.844	0.895	0.682
	SA2	0.837			
	SA4	0.807			
	SA5	0.835			

Convergent validation is utilized in the measurement model test following the standards established by Hair Jr, et al. [59]. The results presented in Table 1 indicate that all of the predetermined criteria for Composite Reliability, Cronbach's alpha, and Average Variance Extracted (AVE) were fulfilled. To assess the discriminant validity of the measurement questionnaire, cross-loadings were utilized. Each factor that was measured passed its corresponding threshold value.

Table 2: Fornell–Larcker criterion analysis**.**

Construct	Correlation Matrix								
	ATT	CTV	CTQ	INT	PE	PEOU	PPV	PU	SA
Attitude Toward (ATT)	**0.792**								
Content valence (CTV)	0.773	**0.819**							
Content quality (CTQ)	0.782	0.794	**0.829**						
Intention to Purchase (INT)	0.722	0.744	0.698	**0.824**					
Perceived enjoyment (PE)	0.734	0.717	0.776	0.661	**0.875**				
Perceived ease of use (PEOU)	0.779	0.697	0.696	0.700	0.690	**0.840**			
Perceived product value (PPV)	0.748	0.764	0.742	0.722	0.709	0.731	**0.775**		
Perceived usefulness (PU)	0.776	0.723	0.733	0.713	0.687	0.782	0.719	**0.796**	
Satisfaction (SA)	0.757	0.818	0.730	0.819	0.686	0.679	0.713	0.736	**0.826**

As shown in Table 2, the square roots of AVEs in each variable (bolded letters) are greater than their corresponding horizontal and vertical values, according to the criteria of Fornell and Larcker [60] for evaluating the relationship between variables in the form of a diagonal matrix. This demonstrated the discriminant validity of the interpreter, allowing it to be utilized in the analysis of structural equation models.

Subsequently, the structural equation model was tested by employing bootstrap resampling on a dataset consisting of

5,000 items. This approach was used to generate an approximate estimation and enhance confidence in the analysis of the relationship between the constructs. The presence of multicollinearity was assessed using VIF values, which indicated that the explanatory variables were not significantly correlated beyond the threshold of 5. When evaluating Path Coefficients, p-value, and t-value against predetermined criteria, it was observed that the t-value exceeded 1.96 (significance level=5%). Based on this criterion, it can be concluded that hypotheses H1, H2, H3, H5, H6, H7a, H7b, and H8 are accepted. The findings of the hypothesis testing can be succinctly summarized in Table 3.

Table 3: Hypotheses testing results.

Hypothesis	Path	Coefficient (β)	T-values	P-values	VIF	Supported
H1	Perceived usefulness (PU) → Attitude Toward (ATT)	0.148	3.018	0.003*	3.339	Supported
H2	Perceived ease of use (PEOU) → Attitude Toward (ATT)	0.185	3.788	0.000*	3.194	Supported
H3	Perceived enjoyment (PE) → Attitude Toward (ATT)	0.334	5.738	0.000*	3.123	Supported
H4	Perceived product value (PPV) → Attitude Toward (ATT)	0.059	1.346	0.178	3.004	Not supported
H5	Content quality (CTQ) → Attitude Toward (ATT)	0.154	2.935	0.003*	3.907	Supported
H6	Content valence (CTV) → Attitude Toward (ATT)	0.124	2.610	0.009*	3.424	Supported
H7a	Attitude Toward (ATT) → Satisfaction (SA)	0.757	27.217	0.000*	1.000	Supported
H7b	Attitude Toward (ATT) → Intention to Purchase (INT)	0.238	4.703	0.000*	2.342	Supported
H8	Satisfaction (SA) → Intention to Purchase (INT)	0.639	13.533	0.000*	2.342	Supported

Note: * = $p < 0.05$

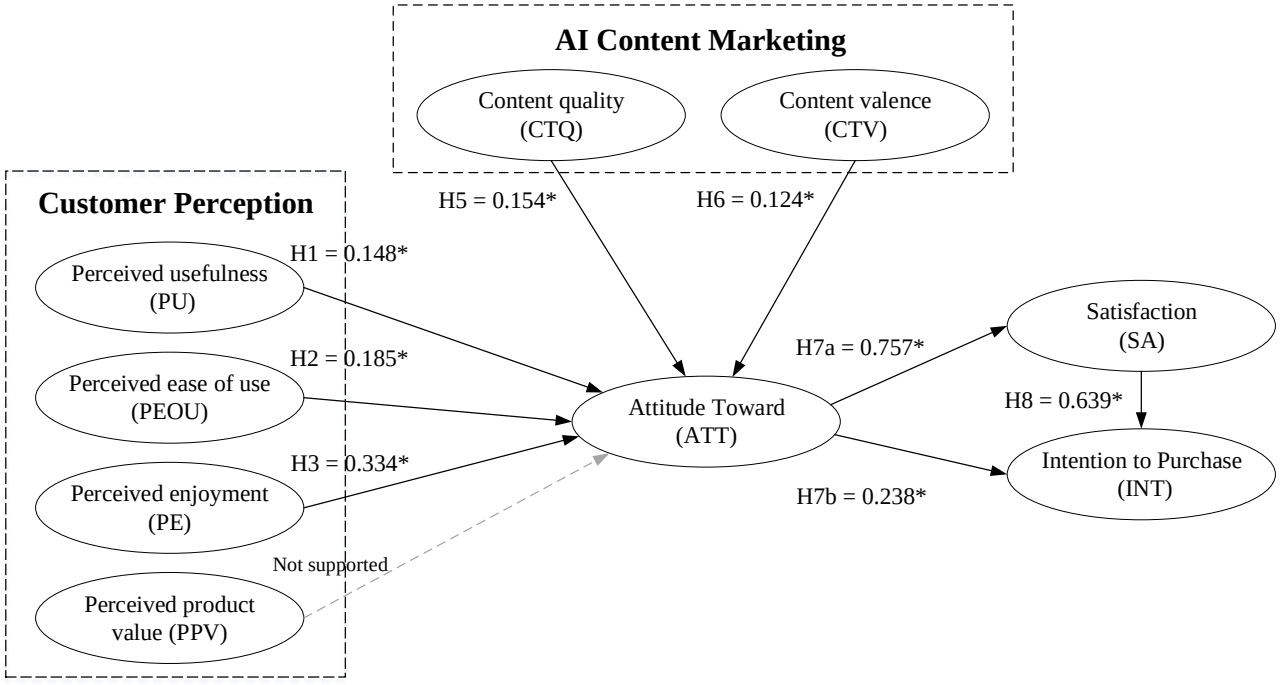

Figure 2. Model testing results.

The results of the structural equation model analysis showed that PU, PEOU, PPV, PE, CTQ, and CTV together explained the variance of ATT with an R^2 value of 0.793 and an R^2 adj value of 0.79, which were at a high quality level. ATT jointly explains the variance of SA with an R^2 value of 0.696 and an R^2 adj value of 0.694, which are at a moderate quality level. ATT and SA together explain the variance of INT with an R^2 value of 0.573 and an R^2 adj value of 0.572, which is at a moderate quality level, as shown in Table 4).

Table 4: Saturated model results.

Construct	R-Squared	Adjusted R-Squared	SRMR
ATT	0.793	0.79	0.047
SA	0.696	0.694	
INT	0.573	0.572	

The model's fit was assessed according to the criteria of Hair Jr, et al. [59] and Henseler, et al. [61]. Evaluated from the Standardized root mean square residual (SRMR), which the acceptable criteria must be lower than 0.08, with this model having a value equal to 0.047. The model's fit to the data was evaluated using the goodness of fit (GoF) criteria established by Wetzels, et al. [62]. The GoF value was 0.69, indicating a large effect size. All of this shows that the model is a good model fit.

6. DISCUSSION

These findings illustrate the impact of AIM's initiatives on the relationship between AI, consumers, and herbal products within the framework of community enterprises. Its strengths lie in elucidating the correlation between consumer perception and AI Content Marketing regarding attitudes, satisfaction, and purchase intentions. The research indicates potential for herbal products within community enterprises as suggested by chatbots.

This study encompasses the following theoretical implications: We assert that customer perceptions substantially influence attitudes toward the use of artificial intelligence. The application of AI in community enterprises to enhance the marketing of herbal products demonstrates the most significant effect ($\beta = 0.334$). This indicates that the primary focus should be on fostering customer awareness, particularly regarding Perceived Usefulness (PU), Perceived Ease of Use (PEOU), and Perceived Enjoyment (PE). Customers possessing a robust favorable perception of AI application are more inclined to acquire products via AI [44, 45].

Nonetheless, we did not identify a correlation between PPV and ATT. We interpret this discovery as indicating that incorporating chat prompts in promotions fails to enhance customer perceptions of product value. Customer perceptions of the value of herbal products from community enterprises may develop during the post-purchase phase, particularly after product utilization. Customer perception of product value can be formed during the pre-purchase, purchase, and post-purchase stage [48]. A frequent customer may assess the value of the herbal products provided by the community enterprise before making a purchase. Customers with previous experience with tangible products can make purchasing decisions via chatbots without prioritizing the technology utilized in the ordering process.

Furthermore, our research indicated that AI content marketing substantially influences perceptions regarding the utilization of AI. We determined that CTQ exerted the most significant influence, with a coefficient (β) of 0.154. The necessity of acquiring precise and thorough information about herbal products is clear. The characteristics of high-quality data and information that effectively communicate emotions can enhance positive customer perceptions of chatbot services [50]. When customers regard the information provided by the chatbot as reliable and of superior quality, their trust in herbal products will elevate, consequently enhancing the probability of their purchasing decisions. Ensuring the quality of herbs is essential, as the majority of products prioritize user safety [63, 64]. Specifically, herbal medicinal products have been used as a primary form of health care for centuries in many cultures around the world [65]. Consequently, employing AI chatbots to provide information on reliable and high-quality herbal products will augment the capacity for informed purchasing decisions through this technology.

Ultimately, we found that attitudes towards chatbot utilization significantly influence user satisfaction and engagement in purchasing decisions. Studies indicate that customers who provide favorable assessments of chatbot service responsiveness exhibit heightened satisfaction and a greater propensity to purchase. The findings of our research corroborate the findings of studies conducted by Kwangsawad and Jattamart [8], Arachchi and Samarasinghe [54], Bhagat, et al. [55]. The study also found that SA mediates between ATT and INT.

This study may yield significant insights for marketers concerning practical applications. AI digital marketing strategies and data analysis exceed human capabilities regarding effectiveness and precision [3]. Due to its ability to customize the user experience, attract attention, and boost e-commerce sales. AI can gather, examine, and forecast user behavior. Community enterprises can focus advertisements and market content specifically toward customer interests and preferences. Utilizing AI to provide customers with personalized recommendations for herbal products in the field of digital marketing. Marketers must strategically organize the handling of customer data responsibly and adhere to legal obligations, as they possess the ability to access customers' personal information. AI developers ought to concentrate on designing chatbots endowed with algorithms that can precisely and efficiently engage in customer dialogues, addressing their particular requirements and enabling intricate discussions. This will bolster customer confidence in the data generated by the chatbot, guaranteeing its quality is on par with that obtained from human interactions. Moreover, it is essential to prioritize the development of an intuitive interface.

This study seeks to rigorously investigate the relationship between AI, consumers, and herbal products in community enterprises while recognizing specific limitations. The initial sample comprised exclusively of customers with at least three months of experience purchasing community enterprise herbal products via AI chatbots in Thailand. As a result, there was a lack of demographic diversity. The survey was conducted using a self- assessment questionnaire that assessed customer experiences with chatbots over the past three months. This study utilized a cross-sectional design. The analytical results

can solely offer a short- term interpretation of customer behavior. This study concentrated solely on the analysis of the Facebook chatbot platform, Line, and community enterprise e- commerce websites. Consequently, future research should enhance the understanding of the previously mentioned issues.

7. CONCLUSION

This study aims to comprehend and examine the factors in AIM. This framework seeks to comprehend the administration of AI- driven chatbots to augment the sales of herbal products within community enterprise groups. We intensify our focus on content marketing for AIM and enhance our previous efforts. This study provides a theoretical foundation for future research on the application of artificial intelligence in community enterprise groups. A comprehensive analysis will be undertaken to clarify the research question (RQ: What factors influence the use of AI to improve the marketing of herbal products in community enterprises?). The inquiries were addressed as follows: PU, PEOU, PE, CTQ, and CTV influence consumers' attitudes (ATT) regarding the utilization of AI. Although ATT influences SA and INT, SA concurrently affects INT. Our findings, however, demonstrate no correlation between ATT and PPV.

References

[1] T. Davenport, A. Guha, D. Grewal, and T. Bressgott, "How artificial intelligence will change the future of marketing," *Journal of the Academy of Marketing Science*, vol. 48, pp. 24-42, 2020.

[2] C. Ziakis and M. Vlachopoulou, "Artificial intelligence in digital marketing: Insights from a comprehensive review," *Information*, vol. 14, no. 12, p. 664, 2023.

[3] A. Haleem, M. Javaid, M. A. Qadri, R. P. Singh, and R. Suman, "Artificial intelligence (AI) applications for marketing: A literature- based study," *International Journal of Intelligent Networks*, vol. 3, pp. 119-132, 2022.

[4] K.-L. A. Yau, N. M. Saad, and Y.-W. Chong, "Artificial intelligence marketing (AIM) for enhancing customer relationships," *Applied Sciences*, vol. 11, no. 18, p. 8562, 2021.

[5] D. Dumitriu and M. A. - M. Popescu, "Artificial intelligence solutions for digital marketing," *Procedia Manufacturing*, vol. 46, pp. 630-636, 2020.

[6] V. Mitić, "Benefits of artificial intelligence and machine learning in marketing," in *Sinteza 2019- International scientific conference on information technology and data related research*, 2019, pp. 472-477: Singidunum University.

[7] S. P. S. Ho and M. Y. C. Chow, "The role of artificial intelligence in consumers' brand preference for retail banks in Hong Kong," *Journal of Financial Services Marketing*, pp. 1-14, 2023.

[8] A. Kwangsawad and A. Jattamart, "Overcoming customer innovation resistance to the sustainable adoption of chatbot services: A community- enterprise perspective in Thailand," *Journal of Innovation & Knowledge*, vol. 7, no. 3, p. 100211, 2022.

[9] H. Khan, P. Sararueangpong, F. Mathmann, and D. Wang, "Consumers' promotion focus mitigates the negative effects of chatbots on purchase likelihood," *Journal of Consumer Behaviour*, 2023.

[10] U. Aslam, "Understanding the usability of retail fashion brand chatbots: Evidence from customer expectations and experiences," *Journal of Retailing and Consumer Services*, vol. 74, p. 103377, 2023.

[11] K. Jiang, M. Qin, and S. Li, "Chatbots in retail: How do they affect the continued use and purchase intentions of Chinese consumers?," *Journal of Consumer Behaviour*, vol. 21, no. 4, pp. 756-772, 2022.

[12] X. Luo, S. Tong, Z. Fang, and Z. Qu, "Frontiers: Machines vs. humans: The impact of artificial intelligence chatbot disclosure on customer purchases," *Marketing Science*, vol. 38, no. 6, pp. 937-947, 2019.

[13] R. Pillai and B. Sivathanu, "Adoption of AI- based chatbots for hospitality and tourism," *International Journal of Contemporary Hospitality Management*, vol. 32, no. 10, pp. 3199-3226, 2020.

[14] R. R. Panigrahi *et al.*, "AI Chatbot adoption in SMEs for sustainable manufacturing supply chain performance: a mediational research in an emerging country," *Sustainability*, vol. 15, no. 18, p. 13743, 2023.

[15] J. Cordero, L. Barba-Guaman, and F. Guamán, "Use of chatbots for customer service in MSMEs," *Applied Computing and Informatics*, 2022.

[16] S. S. M. Mokhtar and M. G. Salimon, "SMEs' adoption of artificial intelligence- chatbots for marketing communication: A conceptual framework for an emerging economy," in *Marketing Communications and Brand Development in Emerging Markets Volume II: Insights for a Changing World*: Springer, 2022, pp. 25-53.

[17] S. Borah, C. Kama, S. Rakshit, and N. R. Vajjhala, "Applications of artificial intelligence in small- and medium- sized enterprises (SMEs)," in *Cognitive Informatics and Soft Computing: Proceeding of CISC 2021*: Springer, 2022, pp. 717-726.

[18] W. Petcho, S. Szabo, K. Kusakabe, and V. Yukongdi, "Farmers' perception and drivers of membership in rice production community enterprises: Evidence from the central region, Thailand," *Sustainability*, vol. 11, no. 19, p. 5445, 2019.

[19] A. M. Peredo and J. J. Chrisman, "Toward a theory of community-based enterprise," *Academy of management Review*, vol. 31, no. 2, pp. 309-328, 2006.

[20] N. Buratti, M. Albanese, and C. Sillig, "Interpreting community enterprises' ability to survive in depleted contexts through the Humane Entrepreneurship lens: evidence from Italian rural areas," *Journal of Small*

Business and Enterprise Development, vol. 29, no. 1, pp. 74-92, 2022.

[21] T. P. N. Sakolnakorn and A. Naipinit, "Guidelines for the management of community enterprises in the Songkhla Lake Basin of Thailand," *Asian Social Science*, vol. 9, no. 11, p. 166, 2013.

[22] D. G. N. D. Gamage, R. M. Dharmadasa, D. C. Abeysinghe, R. G. S. Wijesekara, G. A. Prathapasinghe, and T. Someya, "Emerging herbal cosmetic production in Sri Lanka: identifying possible interventions for the development of the herbal cosmetic industry," *Scientifica*, vol. 2021, no. 1, p. 6662404, 2021.

[23] P. Rojas *et al.*, "Historical aspects of herbal use and comparison of current regulations of herbal products between Mexico, Canada and the United States of America," *International Journal of Environmental Research and Public Health*, vol. 19, no. 23, p. 15690, 2022.

[24] I. A. Kretchy *et al.*, "Prevalence, patterns and beliefs about the use of herbal medicinal products in Ghana: a multi-centre community-based cross-sectional study," *Tropical Medicine & International Health*, vol. 26, no. 4, pp. 410-420, 2021.

[25] M. C. S. Vera and T. D. Palaoag, "Implementation of a Smarter Herbal Medication Delivery System Employing an AI-Powered Chatbot," *International Journal of Advanced Computer Science and Applications*, vol. 14, no. 3, 2023.

[26] B. Vlačić, L. Corbo, S. C. e Silva, and M. Dabić, "The evolving role of artificial intelligence in marketing: A review and research agenda," *Journal of Business Research*, vol. 128, pp. 187-203, 2021.

[27] E. C.-X. Aw, G. W.-H. Tan, T.-H. Cham, R. Raman, and K.-B. Ooi, "Alexa, what's on my shopping list? Transforming customer experience with digital voice assistants," *Technological Forecasting and Social Change*, vol. 180, p. 121711, 2022.

[28] P. Kautish, S. Purohit, R. Filieri, and Y. K. Dwivedi, "Examining the role of consumer motivations to use voice assistants for fashion shopping: The mediating role of awe experience and eWOM," *Technological Forecasting and Social Change*, vol. 190, p. 122407, 2023.

[29] J. Trivedi, "Examining the customer experience of using banking chatbots and its impact on brand love: The moderating role of perceived risk," *Journal of internet Commerce*, vol. 18, no. 1, pp. 91-111, 2019.

[30] C.-Y. Li, Y.-H. Fang, and Y.-H. Chiang, "Can AI chatbots help retain customers? An integrative perspective using affordance theory and service-domain logic," *Technological Forecasting and Social Change*, vol. 197, p. 122921, 2023.

[31] X. C. Le, "Inducing AI-powered chatbot use for customer purchase: the role of information value and innovative technology," *Journal of Systems and Information Technology*, vol. 25, no. 2, pp. 219-241, 2023.

[32] C.-L. Hsu and J. C.-C. Lin, "Understanding the user satisfaction and loyalty of customer service chatbots," *Journal of Retailing and Consumer Services*, vol. 71, p. 103211, 2023.

[33] X. Lv, Y. Yang, D. Qin, X. Cao, and H. Xu, "Artificial intelligence service recovery: The role of empathic response in hospitality customers' continuous usage intention," *Computers in Human Behavior*, vol. 126, p. 106993, 2022.

[34] M. Adam, M. Wessel, and A. Benlian, "AI-based chatbots in customer service and their effects on user compliance," *Electronic Markets*, vol. 31, no. 2, pp. 427-445, 2021.

[35] M. A. Selamat and N. A. Windasari, "Chatbot for SMEs: Integrating customer and business owner perspectives," *Technology in Society*, vol. 66, p. 101685, 2021.

[36] C. Taemaneeratana and C. Malang, "A Survey Study of ChatGPT Adoption in Northern Thai OTOP Skincare and Herbal Cosmetic," in *2024 Joint International Conference on Digital Arts, Media and Technology with ECTI Northern Section Conference on Electrical, Electronics, Computer and Telecommunications Engineering (ECTI DAMT & NCON)*, 2024, pp. 450-456: IEEE.

[37] D. Sudharson, S. N. Surraya, S. O. Retheneka, R. Dharshini, S. Shankari, and P. Sriram, "A Data Driven AI Framework for Conversational Bot by Vision Transformers in Health Care Systems," in *International Conference on Artificial Intelligence and Smart Energy*, 2024, pp. 48-60: Springer.

[38] F. D. Davis, "Perceived usefulness, perceived ease of use, and user acceptance of information technology," *MIS quarterly*, pp. 319-340, 1989.

[39] S. Kelly, S.-A. Kaye, and O. Oviedo-Trespalacios, "What factors contribute to the acceptance of artificial intelligence? A systematic review," *Telematics and Informatics*, vol. 77, p. 101925, 2023.

[40] D. Belanche, L. V. Casaló, and C. Flavián, "Artificial Intelligence in FinTech: understanding robo-advisors adoption among customers," *Industrial Management & Data Systems*, vol. 119, no. 7, pp. 1411-1430, 2019.

[41] J. Kim, K. Merrill, K. Xu, and D. D. Sellnow, "My teacher is a machine: Understanding students' perceptions of AI teaching assistants in online education," *International Journal of Human–Computer Interaction*, vol. 36, no. 20, pp. 1902-1911, 2020.

[42] H. A. Alfadda and H. S. Mahdi, "Measuring students' use of zoom application in language course based on the technology acceptance model (TAM)," *Journal of Psycholinguistic Research*, vol. 50, no. 4, pp. 883-900, 2021.

[43] A. T. To and T. H. M. Trinh, "Understanding behavioral intention to use mobile wallets in vietnam: Extending the tam model with trust and enjoyment," *Cogent Business & Management*, vol. 8, no. 1, p. 1891661, 2021.

[44] C. Wang *et al.*, "An empirical evaluation of technology acceptance model for Artificial Intelligence in E-commerce," *Heliyon*, vol. 9, no. 8, 2023.
[45] H. Jo, "Hi Bixby: Determinants of goal-congruent usage and goal-congruent outcome in the artificial intelligence personal assistant context," *Journal of Information Science*, p. 01655515231161554, 2023.
[46] V. A. Zeithaml, "Consumer perceptions of price, quality, and value: a means-end model and synthesis of evidence," *Journal of marketing*, vol. 52, no. 3, pp. 2-22, 1988.
[47] Q. T. Pham, X. P. Tran, S. Misra, R. Maskeliūnas, and R. Damaševičius, "Relationship between convenience, perceived value, and repurchase intention in online shopping in Vietnam," *Sustainability*, vol. 10, no. 1, p. 156, 2018.
[48] C. Suttikun and S. Meeprom, "Examining the effect of perceived quality of authentic souvenir product, perceived value, and satisfaction on customer loyalty," *Cogent Business & Management*, vol. 8, no. 1, p. 1976468, 2021.
[49] A. Kusumawati and K. S. Rahayu, "The effect of experience quality on customer perceived value and customer satisfaction and its impact on customer loyalty," *The TQM Journal*, vol. 32, no. 6, pp. 1525-1540, 2020.
[50] Y. Kim and X. Zhao, "Magnetic soft materials and robots," *Chemical reviews*, vol. 122, no. 5, pp. 5317-5364, 2022.
[51] K. Peters, Y. Chen, A. M. Kaplan, B. Ognibeni, and K. Pauwels, "Social media metrics—A framework and guidelines for managing social media," *Journal of interactive marketing*, vol. 27, no. 4, pp. 281-298, 2013.
[52] A. Jattamart, P. Nusawat, and A. Kwangsawad, "How can hesitation in hotel live-streaming payment be overcome?: Examine the role of entrepreneurial performance and viewers' personality traits," *Journal of Open Innovation: Technology, Market, and Complexity*, vol. 9, no. 2, p. 100052, 2023.
[53] M. E. Fishbein, "Readings in attitude theory and measurement," 1967.
[54] H. D. M. Arachchi and G. Samarasinghe, "Impulse Purchase Intention in an AI-mediated Retail Environment: Extending the TAM with Attitudes Towards Technology and Innovativeness," *Global Business Review*, p. 09721509231197721, 2023.
[55] R. Bhagat, V. Chauhan, and P. Bhagat, "Investigating the impact of artificial intelligence on consumer's purchase intention in e-retailing," *foresight*, vol. 25, no. 2, pp. 249-263, 2023.
[56] C. Xie, Y. Wang, and Y. Cheng, "Does artificial intelligence satisfy you? A meta-analysis of user gratification and user satisfaction with AI-powered chatbots," *International Journal of Human–Computer Interaction*, vol. 40, no. 3, pp. 613-623, 2024.
[57] M. Ashfaq, J. Yun, S. Yu, and S. M. C. Loureiro, "I, Chatbot: Modeling the determinants of users' satisfaction and continuance intention of AI-powered service agents," *Telematics and Informatics*, vol. 54, p. 101473, 2020.
[58] A. Kwangsawad, A. Jattamart, N. Saikatikorn, and P. Nusawat, "EXPLORING HOW MARKETING CONTENT AND BRAND EQUITY IMPACT THE CONTINUOUS PURCHASE USING LIVE STREAMING," *Polish Journal of Management Studies*, vol. 29, no. 1, pp. 220-236, 2024.
[59] J. F. Hair Jr, G. T. M. Hult, C. M. Ringle, M. Sarstedt, N. P. Danks, and S. Ray, *Partial least squares structural equation modeling (PLS-SEM) using R: A workbook*. Springer Nature, 2021.
[60] C. Fornell and D. F. Larcker, "Evaluating structural equation models with unobservable variables and measurement error," *Journal of marketing research*, vol. 18, no. 1, pp. 39-50, 1981.
[61] J. Henseler, G. Hubona, and P. A. Ray, "Using PLS path modeling in new technology research: updated guidelines," *Industrial management & data systems*, vol. 116, no. 1, pp. 2-20, 2016.
[62] M. Wetzels, G. Odekerken-Schröder, and C. Van Oppen, "Using PLS path modeling for assessing hierarchical construct models: Guidelines and empirical illustration," *MIS quarterly*, pp. 177-195, 2009.
[63] Y. Xu, J. Zhang, and Y. Wang, "Recent trends of multi-source and non-destructive information for quality authentication of herbs and spices," *Food Chemistry*, vol. 398, p. 133939, 2023.
[64] R. Ribeiro-Santos *et al.*, "Revisiting an ancient spice with medicinal purposes: Cinnamon," *Trends in Food Science & Technology*, vol. 62, pp. 154-169, 2017.
[65] R. Motti, "Wild plants used as herbs and spices in Italy: An ethnobotanical review," *Plants*, vol. 10, no. 3, p. 563, 2021.

Mr. Noppadol Saikatikorn holds a Bachelor's degree in Information Systems from Rajamangala University of Technology Rattanakosin (RMUTR), Prachaubkirikhan, Thailand, and a Master's degree in Information Technology from King Mongkut's University of Technology North Bangkok (KMUTNB), Thailand. He is currently pursuing a Ph.D. in ICT for Education at KMUTNB. He is a lecturer at the Faculty of Business Administration, RMUTR, Prachuabkirikhan, Thailand. His research interests include electronic business, online business, and educational technology.

Assistant Professor Dr. Aungkana Jattamart received the B. Sci. in Computer Science from Kasetsart University, Nakhon Pathom, Thailand in 2009, M.Sci. in Technology of Information System Management in 2012 and Ph. D. in Information Technology Management in 2019 from Mahidol University, Nakhon Pathom, Thailand. Currently, she is a lecturer in the Department of Business Information Technology, Faculty of Business Administration, Rajamangala University of Technology Rattanakosin Wang Klai Kangwon Campus, Prachuapkhirikhan, Thailand. Her interests include Management of Technology and Innovation, Structural Equation Modeling, Tourist Behavior, E-Commerce, Human interaction, Healthcare IT and Geographic Information Systems.

Dr. Paingruthai Nusawat received the B. B. A. in Information Systems from Rajamangala University of Technology Rattanakosin Wang Klai Kangwon Campus, Prachaubkirikhan, Thailand, in 2008, the M. Sci. in Technology in Computer and Information Science from Silpakorn University, Nakhon Pathom, Thailand, in 2014, and Ph. D. in Information Technology Management in 2024 at Mahidol University, Nakhon Pathom, Thailand. Currently, she is a lecturer in the Department of Business Information Technology, Faculty of Business Administration, Rajamangala University of Technology, Rattanakosin Wang Klai Kangwon Campus, Prachuapkhirikhan, Thailand. Her interests include Management of technology, Data analytics, E- commerce, Business data analytics, and Tourist behavior.

Miss. Napharat Chooprai received the B. Tech. in Information Technology from Rajamangala University of Technology Rattanakosin Wang Klai Kangwon Campus, Prachuapkhirikhan, Thailand, in 2011, the M. Sci. in Information Technology from Thaksin University, Phatthalung, Thailand in 2015 and currently studying for a Ph.D in Computer and Digital Technology for Education from Naresuan University, Phitsanulok, Thailand. Currently, she is a Lecturer in the Department of Information Technology, Faculty of Industry and Technology, Rajamangala University of Technology Rattanakosin Wang Klai Kangwon Campus, Prachuapkhirikhan, Thailand. Her interests include Website Development, Information Technology and Computers for Education.

Dr. Lakkana Bunnarong earned a B. A. in Business English from Suan Sunandha Rajabhat University in Bangkok, Thailand, in 2003, an M. A. in Applied Linguistics and Teaching English as a Foreign Language from the same university in 2009, and a Ph. D. in Linguistics in 2023, also from Suan Sunandha Rajabhat University. Currently, she is a lecturer in the Department of Business English at the Faculty of Business Administration, Rajamangala University of Technology, Rattanakosin, Wang Klai Kangwon Campus in Prachuap Khiri Khan, Thailand. Her interests include English language teaching, English for tourism, hotel and public relations, sociolinguistics, morphology, and syntax.

Assistant Professor Dr. Achaporn Kwangsawad received the B. B. A. in Business Computer from Kasem Bundit University in 1994, an M. Sc. in Information Technology from King Mongkut's Institute of Technology North Bangkok (KMITNB), Bangkok, Thailand in 2005, Ph. D. in Quality Information Technology from Phetchaburi Rajabhat University, Phetchaburi, Thailand, in 2016. Currently, she is the Lecturer at the Business Information Technology, Rajamangala Universite of Technology Rattanakosin, Wangklaikangwon campus, Prachuapkirikhan, Thailand. Her interests include Commercial Electronic Website, Website Optimization, Search Engine Marketing, Health, Tourist Behavior and Behavior in Social Media.