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# DETERMINANTS OF CUSTOMER SATISFACTION WITH ARTIFICIAL INTELLIGENCE-ENABLED SOCIAL MEDIA MARKETING IN MALAYSIA

BY

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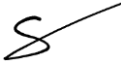FACULTY OF BUSINESS AND FINANCE
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## DECLARATION

We hereby declare that:

(1) This undergraduate FYP is the end result of our own work and that due acknowledgement has been given in the references to ALL sources of information be they printed, electronic, or personal.

(2) No portion of this FYP has been submitted in support of any application for any other degree or qualification of this or any other university, or other institutes of learning.

(3) Equal contribution has been made by each group member in completing the FYP.

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## LIST OF ABBREVIATIONS

AI                    Artificial Intelligence

IV                    Independent Variable

DV                    Dependent Variable

CS                    Customer Satisfaction

PD                    Platform Design

FF                    Fulfillment

CQ                    Chatbot Quality

PP                    Privacy Protection

PN                    Personalization

SPSS            Software Package for Social Sciences

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# PREFACE

The marketing landscape has changed dramatically in recent years due to the constant advancement of technology. In particular, the incorporation of Artificial Intelligence (AI) into social media marketing has emerged as a critical force in shaping marketing strategies and outcomes. Malaysia, being a dynamic and continuously evolving market, has not been exempt from the effects of this upheaval. The fusion of artificial intelligence and social media has introduced new dimensions to how businesses engage with their customers, making it crucial to understand the factors influencing customer satisfaction in this context. This introduction presents a comprehensive research project that delves into the intricacies of customer satisfaction with AI-enabled social media marketing in Malaysia. The convergence of AI and social media marketing is an intriguing field of study, as it not only mirrors global trends but also exhibits unique Malaysian characteristics and concerns. With Malaysian companies increasingly utilizing AI tools to enhance their social media marketing efforts, it is imperative to investigate how these technologies impact customer satisfaction, a pivotal driver of corporate success. The objective of this study is to shed light on the multifaceted interaction between artificial intelligence-enabled social media marketing and consumer satisfaction within the Malaysian context. By exploring the underlying factors of customer satisfaction, this study aims to provide valuable insights for businesses and marketers. In doing so, it aspires to contribute to the growing body of knowledge concerning the transformative influence of AI in marketing.

# ABSTRACT

This research aims to study the factors that influence customer satisfaction in AI enabled social media marketing in Malaysia by incorporating the E-service quality model. Online questionnaires were used as the primary data collection method to collect information from 200 respondents. Data were subsequently analyzed and interpreted using correlation and multiple regression analysis. The outcomes of the research demonstrated that customer satisfaction is not influenced by website design, fulfillment, and privacy protection, but is indeed influenced by chatbot quality and personalization. Notably, personalization has the most profound influence on customer satisfaction in AI-enabled social media marketing. The research findings contributed in terms of allowing online business owners to understand the factors that customers are concerned about within the realm of AI-enabled Social Media Marketing. This study has also successfully extended the E-service quality model in the context of AI-enabled social media marketing. However, this study's extent is only restricted to Malaysia. Hence, further research is recommended to complement it by investigating the study variables in different countries and incorporating other variables not addressed in this study.

Keywords: E-service quality, Artificial-Intelligence, Customer Satisfaction, Social media marketing, Malaysia

# CHAPTER 1: RESEARCH OVERVIEW

## 1.0 Introduction

In Chapter 1, we will delve into the research background and identify research problems that affect customer satisfaction in AI-enabled social media marketing in Malaysia. This chapter will also define the research objective, outline research questions, and underscore the significance of the study.

## 1.1 Research Background

The COVID-19 pandemic has ushered in the transformation of new consumer behaviour and prompted notable changes in the economy (Carroll and Conboy, 2020). In response to the impacts of the pandemic, both individuals and businesses swiftly embraced digitalization in all aspects of life (Yldrm and G€uler, 2020). Within this context, social media platforms have emerged as essential tools for marketers to leverage them to stay connected with their target audience and ensure that their products and services remain top of mind throughout the customer journey. By actively utilizing digital and social media, marketers could effectively engage consumers, deliver relevant content, and cultivate a strong online presence, even in the face of challenging circumstances.

The digital revolution has amplified the competitiveness of the business landscape, with technology playing an immense role in shaping our daily lives (Delgosha and Hajiheydari, 2020). According to De Bruyn et al. (2020), Artificial intelligence (AI) is

a powerful tool that marketers can utilize to enhance intelligent marketing strategies. With the rapid advancement of digital technologies, business models are undergoing significant transformations, and AI-enabled digital platforms are proving to be invaluable in attracting customers (Chawla and Goyal, 2021). The integration of AI technology with social media has become a driving force in effective advertising and gaining a competitive advantage (Research and Market, 2021). As discussed by Dwivedi et al. (2021), while AI presents numerous opportunities, it also poses challenges for businesses. In the realm of digital transformation, AI serves as a critical component, exerting a substantial influence on consumer decision-making processes and even encouraging impulse purchases (Duan et al., 2019). Consequently, AI has significantly transformed digital marketing practices, revolutionizing how businesses engage with their customers.

The increasing prevalence of big data has facilitated the seamless integration of AI into business operations, making it more accessible and feasible for organizations to adopt AI technologies. According to a recent study by Rustambek (2023), it has been emphasized how businesses can effectively utilize AI algorithms and machine learning capabilities to automate tasks, analyze data, and deliver personalized user experiences on websites. For instance, by analyzing user data such as browsing behavior, preferences, and demographics, AI algorithms can aggregate, filter, and provide tailored content, recommendations, or even product suggestions (Huang et al., 2021). This personalized approach has resulted in a more interactive and engaging website, ultimately leading to increased user satisfaction and improved conversion rates. Furthermore, as noted by Rustambek (2023), AI algorithms contribute significantly to delivering personalized support through chatbots, which process natural language and interpret user intent to address users' queries promptly. The same study also highlights AI algorithms can help monitor website traffic and detect anomalies to safeguard user data from potential breaches, which can ease the concern of unauthorized access and data theft. Moreover, Lingam (2018) further emphasized AI algorithms have the ability to improve productivity and resource utilization in warehouses. By employing AI algorithms, inventory management can be optimized to prevent issues such as

overstocking or understocking. This optimization ensures efficient order fulfillment when customers make purchases through social media platforms. The significant progress made in this field has led to an anticipated compound annual growth rate (CAGR) of 28.77% for the AI market in social media during the forecast period (Mordor Intelligence, 2020). As a result, leading social media platforms such as Facebook, TikTok, Instagram, and others have widely embraced AI technology.

This research will primarily focus on Facebook, Instagram, and TikTok, given their diverse application of AI technology to enhance user experiences. For instance, Facebook utilizes powerful machine learning algorithms for tasks such as displaying personalized content, facial recognition in photos, and targeted advertising. One notable AI-based feature on Facebook is the "People you may know" recommendation system, which facilitates online networking. Instagram employs AI to recognize visual elements and improve content discovery. In a study conducted by Eriksson Krutro€k (2021), TikTok posts with the hashtag #grief were analyzed. The study revealed that TikTok's ranking algorithms, which give priority to content based on user engagement, hold the potential to encourage social connections and aid individuals coping with grief. The rationale for excluding Snapchat, WhatsApp, and other social media platforms from this research lies in their primary focus on communication and messaging applications, rather than the integration of AI technologies for content curation and user interaction.

## 1.2 Research Problem

In today's highly competitive digital landscape, establishing a prominent online presence for businesses has become increasingly challenging due to information overload and rapid technological advancements. The onset of the COVID-19 pandemic further emphasized the significance of social media as a highly effective communication tool, with an estimated 3.8 billion active social media users recorded as of January 2020 (Kaya, 2020). However, despite the widespread use of social media platforms, many businesses, particularly small and medium enterprises (SMEs), continue to struggle to leverage these platforms to effectively connect and engage with their customer base. Lupo et al. (2018) reported that a staggering 54% of small businesses are at a higher risk of failure within the first five years due to their inability to capitalize on low-cost marketing tools, such as social media marketing. This phenomenon may stem from the fact that social media marketing has shifted customers to become marketers, whereby customers now have the ability to provide feedback, comment on, or review products and services they have purchased, effectively generating word-of-mouth (E-WOM) communication from one customer to another. (Wijaya & Chandra, 2020). As a result, this puts significant pressure on companies to meticulously address every touchpoint of the online service process, ensuring that customer needs are effectively met. This is crucial to prevent customer dissatisfaction and the subsequent spread of negative word-of-mouth, which can have detrimental effects on the company's reputation and image.

Similarly, the management of context and timing in social media marketing, as noted by (Javornik et al, 2020), presents a significant challenge. Social media platforms must continually generate fresh and engaging content to meet customers' escalating online expectations while also identifying the appropriate timeframe for social media engagement to maintain a strong online presence. This involves delivering new and captivating information, updates, and experiences that capture the attention and interest of the target audience, as well as providing timely and accurate responses to customers'

queries or requests. Effectively addressing these aspects is critical, as the consequences of neglecting them can be detrimental, resulting in reduced brand visibility, decreased user engagement, missed opportunities, and other negative outcomes. In addition to that, (Dwivedi et al., 2021) also highlighted the importance of managing the balance of personalization and privacy. In the realm of social media marketing, personalization offers significant opportunities for tailoring content and recommendations to individual customers, leading to greater satisfaction and positive customer experiences. However, challenges arise in terms of privacy concerns and the potential for customers to perceive personalization as manipulative or intrusive. With the increasing availability of customer data, organizations must carefully navigate these challenges to cultivate genuine and meaningful relationships with their customers by delivering personalized experiences. Striking the right balance between personalization and privacy is crucial for cultivating positive customer experiences, fostering trust, and ultimately achieving customer satisfaction and loyalty.

To effectively navigate these challenges, businesses are increasingly turning to advanced AI technology. Sadiku et al. (2021) found that Artificial Intelligence (AI) holds great promise in streamlining social media marketing operations. Retailers, as highlighted by Ameen et al. (2021), are leveraging AI technology in various areas, such as AI-powered chatbots, content creation, and customer insights, to reduce costs and improve operational efficiency. By harnessing the power of AI, businesses can offer their customers a more personalized and engaging experience, leading to increased growth and success in the highly competitive digital landscape. However, the implementation of AI also brings forth certain challenges that need to be addressed. There have been cases where AI has caused problems, such as offensive or racist language due to algorithm errors or human oversight. For instance, (Daqar & Smoudy, 2019) highlighted an incident where "Google apologized for a flaw in Google Photos that let the application label photos of black people as gorillas." Such incidents have the potential to undermine customers' trust in the accuracy and reliability of information shared through social media marketing. Also, (Khan & Iqbal, 2020) state that the

absence of a well-defined escalation plan from AI to human intervention is a significant factor leading to service failures where businesses struggle to determine when customers prefer human interaction or AI-driven services such as virtual voice assistants or chatbots. This issue arises because customer preferences can vary based on factors such as the urgency or sensitivity of the queries, and since AI systems rely on predefined algorithms and models, they may not be able to effectively handle complex queries and address the needs of customers. Moreover, concerns about the confidentiality and security of the interactions with AI systems due to a lack of transparency algorithms are also brought up by Dolganova (2021). The study discovered that customers may feel insecure about disclosing their personal data to businesses, potentially hindering the delivery of personalized service.

Overall, all these incidents can significantly disrupt the customer experience, leading to a loss of trust and ultimately, bringing negative impacts on business operations. Therefore, understanding the factors that impact customer satisfaction with AI-enabled social media marketing is crucial for businesses to optimize their marketing strategies accordingly. To our knowledge, few studies have looked at the impact of Artificial Intelligence on customer experience in different contexts. For instance, (Khan & Iqbal, 2020) discovered that while AI implementation has enhanced the agility of service delivery to improve customer experience, replicating human interaction through digitized customer services remains a difficult task for businesses. Ameen et al. (2021) demonstrate that trust and perceived sacrifice play a crucial role in moderating the impact of perceived convenience, personalization, and AI-enabled service quality on customers' behaviour and attitudes. (Pillarisetty & Mishra, 2022) found that companies should implement and evaluate the relevance and sustainability of advanced AI technologies, such as Recommender Systems, Augmented Reality, Interactive Images and Virtual try-ons, and Chatbots, to provide a cost-effective solution to customers and improve the customer experience. Knidiri et al. (2020) investigated the impact of intelligent chatbots in an online shopping context and found that while their presence did not significantly affect customer experience, the use of human-like cues such as

conversational style and avatar improved perceptions of humanness, personalization, and social support.

There has been extensive research conducted in this area. However, in contrast to previous studies, our research aims to provide valuable insights to businesses and marketers by utilizing the E-SERVQUAL framework, which is a well-established theory in the field of service quality assessment. By applying the E-SERVQUAL framework, we can assess the alignment between customer expectations and perceptions regarding AI-enabled social media marketing, identify gaps in service delivery, and pinpoint areas for improvement. This approach allows us to delve deeper into understanding customer satisfaction and how businesses can optimize their marketing strategies to enhance the customer experience in the digital landscape. Therefore, we consider our research to be distinctive.

## 1.3 Research Objectives

### 1.3.1 General Objective

This study aims to investigate and understand the key drivers that influence customer satisfaction when engaging with businesses online in AI-enabled social media marketing.

### 1.3.2 Special Objectives

I.   To investigate the influence of Platform Design (PD) on customer satisfaction in AI-enabled social media marketing.

II.  To investigate the influence of Fulfillment (FF) on customer satisfaction in AI-enabled social media marketing.

III. To investigate the influence of Chatbot Quality (CQ) on customer satisfaction in AI-enabled social media marketing.

IV.  To investigate the influence of Privacy Protection (PP) on customer satisfaction in AI-enabled social media marketing.

V.   To investigate the influence of Personalization (PN) on customer satisfaction in AI-enabled social media marketing.

## 1.4 Research Questions

I.  Does Platform Design (PD) affect customer satisfaction in AI-enabled social media marketing?

II.  Does Fulfillment (FF) affect customer satisfaction in AI-enabled social media marketing?

III.  Does Chatbot Quality (CQ) affect customer satisfaction in AI-enabled social media marketing?

IV.  Does Privacy Protection (PP) affect customer satisfaction in AI-enabled social media marketing?

V.  Does Personalization (PN) affect customer satisfaction in AI-enabled social media marketing?

## 1.5 Research Significance

The significance of conducting this research is to determine the influence of AI technology on improving customer satisfaction on social media. This research could help AI Technology developers understand how AI Technology affects customer satisfaction in social media. AI Technology developers can gain a competitive advantage by improving their services and establishing credibility and trust with their customers. Furthermore, Marketers will know the way how to use AI Technology to enhance the customer experience in social media. Marketers will know what the benefit of AI Technology towards marketing is. Following that, future researchers will gain academic experience from this research. This study will provide academics with a clearer perspective on the impact of AI technology on improving customer experience. Consequently, this research may serve as a reference for scholars working on forthcoming studies, especially those pertaining to customer experience.

Besides, this study's findings may help business owners and managers comprehend the significance of using AI technology in their social media marketing. They can discover how AI technology can boost customer satisfaction and provide their companies with a competitive advantage. Social media platforms like Facebook, Twitter, and Instagram are able to understand how AI technology can be leveraged to improve user experience through this research. These insights can be used to improve their algorithms and give better services to their users.

## 1.6 Conclusion

In general, Chapter 1 mainly focuses on the research subject and the importance of conducting this study. Chapter 2 will provide an in-depth exploration of the used theoretical model and existing literature.

# CHAPTER 2: LITERATURE REVIEW

## 2.0 Introduction

This chapter will delve into prior researchers' studies of E-Service Quality. Research variables will be identified and reviewed to develop a study framework and hypotheses to examine their influence on customer satisfaction towards AI-enabled social media marketing.

## 2.1 Underlying Theories

### 2.1.1 Service Quality

The SERVQUAL model was originally developed and defined by (Parasuraman et al., 1988) to evaluate service quality in conventional offline or brick-and-mortar service contexts. This model consists of five dimensions: tangible, reliability, responsiveness, assurance, and empathy. First of all, Tangibles pertain to the physical aspects of service, such as facilities, environmental conditions, and communication materials. Reliability focuses on a company's ability to consistently deliver on its promises and provide dependable service. Responsiveness evaluates the company's promptness and willingness to address customer needs. The empathy dimension centers on the company's personnel demonstrating care, addressing specific concerns, and understanding customer desires. Lastly, assurance measures how a company instills a sense of security and confidence in customers, alleviating any worries or anxieties associated with the services offered.

## 2.1.2 E-Service Quality

While the SERVQUAL model is widely embraced for evaluating service quality, its direct application in the digital realm may not always be appropriate. Hence, the concept of e-service quality has been introduced to address the specific nuances and characteristics of online services. According to (Saha et al., 2022), E-service quality relates to how well a website facilitates an efficient and effective online shopping process from purchasing to delivering goods and services. (Nandankar et al., 2023) expands on this definition, emphasizing the significance of customer assessment as an integral aspect of this process. Businesses proficient in providing e-services recognize that, in addition to online presence and competitive pricing, the quality of electronic services significantly influences their success or failure (Antonyraj et al., 2022). Therefore, modifications are made to the components of the original service quality to align with the requirements of e-service quality, enabling a better understanding of the unique aspects and dynamics of online service delivery in order to meet customer expectations and enhance the digital customer experience.

### 2.1.3 Tangible and Website Design

Website design can effectively replace the original dimension of tangibility. Alshurideh et al. (2022) and Shao et al. (2020) introduced this shift in perspective, suggesting that website design can serve as a new way to assess service quality by representing the traditional tangible aspects within the digital context. This transition is rooted in the idea that the visual and interactive elements of a website, including its layout, graphics, and ease of navigation, function as digital equivalents to the physical attributes traditionally associated with tangibility. Moreover, this study will also replace the term "website" with "platform" in the following discussion as social media marketing can be conducted across various platforms to better align with the scope and objectives of the study.

### 2.1.4 Reliability and Fulfillment

As per Veloso et al. (2020), fulfillment within e-service quality encompasses dimensions like stock availability, punctuality, and reliability. Fulfillment essentially represents reliability in the context of e-service. This is because it involves the accurate display and portrayal of products, ensuring that customers receive precisely what they expect, including the correct product within the specified timeframe and in line with their payment preferences. Fulfillment encompasses all aspects of a service provider's efforts to deliver the promised service. Notably, it plays a pivotal role in e-service by delivering the fundamental benefits that customers seek, making it a key indicator of reliability in the overall service experience.

### 2.1.5 Responsiveness and Chatbot Quality

According to Parasuraman et al. (1988), responsiveness refers to the service provider's willingness to assist customers and provide prompt service. This dimension can be influenced by the chatbot's quality. Chatbots are designed to provide customers with immediate assistance and can improve the responsiveness of e-services (Ferreira et al., 2023). For example, Sohail et al. (2020) discovered that the quality of chatbots had a significant impact on the responsiveness dimension of e-service quality in their study. Customers perceived the chatbot as helpful, efficient, and knowledgeable, which influenced their perception of the responsiveness of the e-service, according to the study.

### 2.1.6 Assurance and Privacy Protection

Assurance refers to the service provider's knowledge and courtesy, as well as their ability to instill trust and confidence in the customer. Privacy protection is closely

linked to the assurance dimension of e-service quality (Alalwan et al., 2019). For instance, when customers engage with e-services, their foremost concern revolves around the safeguarding of their personal data. They anticipate that the e-service provider will take steps to ensure the privacy and security of their personal information. Meeting these expectations fosters trustworthiness and reliability in the eyes of customers, as observed by Chen et al. (2021).

### 2.1.7 Empathy and Personalization

Personalization, as highlighted in a study by Chen et al. (2021), can be viewed as a manifestation of empathy within the e-service quality dimension. This is because when service providers customize their offerings to align with individual customer needs and preferences, they are essentially demonstrating a level of attentiveness and care. Consequently, this tailored approach contributes to an elevated sense of empathy in the overall service experience, as emphasized by Liu et al. (2022).

## 2.2 Review of Variables

### 2.2.1 Dependent Variable (DV) – Customer Satisfaction (CS)

According to (Azlan & Farid, 2020), customer satisfaction pertains to how people feel about whether a product meets or falls short of their expectations, based on how well it actually performs. It is a subjective state or emotion that arises from how customers assess and perceive their overall experience (I.W.K. Wijaya et al., 2019). Furthermore, Uzir et al. (2020) highlight that customer satisfaction involves a constructive comparison between the costs or sacrifices incurred and the benefits or advantages gained through product or service usage. Additionally, according to A. Khan et al. (2020), customer satisfaction can be categorized into two broad types. The first is

transaction-specific customer satisfaction, triggered by a specific performance attribute such as "website quality" during a service experience. The second type is overall customer satisfaction also known as cumulative customer satisfaction which focuses on various factors that occur repeatedly during transactions. Likewise, Celik (2021) highlighted that customer satisfaction comprises subjective criteria that differ from customer to customer. This means that even if customers are evaluating the same service using the same criteria, their level of satisfaction may vary. Therefore, customer satisfaction has become a key component in evaluating business performance and is often used as a benchmark for excellence as highlighted by Aguiar-Costa et al. (2022).

## 2.2.2 Independent Variable (IV) – Platform Design (PD)

According to Seong Lim (2019), platform design pertains to the creation of platforms and applications that provide users the ability to perform their tasks efficiently through a visually appealing and well-organized graphical interface. This may involve utilizing appropriate and attractive graphics that do not disrupt or distract users, designing simple web pages with easily readable text, facilitating easy navigation, and as well as must be user-friendly for efficient learning. Additionally, Md Sabri et al. (2022) mentioned platform serves as the starting point for customers, and it is critical that its design encompasses the features of an attractive and well-organized layout, consistent and standardized navigation, well-structured user interface, and fast loading speed to facilitate an easy online purchase experience and establish trust with potential customers. Likewise, Rita et al. (2019) pointed out, that an effective platform must consist of three primary content categories, that is information-oriented, transaction-oriented, and customer-oriented to reflect a strong recognizable brand image and attract customers to visit and engage with it.

## 2.2.3 Independent Variable (IV) – Fulfillment (FF)

Fulfillment as defined by Parasuraman et al. (2005), refers to the extent to which a website fulfills its commitment regarding the availability of products and delivery of orders. Al Karim (2020) provides a similar definition and further emphasizes the importance of the delivery of orders to customers within the promised time frame and with suitable payment options, ensuring they receive what they expect without any discrepancies. Also, Rita et al. (2019) highlighted fulfillment is essential in an online setting as customers cannot physically see, touch, or inspect the product or service before purchasing. Therefore, to fulfill customers' expectations, companies must guarantee reliable delivery, accurate orders, and favorable delivery condition. In addition to product delivery, it has been observed that fulfillment encompasses more aspects. The ease of the return process and return policy have been identified as significant factors that impact order fulfillment and customer repurchase intention, according to the study conducted by Nguyen et al. (2018).

## 2.2.4 Independent Variable (IV) – Chatbot Quality (CQ)

(Mafra et al., 2022) propose a technique for evaluating the quality of chatbots, aiming to identify the optimal quality attributes that a chatbot should possess. They establish a connection between chatbot quality and the ISO-9241 usability criteria, which encompass efficiency, effectiveness, and satisfaction. Additionally, it is crucial to ensure that the chatbot's quality aligns with user expectations (Mulyono, 2022). Users expect a fully conversational chatbot that can adapt to the user's conversation flow (Cerezo, 2019). Research-based on the Self-Determination Theory (SDT) explores the influence of chatbot quality on user satisfaction with task performance and motivation to engage with the chatbot in the future (Nguyen et al., 2018). They discovered that perceived competency, relatedness, and autonomy were all connected to satisfaction with both individual performance and the quality of the system. Furthermore, Misischia

et al. (2022) identify five key qualities of chatbots, including interaction, entertainment, trendiness, customization, and problem-solving, aimed at enhancing service performance and meeting customer expectations.

## 2.2.5 Independent Variable (IV) – Privacy Protection (PP)

According to (Venkatachalam et al., 2023), privacy protection involves keeping unauthorized entities from obtaining information that you wish to keep confidential. The term "privacy protection" can hold varying interpretations for different individuals. Alzaidi & Agag (2022) mentioned privacy is inherently connected to personal information in the digital realm and define privacy protection as the capability to exert control over and restrict access to oneself, encompassing physical, psychological, and informational dimensions. Besides, privacy is also the practice of ensuring that information or its components pertaining to any individual is not easily obtainable or available to anyone and that they should not be making use of for unintended purposes as stated by Himeur et al. (2022). Moreover, Rodriguez-Priego et al. (2023) viewed privacy as a commodity that is subject to the traditional economic principles of cost-benefit and trade-offs. This means that individuals may make privacy decisions by evaluating the benefits they may obtain against the potential costs of giving up their privacy.

## 2.2.6 Independent Variable (IV) –Personalization (PN)

According to Shanahan et al. (2019), the term personalization can be defined as the practice of providing tailored or customized advertisements to individuals based on their unique preferences. Similarly, Schreiner et al. (2019) illustrate that in marketing communication, personalization refers to creating advertising messages customized to an individual's preferences by leveraging their information. The process involves

analysing the data or information that users self-disclose on social media such as their demographic info, buying habits, website browsing, and others to allow the marketers to study them and deliver customized content as stated by Lee et al. (2022). Additionally, Alimamy & Gnoth (2022) further pointed out that personalization can be referred to as the strategic arrangement of customer-specific information and service attributes that aid in resolving customer issues, mitigating perceived risks associated with purchasing decisions, and enhancing confidence by aligning with individual preferences, thus increasing predictability and satisfaction.

## 2.3 Conceptual Framework

The model diagram below illustrates the framework of Determinants of Customer Satisfaction with Artificial Intelligence-Enabled Social Media Marketing. This idea is derived from the implementation of the theory of E-Service Quality by Parasuraman et al. (2005) and some components are modified according to the reviews of literature conducted. In Figure 2.1, the IVs indicate Platform Design (PD), Fulfillment (FF), Chatbot Quality (CQ), Privacy Protection (PP), and Personalization (PN) shall influence DV, which is Customer Satisfaction.
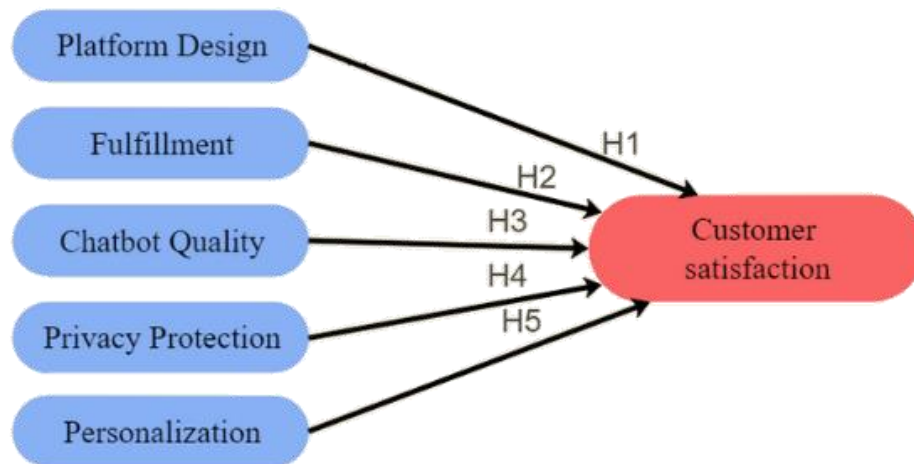


*Figure 2.1.* Proposed Research Framework

## 2.4 Hypotheses Development

### 2.4.1 Platform Design (PD) & Customer Satisfaction (CS)

According to Fudzi (2019), the study suggests that a deficient platform design can result in customers forming a negative impression of the platform's quality, potentially leading them to abandon the purchase process. Besides, communication and interaction between businesses and customers occur through a platform medium, meaning the development of an attractive platform design can substantially impact customer preferences and enhance their satisfaction when using the platform (Al Karim, 2020). Moreover, A. Khan et al. (2020) also highlighted managers should prioritize platform design that is simple and comprehensible while keeping the platform regularly updated and allowing for easy navigation across various pages to ensure customer satisfaction. Likewise, Dhingra et al. (2020) stated all aspects of a consumer's platform experience, such as navigation, information search, and product selection are encompassed by platform design. Hence, it is hypothesized that platform design will affect customer satisfaction.

*H1: Platform Design (PD) significantly influences customer satisfaction.*

### 2.4.2 Fulfillment (FF) & Customer Satisfaction (CS)

Fulfillment, as highlighted by Celik (2021), is a critical factor in evaluating online store quality, directly impacting customer satisfaction or dissatisfaction through service promise fulfillment and accurate order processing, emphasizing the importance for e-commerce sites to fulfill promises, offer available products, ensure timely delivery with proper packaging, promptly address consumer issues, and maintain a reliable

distribution network to optimize customer satisfaction. Likewise, Rita et al. (2019) identified fulfillment as the most influential factor in e-service quality, directly impacting customer satisfaction. The study also emphasizes the significance of timely delivery of products in good condition and clarifying responsibilities for damaged products during delivery in order to optimize customer satisfaction. In addition, Achira Jitkomut & de (2018) emphasized that the evaluation of quality only begins when customers receive the product and meet their expectations. This means that the overall perception of the service process, starting from order placement to product delivery, will be the basis for customers to evaluate their experience, with order fulfillment playing a significant role in ensuring satisfaction. Hence, it is hypothesized that fulfillment has a positive impact on customer satisfaction.

*H2: Fulfillment (FF) significantly influences customer satisfaction.*

## 2.4.3 Chatbot Quality (CQ) & Customer Satisfaction (CS)

Celik (2021) pointed out that effective customer issue resolution through prompt responsiveness of companies leads to higher satisfaction levels when customers perceive their problems are being addressed quickly and correctly. Chatbots can facilitate this by offering 24/7 customer support and delivering precise information without any delay. Additionally, Cheng & Jiang (2020) also demonstrated media appeal and fulfilling information needs are important gratifications of chatbot services. The study suggests that if chatbots are capable of delivering convenient and effective customer service, as well as programmed to provide recommendations on products and services with accurate information to aid in purchasing decisions, can maintain a high level of customer satisfaction. Likewise, chatbots that interact and respond in a human-like manner can evoke an emotional connection and build trust with customers. This statement can be supported by Hsu & Lin (2023) who discovered that chatbots' conversational quality which includes understanding humanness, perceived

contingency, and response humanness can significantly increase customer satisfaction and loyalty. Hence, it is hypothesized that the chatbot quality will affect customer satisfaction.

*H3: Chatbot quality (CQ) significantly influences customer satisfaction.*

## 2.4.4 Privacy Protection (PP) & Customer Satisfaction (CS)

Alnaim et al. (2022) revealed that privacy protection holds a substantial positive impact on customer satisfaction in the digital realm, given that customers are routinely required to disclose sensitive information such as payment method details to perform online transactions. Many studies have found that privacy protection is an important component of service quality (Vajrapana, 2019). Customers are concerned about their data being misused for unauthorized purposes, such as identity theft, fraud, or marketing without their consent. Therefore, it is crucial for online retailers to set up robust privacy measures to protect customer data, thereby boosting their overall experience and increasing their likelihood of continued usage of the website. Hence, it is hypothesized that privacy protection has a positive impact on customer satisfaction.

*H4: Privacy Protection (PP) significantly influences customer satisfaction.*

## 2.4.5 Personalization (PN) & Customer Satisfaction (CS)

Faisal et al. (2020), found that e-service quality dimensions such as personalization are inextricably linked with "performance measures of customer satisfaction". It was discovered that personalization positively influences customer satisfaction, trust, and loyalty by fostering psychological comfort and strengthening customer connections with customized offerings. Furthermore, (Saraswati & Indriani, 2021) highlighted if a

company can effectively tailor and refine choices for individual customers, it can help to reduce the level of effort required by customers during the sales process. It appears that personalization will have a positive impact on customer satisfaction by offering a more convenient and efficient shopping experience. Besides, Fudzi (2019) has shown that personalization in online shopping impacts customer satisfaction. As cited in the same study, (Tzavlopoulos et al., 2019) also pointed out customers tend to be more satisfied when they receive personalized service, and this can deter them from engaging in business with other service providers. Therefore, it was hypothesized that personalization influences customer satisfaction.

*H5: Personalization (PP) significantly influences customer satisfaction.*

## 2.5 Conclusion

This chapter delves into the underlying theories and constructs a study framework and hypotheses to demonstrate the relationship between variables.

# CHAPTER 3: METHODOLOGIES

## 3.0 Introduction

Chapter 3 will explore and assess the research methodologies utilized in this study, including the implementation of a pilot test to gauge the reliability of measurement items.

## 3.1 Research Design

The quantitative research design is appropriate for this study since it entails gathering and analyzing numerical data that may be used to discover patterns and averages, make predictions, test causal linkages, and generalize results to larger groups (Bloomfield et al., 2019). Descriptive research can be applicable to this study. Descriptive research is a form of study that seeks to describe and accurately depict phenomena or groups. This research method is excellent for detecting patterns, trends, and correlations between variables. For example, descriptive research describes market characteristics by identifying the characteristics of AI technology and exploring the possible correlations among these five variables which are the independent variables (platform design, fulfillment, chatbot quality, privacy protection, and personalization) that affect the dependent variable (customer satisfaction). The past study, (Aferi et al., 2022) has a similar design using quantitative and descriptive research.

## 3.2 Sampling Design

### 3.2.1 Target Population

Social media users in Malaysia who have interacted with artificial intelligence on Facebook, TikTok, Instagram, and others could be the target population for this study. These users could be of various ages, genders, and places in Malaysia. This is because these users have experience with AI-enabled social media marketing and can provide insights into the factors influencing consumer satisfaction when integrated. Furthermore, the usage of AI technology in social media marketing has grown over time, and a sizable fraction of social media users have already interacted with it. For the sampling frame, customers who have interacted with artificial intelligence on social media platforms in Malaysia are not available and not accessible.

### 3.2.2 Sampling Method

Non-probability sampling technique – judgmental sampling will be used in this study to select the units to be sampled based on prior knowledge or professional judgment. The advantage of adopting judgment sampling is that researchers can immediately reach out to their interested target audience. Before conducting the survey or doing research, the researcher will ask the target audience whether they are social media users. Furthermore, the researcher will ensure that the target audience has experienced interaction with artificial intelligence on social media platforms before. As a result, the researcher may make an informed decision when selecting the target.

### 3.2.3 Sample Size

According to Israel (1992), William G. Cochran's formula is applicable for estimating the sample size when dealing with a large population. The formula is illustrated in Figure 3.1.

$$n_0 = \frac{Z^2 pq}{e^2}$$

*Figure 3.1: William G. Cochran's formula (1963:75). Retrieved from (Israel, 1992).*

Whereby:

n = required sample size.

Z = Z-score associated with the desired confidence level.

p = denotes the estimated proportion or expected prevalence of the characteristic being studied.

e = represents the desired margin of error.

q = 1-p

This research adopts a 6% margin of error with a 95% confidence level, which falls within the commonly considered "acceptable" range of 4% to 8% at a 95% confidence level by survey researchers (Wang et al., 2020). Additionally, based on the latest data from Statista (2023), approximately 78.5% of the Malaysian population was reported to be active social media users. This proportion of 78.5% is used as the expected population parameter (p = 0.785). Substituting all these values into the formula yields a sample size of 180.07, which is then rounded up to 200, serving as the sample size for this study.

## 3.3 Data Collection Methods

### 3.3.1 Primary Data Collection Procedures

Primary data as defined by Curtis (2008), refers to a dataset that is gathered specifically to address a particular research problem, and it can be collected using various methods. Primary data is generally considered more reliable and valid, as it is directly gathered from the original source and provides first-hand information that is pertinent and specific to the research objectives. This study adopted online questionnaires as the primary data collection method. Online questionnaires are cost-effective, time efficient, and can be easily shared and distributed to a large number of participants across different geographic locations, allowing for a wider reach. In addition, the online questionnaires will be prepared by using Google Forms, given that this tool offers a wide range of standard question designs to facilitate the questionnaire design process. On top of that, Google Forms does not need an email to respond, which means respondents can submit their answers without providing any critical personal information. This addresses most people's concerns about privacy protection and can increase their willingness to participate. The online questionnaires will be shared through various means, including email, social media, and websites. This approach aims to provide flexibility for respondents as different segments of the population may have varying levels of familiarity or comfort with different channels.

## 3.3.2 Questionnaire Design

The questionnaire was formulated in English and is made up of three sections: Pre-screening, Section A, and Section B. In the pre-screening section, participants are asked to respond to one screening question in order to verify their eligibility before proceeding to the subsequent section of the questionnaire. Section A will then gather demographic information from participants, including age, gender, race, and social media usage experiences. Section B will focus on participants' responses to the independent variables (PD, FF, CQ, PP, PN) and the research's dependent variable (CS). In this section, there are a total of 30 measurement items adapted from past studies, with 5 questions allocated for each construct (refer to Table 3.1). In addition, Pre-screening and Section A will be asked in the form of Multiple-Choice Questions, while Section B will employ a Five-Point Likert Scale, ranging from strongly disagree to strongly agree, for participants to rate their responses.

Table 3.1: Sources of Measurements Items

| Constructs | | Items | Adapted from |
|---|---|---|---|
| Customer Satisfaction (CS) | CS1 | My choice to purchase from this social media platform was a wise one. | (Oliver, 1980; Nagaraj & Singh, 2017) |
| | CS2 | I think I did the right thing by buying from this social media platform. | |
| | CS3 | If I had it to do over again, I'd make my most recent online purchase on this social media platform. | (Young Kim & Jackson, 2009) |
| | CS4 | I am happy I made my most recent online purchase on this social media platform. | |
| | CS5 | The social media platform always meets my needs. | (Fornell, 1992; Rita et al., 2019) |
| Platform Design (PD) | PD1 | I consider it crucial for the social media platform to be visually appealing. | (Blut, 2016; Holloway and Beatty, 2008; Rita et al., 2019) |
| | PD2 | I consider it crucial for the text on the social media platform to be easy to read. | |
| | PD3 | I consider it crucial for the social media platform to have interactive features to help me accomplish my task. | |
| | PD4 | I consider it crucial when I use the social media platform, there is very little waiting time between my actions and the platform's response. | |
| | PD5 | I consider it crucial for the social media platform to be easy to navigate. | |

| | FF1 | I consider it crucial for the product ordered via the social media platform to be delivered in the promised time. | (Blut, 2016; Holloway and Beatty, 2008; Rita et al., 2019) |
|---|---|---|---|
| Fulfillment (FF) | FF2 | I consider it crucial for the product ordered via the social media platform to be delivered accurately. | |
| | FF3 | I consider it crucial for the product ordered via the social media platform to arrive in good condition. | |
| | FF4 | I consider it crucial to be notified of the service timeline by the social media platform. | (Caruana, 2002; Al Karim, 2020) |
| | FF5 | I consider it crucial that the social media platform has the products it claims to have in stock. | (Yong Kim & Jackson, 2009) |

| | CQ1 | I consider it crucial for the chatbot to be helpful in assisting me with my information search on the social media platform. | (Zehir et al., 2014; Hu et al., 2021; Hsu & Lin, 2023) |
|---|---|---|---|
| Chatbot Quality (CQ) | CQ2 | I consider it crucial for the chatbot to make the services available within a suitable time frame on the social media platform. | |
| | CQ3 | I consider it crucial for the chatbot to accurately satisfy my needs on the social media platform. | |
| | CQ4 | I consider it crucial for the chatbot to respond in a human-like manner on the social media platform. | |
| | CQ5 | I consider it crucial for the chatbot to give me an exclusive response to my actions on the social media platform. | (Lin & Wu, 2023) |

| | PP1 | I consider it crucial to have adequate security features on the social media platform. | (Alnaim et al., 2022) |
|---|---|---|---|
| Privacy Protection (PP) | PP2 | I consider it crucial to not share my personal information with other sites on the social media platform. | |
| | PP3 | I consider it crucial to protect my personal information from unauthorized access on the social media platform. | |
| | PP4 | I consider it crucial to protect information about my transactions on the social media platform. | |
| | PP5 | I consider it crucial to prevent information hacking on the social media platform. | (Tabaeeian et al., 2023) |

| | PN1 | I consider it crucial to give customers personal attention on the social media platform. | (Thet, 2022) |
|---|---|---|---|
| | PN2 | I consider it crucial to offer the product in a way that meets customers' personal preferences on the social media platform. | |
| Personalization (PN) | PN3 | I consider it crucial to offer promotions to customers based on previous purchase records on the social media platform. | |
| | PN4 | I consider it crucial to understand my specific needs on the social media platform. | |
| | PN5 | I consider it crucial to regularly sends new product information based on my preferences on the social media platform. | |

### 3.3.3 Pilot Study

A pilot study is a preliminary, small-scale assessment to verify the effectiveness of planned methods for a larger study, helping to prevent errors and save resources before committing to the main study (Lowe, 2019). Several recommendations and general guidelines have been proposed to determine the sample sizes for a pilot study. As cited in Johanson & Brooks (2010), Isaac and Michael (1995) suggested the sample sizes between 10 and 30 participants for simplicity and ease of calculation, Hill (1998) offers the same suggestion, Hertzog (2008) recommended 25-40 for instrument development and intervention efficacy. Hence, the pilot study was conducted by distributing the questionnaires to a sample of 30 eligible respondents.

Based on the reliability analysis presented in Table 3.2, the findings demonstrate that our questionnaire exhibits strong consistency and reliability. This is evident from Cronbach's Alpha values exceeding 0.7 for each component, indicating a high level of reliability beyond satisfactory.

Table 3.2:

*Reliability Analysis for Pilot Study*

| Variables | | Number of Items | Cronbach's Alpha | Result of Reliability |
|---|---|---|---|---|
| **Dependent Variable (DV)** | CS | 5 | 0.882 | Very Good |
| **Independent Variables (IVs)** | PD | 5 | 0.861 | Very Good |
| | FF | 5 | 0.910 | Excellent |
| | CQ | 5 | 0.893 | Very Good |
| | PP | 5 | 0.900 | Excellent |
| | PN | 5 | 0.838 | Very Good |

# 3.4 Proposed Data Analysis Tool

The utilization of SPSS (Statistical Package for Social Sciences) software is proposed in this study as it offers a wide range of statistical techniques that facilitate comprehensive data analysis and interpretation (Cooksey et al., 2020). SPSS is employed to perform the following analysis.

## 3.4.1 Descriptive Analysis

Descriptive analysis is performed in this study to summarize and interpret the demographic data. It will provide a structured summary of the data, enabling the capture of relationships between variables in the sample or population. As highlighted by Kaur et al. (2018), descriptive analysis is a crucial initial step in data analysis, serving as the foundation for inferential statistical comparisons. Through descriptive analysis, researchers can gain insights into the characteristics of the data, identify patterns, trends, and relationships, and make informed decisions based on the data.

## 3.4.2 Internal Consistency Analysis

As per (Taan & Hajjar, 2018), Cronbach's alpha is the most used internal consistency measurement, and the rule of thumb for Cronbach's Alpha is shown in Table 3.3.

Table 3.3:

*Rule of Thumb on Cronbach's Alpha*

| Alpha Coefficient Range | Strength of Association |
|---|---|
| <0.6 | Poor |
| 0.6 to < 0.7 | Moderate |
| 0.7 to < 0.8 | Good |
| 0.8 to < 0.9 | Very Good |
| 0.9 | Excellent |

*Note. from Shamsuddin et al. (2015)*

The Cronbach's alpha scale, ranging from 0 to 1, is employed to evaluate the variables' internal consistency and reliability in the online questionnaire. As illustrated in Figure 3.2, an alpha coefficient below 0.6 indicates poor reliability, while a range of 0.6 to 0.8 suggests fair to good reliability with moderate consistency. A range of 0.8 to 0.9 and above signifies strong reliability.

## 3.4.3 Inferential Analysis

For inferential analysis, Pearson correlation and multiple regression analysis will be employed to explore the potential associations and predictive factors between the variables of interest in the study.

**Pearson's Correlation Analysis**

This analysis aims to assess the strength and direction of the linear relationship between two continuous study variables (Perinetti, G., 2019). The correlation coefficient, which ranges from -1 to +1, provides insights. A value of -1 indicates a complete negative correlation, where one variable increases as the other decreases. Conversely, +1 signifies a perfect positive correlation, meaning both variables increase together. A value of 0 suggests no correlation, indicating no linear relationship. Refer to Table 3.4 for more details on the Pearson Correlation Coefficient (r).

Table 3.4:

*Meaning of Pearson Correlation Coefficient Value (r)*

| Correlation Coefficient Value (r) | Direction and Strength of Correlation |
| :---: | :---: |
| - 1 | Perfectly negative |
| - 0.8 | Strongly negative |
| - 0.5 | Moderately negative |
| - 0.2 | Weakly negative |
| 0 | No association |
| 0.2 | Weakly positive |
| 0.5 | Moderately positive |
| 0.8 | Strongly positive |
| 1 | Perfectly positive |

*Note. from Senthilnathan, S. (2019)*

**Multiple Regression Analysis**

Multiple regression analysis is performed to examine the relationships between the multiple independent variables (IVs) and a dependent variable (DV) of this study. According to Hassan et al. (2019), the multiple regression equation is expressed as follows:

$$Y = a + b_1X_1 + b_2X_2 + b_3X_3 + b_4X_4 + b_5X_5 + \ldots + b_kX_k$$

The equation generated for this research is as follows:

$$CS = a + b1(PD) + b2(FF) + b3(CQ) + b4(PP) + b5(PN)$$

Whereby,

CS = Customer Satisfaction

A = constant / intercept

PD = Platform Design

FF = Fulfillment

CQ = Chatbot Quality

PP = Privacy Protection

PN = Personalization

With the utilization of this equation, researchers can predict the value of a single dependent variable (CS) by using the known values of independent variables (PD, FF, CQ, PP, PN), where each independent variable is assigned a weight that represents its relative contribution to the overall prediction (Feng et al., 2020).

## 3.5 Conclusion

Chapter 3 has outlined all the research methods and tools that were utilized in this study, providing a comprehensive overview for conducting data analysis in Chapter 4.

# CHAPTER 4: DATA ANALYSIS

## 4.0 Introduction

In this chapter, we delve into the data analysis phase of our research, where we carefully examine and interpret the collected data by performing descriptive analysis, reliability test, Pearson correlation analysis, as well as multiple regression analysis. For this research, version 27.0 of SPSS software is utilized to examine and process the data effectively.

## 4.1 Descriptive Analysis

### 4.1.1 Gender

As shown in Figure 4.1, the majority of the respondents in this study are female, constituting 56% (N=111), whereas male respondents accounted for 44% (N=89).
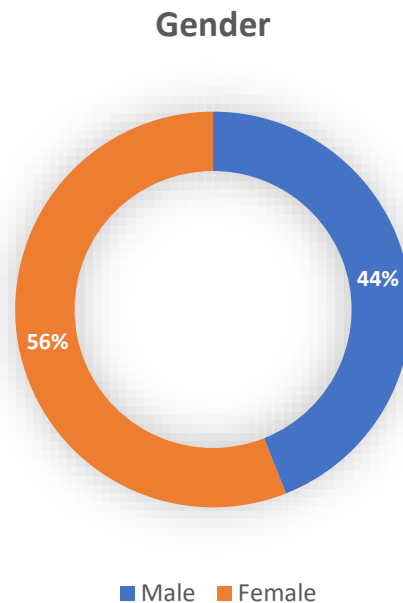


*Figure 4.1:* Gender of Respondents

## 4.1.2 Race

Out of 200 valid respondents shown in Figure 4.2, the majority of respondents were Chinese which constituted 67% (N=135) in this study. Malay and Indian respondents are made up of 17% (N=34) and 16% (N=31) respectively.
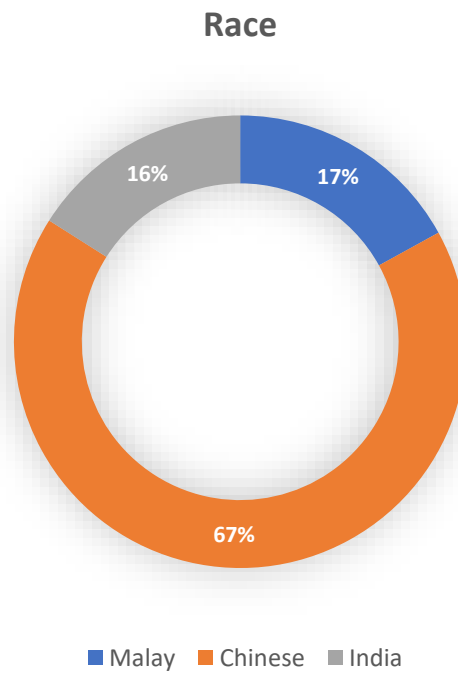
**Race**



*Figure 4.2:* Race of Respondents

## 4.1.3 Age

Figure 4.3 illustrates that most of the respondents in this study are Generation Z and Millennials, constituting 49% and 31% respectively. Moreover, Generation X and Baby Boomers only accounted for 20%.

**Age**



■ 18-24 years old  ■ 25-40 years old  ■ 41-56 years old  ■ 57 years old & above
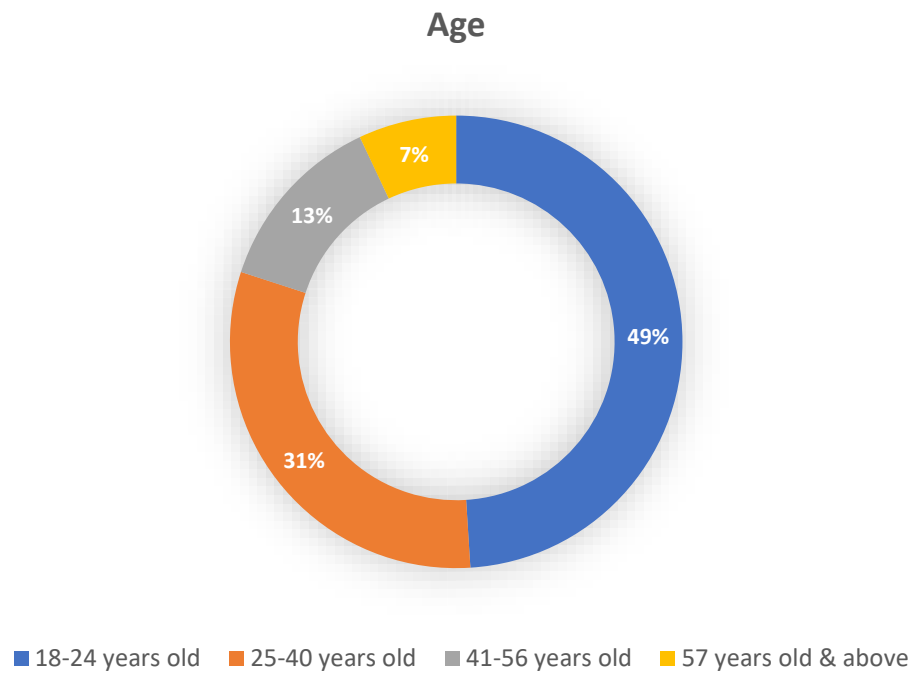
*Figure 4.3:* Age of Respondents

## 4.1.4 Social Media Usage Experience

Figure 4.4 illustrates that a significant majority of the respondents, totaling 98%, have more than one year of experience using social media. Notably, there is a smaller group of 2% (N=5) who reported having less than one year of social media experience.

**Social Media Usage Experience**



Less than 1 year ■ 1 year-2 years ■ 3 years-5 years
■ 6 years-10 years ■ More than 10 years
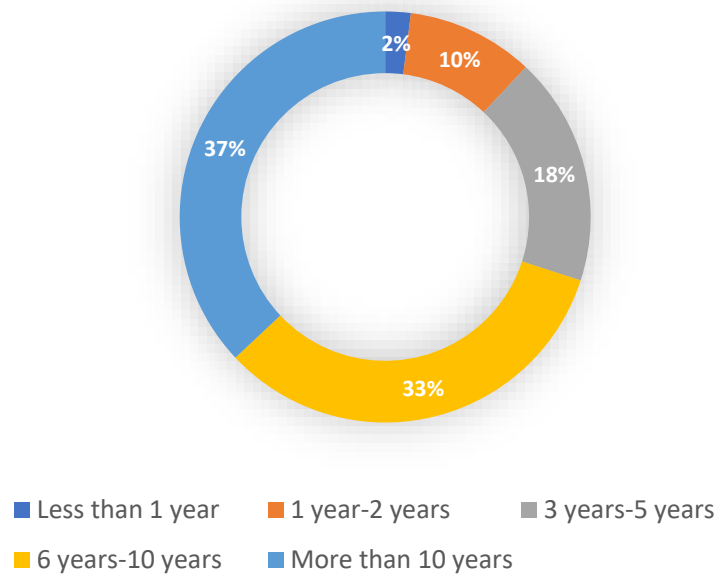
*Figure 4.4:* Social Media Usage Experience of Respondents

## 4.1.5 Preferred Social Media Platform Usage Frequency

Figure 4.5 illustrates that the top three preferred social media platforms among respondents are Facebook (89.5%), Instagram (89.5%), and WhatsApp (79.5%). Following closely are WeChat and TikTok, with 46.5% and 39.5% preference, respectively. Twitter (26.5%) and LinkedIn (15.5%) garnered relatively smaller shares of preference.
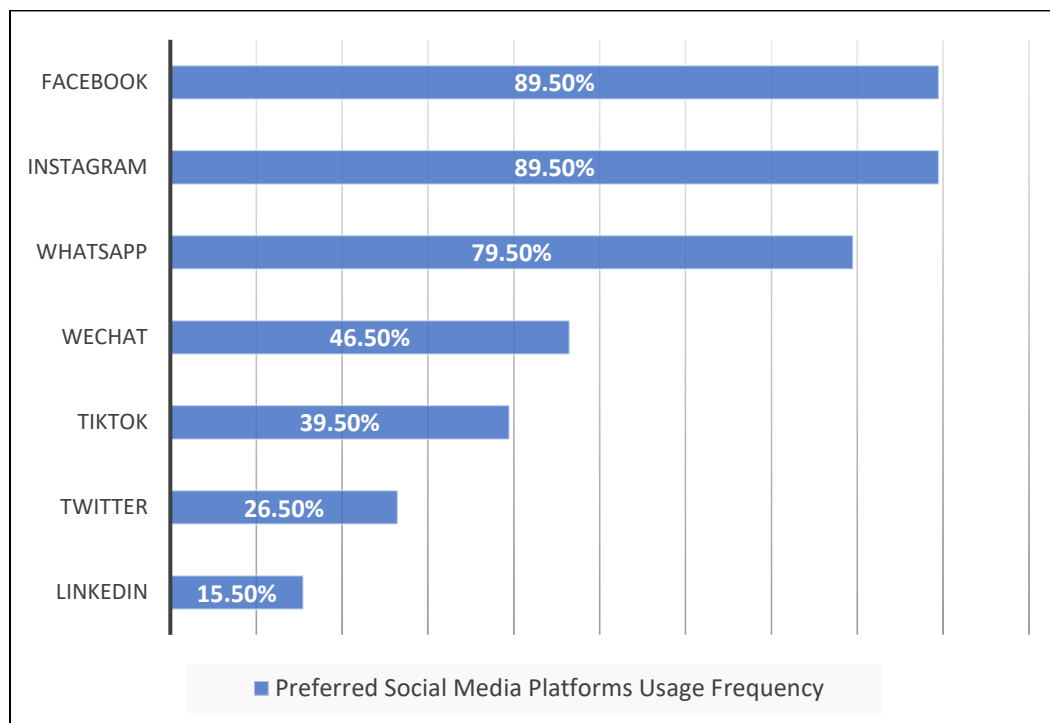


*Figure 4.5:* Preferred Social Media Platform Usage Frequency Among Respondents

## 4.2 Internal Consistency Analysis

As per the rule of thumb on Cronbach's alpha, variables that score higher than 0.8 signify strong reliability (Nawi et al., 2020). Table 4.1 displays all the tested variables falling within the range of 0.8 to above 0.9. This implies that our variables demonstrate a high degree of consistency and accuracy.

Table 4.1:

*Reliability Analysis*

| Variables | | Number of Items | Cronbach's Alpha | Results of Reliability |
|---|---|---|---|---|
| **Dependent Variable (DV)** | CS | 5 | 0.908 | Excellent |
| **Independent Variables (IVs)** | PD | 5 | 0.898 | Very Good |
| | FF | 5 | 0.895 | Very Good |
| | CQ | 5 | 0.898 | Very Good |
| | PP | 5 | 0.902 | Excellent |
| | PN | 5 | 0.876 | Very Good |

# 4.3 Inferential Analysis

## 4.3.1 Pearson's Correlation Analysis

As shown in Table 4.2, only variable PP (0.698) exhibits a moderate relationship with customer satisfaction, while the other variables all demonstrate a strong relationship.

Table 4.2:

*Pearson Correlation Coefficient Analysis*

|  | PD | FF | CQ | PP | PN | CS |
|---|---|---|---|---|---|---|
| Platform Design | 1.0 | 0.895** | 0.878** | 0.878** | 0.838** | 0.772** |
| Fulfillment | 0.895** | 1.0 | 0.857** | 0.863** | 0.807** | 0.726** |
| Chatbot Quality | 0.878** | 0.857** | 1.0 | 0.836** | 0.848** | 0.801** |
| Privacy Protection | 0.878** | 0.863** | 0.836** | 1.0 | 0.778** | 0.698** |
| Personalization | 0.838** | 0.807** | 0.848** | 0.778** | 1.0 | 0.820** |
| Customer satisfaction | 0.772** | 0.726** | 0.801** | 0.698** | 0.820** | 1.0 |

**Correlation is significant at 0.01 (2-tailed).

## 4.3.2 Multiple Regression Analysis

### 4.3.2.1 Model Summary

According to (Ozili, 2023), it is mentioned that most researchers tend to consider a model as "weak," "unreliable," and "lacking predictive power" if its reported R-squared value is below 0.6. The study suggests that an R-squared value ranging from 0.5 to 0.99 is generally considered acceptable for a model to be deemed reliable. Table 4.3 displays an R-squared value of 0.717, indicating that approximately 71.7% of the variability in customer satisfaction of Malaysians towards AI-enabled social media marketing can be accounted for by the independent variables (IVs) considered in this research. This signifies a substantial degree of explanation provided by the variables included in the model, demonstrating their strong influence on the outcome.

Table 4.3:

*Model Summary*

| Model | R | R-Square | Adjusted R-Square | Std. Error of the Estimate |
|---|---|---|---|---|
| 1 | .847 | .717 | .710 | .49309 |

a. Predictors: (Constants), PD, FF, CQ, PP, PN

**4.3.2.2 ANOVA Result**

Fisher (1930) proposed that a standard level of $P < 0.05$ (5% significance) be used to quantify the strength of evidence against the null hypothesis (Aravind, M., 2023). In relation to this study, Table 4.4 reveals a significant F-value of 98.236, indicating a substantial difference or effect between the compared groups. The p-value in this study is below 0.01, which did not exceed the threshold of 0.05, further confirming the statistical significance of the observed F-value. As a result, PD, FF, CQ, PP, and PN variables can demonstrate their ability to account for the variation in customer satisfaction toward AI-enabled social media marketing in Malaysia. This provides strong support for the model's robust statistical validity and consistent reliability.

Table 4.4:

*ANOVA Result*

| Model | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| 1 | Regression | 119.423 | 5 | 23.885 | 98.236 | <0.01 |
| | Residual | 47.168 | 194 | .243 | | |
| | Total | 166.591 | 199 | | | |

a. Dependent Variable: CS
b. Predictors: (Constant), PD, FF, CQ, PP, PN

**4.3.2.3 Coefficient of Equation**

Based on the findings presented in Table 4.5, the analysis indicates that the independent variables CQ and PN have p-values of <0.01, suggesting a significant influence on CS. Conversely, the independent variables PD, FF, and PP have p-values of 0.082, 0.601, and 0.353, respectively, indicating no significant relationship with CS. Notably, among all the independent variables, PN exhibits the largest absolute standardized coefficient of 0.472, indicating its greatest influence on CS. Thus, we can understand the multiple regression equation in the following manner:

CS = -0.54 + 0.371(CQ) + 0.543(PN)

This equation suggests that for each one-unit increase in CQ and PN, there is an associated increase in CS of 0.371 units and 0.543 units, respectively.

Moreover, assessing multicollinearity is essential as it ensures the accuracy and reliability of regression model results, enabling meaningful interpretation and valid inferences. Tolerance and VIF (Variance Inflation Factor) serve as diagnostic tools to gauge multicollinearity. Guidelines suggest a cause for concern when tolerance is 0.1 or lower, and VIF exceeding 10 often indicates the presence of multicollinearity (Senaviratna & A. Cooray, 2019). Based on the research's findings, all collinearity tolerance values surpass the threshold of 0.1, and VIF values remain consistently below 10, affirming the absence of significant multicollinearity concerns in the model.

Table 4.5:

*Coefficients of Equation*

| Model | | UC | | SC | | | CT | VIF |
|---|---|---|---|---|---|---|---|---|
| | | B | Std. Error | Beta | t | Sig. | | |
| 1 | (Constant) | -0.54 | .188 | | -.289 | .773 | | |
| | PD | .201 | .115 | .188 | 1.747 | .082 | .126 | 7.955 |
| | FF | -0.54 | .102 | -.050 | -.524 | .601 | .160 | 6.263 |
| | CQ | .371 | .100 | .346 | 3.728 | <0.01 | .169 | 5.905 |
| | PP | -.084 | .091 | -.081 | -.931 | .353 | .193 | 5.195 |
| | PN | .543 | .090 | .472 | 6.057 | <0.01 | .240 | 4.167 |

a. Dependent Variable: CS

To sum up, H3 and H5 are accepted, while H1, H2, and H4 are rejected.

# 4.4 Conclusion

In summary, this chapter analyzes and interprets the collected data. Chapter 5 will discuss more details and implications.

# CHAPTER 5: DISCUSSIONS, IMPLICATIONS, AND CONCLUSION

## 5.0 Introduction

This chapter delves into the primary discoveries, examining their implications from both theoretical and managerial standpoints. Moreover, it will also address the research's constraints and offer relevant recommendations to guide future studies.

## 5.1 Discussion of Major Findings

The hypothesis testing outcome summary was formulated using the data presented in Table 5.1.

Table 5.1:

*Summary of The Hypothesis Testing Results*

| Hypothesis | Sig. | Result |
|---|---|---|
| H1: **Platform Design (PD)** significantly influences customer satisfaction. | 0.082 | Not Supported |
| H2: **Fulfillment (FF)** significantly influences customer satisfaction. | 0.601 | Not Supported |
| H3: **Chatbot quality (CQ)** significantly influences customer satisfaction. | 0.000 | Supported |
| H4: **Privacy Protection (PP)** significantly influences customer satisfaction. | 0.353 | Not Supported |
| H5: **Personalization (PP)** significantly influences customer satisfaction. | 0.000 | Supported |

**H1: Platform Design (PD) significantly influences Customer Satisfaction (CS).**

The research results indicate that platform design does not have a significant influence on customer satisfaction, leading to the rejection of H1. This finding contradicts an earlier study by (Fudzi, 2019), which demonstrated that platform design indeed affects customer satisfaction. However, the current research aligns with the findings of a previous study conducted by Dhingra et al. in 2020, which also showed that platform design does not significantly affect customer satisfaction. The differing conclusions can likely be attributed to the maturity of design standards in the field of online platforms. Over time, these standards and practices have become well-established and widely adopted, resulting in many companies following similar design patterns. Therefore, customers may already be familiar with the design and functionality of these platforms, leading to a diminished impact on customer satisfaction.

**H2: Fulfillment (FF) significantly influences Customer Satisfaction (CS).**

H2 is rejected, indicating that fulfillment does not significantly influence customer satisfaction, which contradicts earlier studies by (Celik, 2021) and (Rita et al., 2019) that found fulfillment to have a positive and significant effect on customer satisfaction. The likely reason for this discrepancy is the implementation of AI technologies, which have streamlined and automated the order fulfillment process. This automation has reduced the likelihood of order inaccuracies, delays, and other fulfillment-related issues, resulting in a more efficient and error-free shopping experience. Consequently, customer satisfaction may now be more influenced by factors such as product or service quality, the level of personalization, and relevance in marketing efforts, rather than focusing explicitly on the fulfillment aspect.

**H3: Chatbot quality (CQ) significantly influences Customer Satisfaction (CS).**

Based on the findings, it is evident that the quality of the chatbot has a substantial impact on customer satisfaction. This outcome is in harmony with the research conducted by Hsu & Lin in 2023, underscoring the significance of upholding a consistent standard of accuracy and effectiveness in the chatbot's services to not only achieve customer satisfaction but also cultivate customer loyalty. As the digital landscape continues to evolve, modern customers expect the chatbot to offer more than just basic functionality. They desire an experience that goes beyond mere utility, seeking engagement, smoothness, and overall enjoyment (Cheng & Jiang, 2020). Therefore, leveraging AI algorithms within chatbots can refine their capabilities beyond conventional functionality, enabling them to provide a holistic and captivating user experience.

**H4: Privacy Protection (PP) significantly influences Customer Satisfaction (CS).**

H4 is rejected, indicating that there is no substantial impact of privacy protection on customer satisfaction. This result aligns with the discovery made by Al Karim (2020) which similarly concludes that privacy has no effect on customer satisfaction. However, it contrasts with the observations of (S. Khan & Iqbal, 2020), who demonstrate that privacy significantly influences customer satisfaction. The reason behind this outcome can be attributed to the fact that customers now possess the ability to exert control over their privacy, and concerns pertaining to it are effectively mitigated. Leading social media platforms such as Facebook have enabled users to tailor their ad preferences and data utilization through dedicated advertisement settings. This user-centric approach not only ensures transparency and protection of their data usage but also fosters a sense of empowerment and control. Consequently, as customers gain confidence in the platform's ability to furnish a dependable environment while upholding the

confidentiality of acquired information, privacy concerns experience a notable reduction (Celik, 2021).

## H5: Personalization (PP) significantly influences Customer Satisfaction (CS).

H5 is supported, indicating that there is a significant influence of personalization on customer satisfaction. This result aligns with a previous study by Saraswati & Indriani (2021), supporting the impact of personalization on customer satisfaction, yet contrasts with the findings of Dhingra et al. (2020). The likely rationale behind this lies in modern customers' emphasis on a distinctive and valuable encounter curated to their specific preferences. They expect social media platforms to excel in providing a smooth and intuitive user experience, effectively anticipating their requirements, and offering relevant recommendations. This, in effect, simplifies decision-making, leading to an overall enhancement in the quality of their experience. Therefore, factors such as privacy concerns are becoming a secondary consideration that can be exchanged for personalization, which is deemed a more significant determinant in influencing customer satisfaction, aligning with the findings of this research.

## 5.2 Implications of the Study

### 5.2.1 Theoretical Implications

This research makes a significant theoretical contribution by shedding light on the factors influencing customer satisfaction with AI-enabled Social Media Marketing in Malaysia. Employing Parasuraman's E-SERVQUAL model as the guiding framework, the study investigates the complex relationship between service quality, technological advancements, and customer satisfaction in the context of AI-driven social media marketing. Moreover, this research also extends the application of established models to the contemporary landscape of AI-powered marketing strategies by including variables – Chatbot Quality (CQ) and Personalization (PN). Notably, the outcomes of the study demonstrate a significant influence of Chatbot Quality (CQ) and Personalization (PN) on customer satisfaction, while Platform Design (PD), Fulfillment (FF), and Privacy Protection (PP) exhibit opposing results. This suggests that future researchers should include the dimensions of Chatbot Quality (CQ) and Personalization (PN) when exploring the determinants of customer satisfaction in AI-enabled Social Media Marketing. As customers nowadays expect a higher level of interactive engagement and tailored experiences from AI-driven platforms, incorporating Chatbot Quality (CQ) and Personalization (PN) into the evaluation framework would provide a more comprehensive understanding of the factors shaping contemporary customer preferences and behavior. In addition to that, many previous studies have adopted the E-SERVQUAL model in studying e-commerce platforms, learning platforms, Internet banking, and more. However, there has been a limited application of this model to examine customer satisfaction within the context of AI-enabled social media marketing. Therefore, future research endeavors exploring this area and relevant researchers studying this topic may also benefit from the insights offered by this study. In summary, this research's study of the E-SERVQUAL model is not fully supported as only two hypotheses are supported. Hence, this underscores the requirement for future exploration of the theory or potential refinements.

## 5.2.2 Managerial Implications

### 5.2.2.1 Chatbot Quality (CQ)

The study's findings have revealed a critical determinant of customer satisfaction in AI-enabled social media marketing, which is Chatbot Quality (CQ). As marketers endeavour to harness the power of AI technology for effective social media marketing, prioritizing chatbot quality emerges as a crucial factor in enhancing customer satisfaction.

Marketers should establish a framework for monitoring and enhancing chatbot performance. Regular analysis of client interactions, continuous feedback collection, and utilization of data-driven insights are imperative for refining the chatbot's skills. This iterative approach contributes to the progressive improvement of consumer satisfaction over the long term. Furthermore, marketers should accord high priority to creating user-friendly interfaces for chatbot interactions. Designing intuitive and visually appealing interfaces that facilitate seamless communication is of utmost importance. A well-crafted chatbot interface not only enhances the overall user experience but also stimulates increased user engagement. "Brie" is an example of a user-friendly chatbot offered by HelloFresh. As shown in Figure 5.1, the chatbot features a simple and clear-cut design, providing a diverse range of help guides for matters including logins and product inquiries, while also allowing guests to input their own questions for more personalized issue resolution.
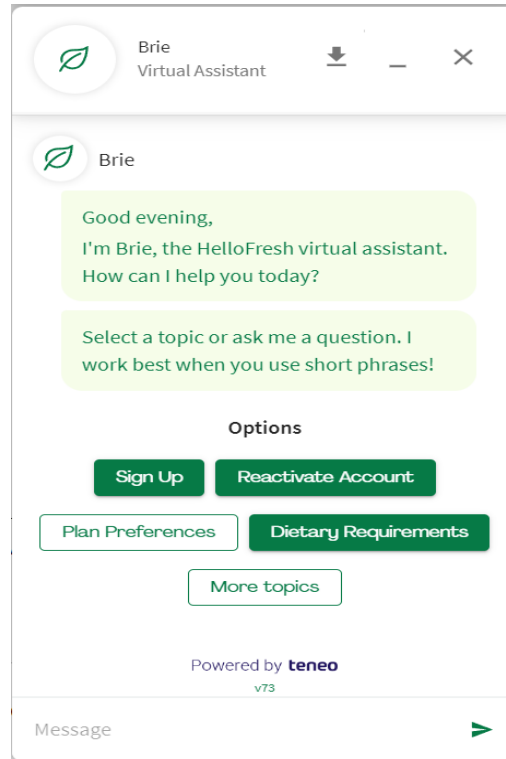
*Figure 5.1: HelloFresh Chatbot "Brie"*

Moreover, in order to gauge the effectiveness of chatbots, marketers should also set clear performance benchmarks and key indicators. Monitoring metrics like response speed, accuracy, issue resolution, and user feedback can provide a detailed understanding of chatbot performance, aiding informed decisions on enhancements. Additionally, it is crucial to maintain an updated knowledge base for the chatbot, ensuring that the system can readily adjust to evolving client preferences and market dynamics. This adaptability enables the chatbot to provide precise and pertinent support, thereby enhancing user experiences with seamless efficiency.

**5.2.2.2 Personalization (PN)**

The study's findings also underscore the significance of Personalization (PN) in influencing consumer satisfaction with AI-enabled social media marketing in Malaysia.

As a marketer, integrating personalized approaches into social media marketing initiatives can result in heightened customer satisfaction.

Marketers can invest in artificial intelligence-powered tools and technology such as One Spot, a cloud-based personalization software that can equip businesses with diverse artificial intelligence tools to monitor the behaviour and preferences of website visitors. By analyzing and harnessing these insights obtained from the software, businesses can craft personalized marketing strategies that strongly connect with the intended audience. Consequently, businesses can curate more pertinent social media posts, advertisements, and messages that cater to the distinct needs and interests of the customers to increase overall satisfaction. Next, marketers can also create customized loyalty programs by harnessing the power of artificial intelligence algorithms to track and analyze the customers' data to deliver personalized offers, recommendations, and rewards. Starbucks is a successful example of using AI algorithms to study its customers' spending habits and reinforce real-time personalization. For example, a customer who frequently orders iced drinks will receive promotions for new iced beverage offerings. This dynamic adaptation fosters engagement and strengthens customer loyalty. Additionally, marketers need to define distinct key performance indicators (KPIs) to assess the effectiveness of AI-driven personalized social media marketing efforts. Marketers should consistently track metrics such as customer satisfaction, engagement rates, conversion rates, and relevant indicators to iteratively enhance strategies and campaigns for continuous improvement.

## 5.2 Limitation of Study

As the study was confined to Malaysia, it could pose challenges in generalizing its findings to other countries with distinct sociocultural, economic, and technological contexts. As a result, the study's findings could not be immediately applicable to areas with different rates of consumer perceptions, cultural norms, and the use of AI-enabled social media marketing. Besides, it is possible that the criteria used to assess consumer satisfaction in AI-enabled social media marketing in Malaysia did not fully account for all the variables that can affect that satisfaction. Although the study looked at some aspects of service quality, it did not go into detail on other important variables like information quality, which may result in an insufficient understanding of the phenomena. Also, the study skips over a discussion of broad customer relationship factors in favor of focusing on the connection between service quality and customer satisfaction. It skips over crucial topics like commitment, loyalty, and trust that are essential to comprehending how customers interact with AI-enabled social media marketing platforms over the long run. The depth of understanding of the complex nature of customer behavior and satisfaction within the context of AI-enabled social media marketing is limited by overlooking these factors.

# 5.3 Recommendations of Study

Researchers should consider conducting comparative studies across many countries with different sociocultural, economic, and technical contexts to enhance the generalizability of the study's findings to other countries. This more comprehensive strategy would allow for the identification of common patterns as well as variations in consumer perceptions, preferences, and behaviors. Researchers can collaborate with specialists from other regions to ensure that cultural nuances and regional considerations are adequately considered. Additionally, conducting qualitative research in various nations through focus groups or interviews can provide deeper insights into the underlying dynamics.

Researchers should expand the scope of evaluation criteria to encompass a broader range of factors that influence consumer satisfaction to mitigate this limitation. This could involve integrating AI-enabled social media marketing with elements such as ease of use, practicality, and educational value. To develop a more holistic understanding of consumer satisfaction, researchers can adopt a mixed-methods approach that combines quantitative indicators and qualitative feedback. This approach would offer a more precise depiction of the elements that impact overall satisfaction and guide the development of social media marketing strategies that harness AI more effectively.

Furthermore, researchers should consider investigating broader customer relationship elements to gain a deeper understanding of customer satisfaction over time. Exploring factors such as loyalty, trust, and the emotional bond users form with AI-enabled social media marketing platforms could be a part of this endeavor. To track changes in consumer satisfaction over time, researchers can employ longitudinal studies or follow-up surveys. By comprehending the evolving nature of customer-brand interactions,

businesses can better tailor their AI-enabled marketing strategies to foster enduring engagement and loyalty.

## 5.4 Conclusion

In summary, addressing the study's limitations and offering pertinent recommendations will aid future researchers in crafting robust research and marketing strategies.

# APPENDICES

## Appendix 1.0: Survey Questionnaires

**Pre-screening Section**

In the last 6 months, have you engaged with social media marketing activities by businesses or brands that utilized artificial intelligence (e.g., personalized recommendations, chatbots) in Malaysia? *(Please tick your answer)*

*Yes ☐     *No ☐

\* For those who answered 'Yes' are directed to Section A and Section B.

\*\*For those who answered 'No' are directed to exit the questionnaire.

**Section A: Demographic Profile**

*In this section, we are interested in your background and social media user experience. Please tick your answer.*

A1: Gender:          ☐ Male               ☐ Female

A2: Race:            ☐ Malay     ☐ Chinese     ☐ Indian     ☐ Others:_____

A3: Age: ☐ 18 - 24 years old ☐ 25 - 40 years old ☐ 41 - 56 years old ☐ 57 years old & above

A4: Experience in social media usage:

    ☐ Less than 1 year
    ☐ 1 year – 2 years
    ☐ 3 years – 5 years
    ☐ 6 years – 10 years
    ☐ More than 10 years

A5: Which of the following social media platforms do you use the most frequently?

    ☐ Facebook
    ☐ TikTok
    ☐ Instagram
    ☐ WhatsApp
    ☐ WeChat
    ☐ Twitter
    ☐ LinkedIn
    ☐ Others (Please state): _____

**Section B:**

*This section seeks your opinion on the factors that influence customer satisfaction with social media marketing that utilizes artificial intelligence in Malaysia.*

*Respondents are asked to indicate the extent to which they agree or disagree with each statement using a 5-point Likert scale [(1) = strongly disagree; (2) = disagree; (3) = neutral; (4) = agree; (5) = strongly agree] response framework. Please circle one number per line to indicate the extent to which you agree or disagree with the following statements.*

|  |  | Strongly Disagree | Disagree | Neutral | Agree | Strongly Agree |
|---|---|---|---|---|---|---|
| **IV1** | **Platform Design (PD)** |  |  |  |  |  |
| PD1 | I consider it crucial for the social media platform to be visually appealing. | 1 | 2 | 3 | 4 | 5 |
| PD2 | I consider it crucial for the text on the social media platform to be easy to read. | 1 | 2 | 3 | 4 | 5 |
| PD3 | I consider it crucial for the social media platform to have interactive features to help me accomplish my task. | 1 | 2 | 3 | 4 | 5 |
| PD4 | I consider it crucial when I use the social media platform, there is very little waiting time between my actions and the platform's response. | 1 | 2 | 3 | 4 | 5 |
| PD5 | I consider it crucial for the social media platform to be easy to navigate. | 1 | 2 | 3 | 4 | 5 |

|  |  | Strongly Disagree | Disagree | Neutral | Agree | Strongly Agree |
|---|---|---|---|---|---|---|
| **IV2** | **Fulfillment (FF)** |  |  |  |  |  |
| FF1 | I consider it crucial for the product ordered via the social media platform to be delivered in promised time. | 1 | 2 | 3 | 4 | 5 |
| FF2 | I consider it crucial for the product ordered via the social media platform to be delivered accurately. | 1 | 2 | 3 | 4 | 5 |
| FF3 | I consider it crucial for the product ordered via the social media platform to arrive in good condition. | 1 | 2 | 3 | 4 | 5 |
| FF4 | I consider it crucial to be notified of the service timeline by the social media platform. | 1 | 2 | 3 | 4 | 5 |
| FF5 | I consider it crucial that the social media platform has the products it claims to have in stock. | 1 | 2 | 3 | 4 | 5 |

| | | Strongly Disagree | Disagree | Neutral | Agree | Strongly Agree |
|---|---|---|---|---|---|---|
| **IV3** | **Chatbot Quality (CQ)** | | | | | |
| CQ1 | I consider it crucial for the chatbot to be helpful in assisting me with my information search on the social media platform. | 1 | 2 | 3 | 4 | 5 |
| CQ2 | I consider it crucial for the chatbot to make the services available within a suitable time frame on the social media platform. | 1 | 2 | 3 | 4 | 5 |
| CQ3 | I consider it crucial for the chatbot to accurately satisfy my needs on the social media platform. | 1 | 2 | 3 | 4 | 5 |
| CQ4 | I consider it crucial for the chatbot to respond in a human-like manner on the social media platform. | 1 | 2 | 3 | 4 | 5 |
| CQ5 | I consider it crucial for the chatbot to give me an exclusive response to my actions on the social media platform. | 1 | 2 | 3 | 4 | 5 |

| | | Strongly Disagree | Disagree | Neutral | Agree | Strongly Agree |
|---|---|---|---|---|---|---|
| **IV4** | **Privacy Protection (PP)** | | | | | |
| PP1 | I consider it crucial to have adequate security features on the social media platform. | 1 | 2 | 3 | 4 | 5 |
| PP2 | I consider it crucial to not share my personal information with other sites on the social media platform. | 1 | 2 | 3 | 4 | 5 |
| PP3 | I consider it crucial to protect my personal information from unauthorized access on the social media platform. | 1 | 2 | 3 | 4 | 5 |
| PP4 | I consider it crucial to protect information about my transactions on the social media platform. | 1 | 2 | 3 | 4 | 5 |
| PP5 | I consider it crucial to prevent information hacking on the social media platform. | 1 | 2 | 3 | 4 | 5 |

| | | Strongly Disagree | Disagree | Neutral | Agree | Strongly Agree |
|---|---|---|---|---|---|---|
| IV5 | Personalization (PN) | | | | | |
| PN1 | I consider it crucial to give customers personal attention on the social media platform. | 1 | 2 | 3 | 4 | 5 |
| PN2 | I consider it crucial to offer the product in a way that meets customers' personal preferences on the social media platform. | 1 | 2 | 3 | 4 | 5 |
| PN3 | I consider it crucial to offer promotions to customers based on previous purchase records on the social media platform. | 1 | 2 | 3 | 4 | 5 |
| PN4 | I consider it crucial to understand my specific needs on the social media platform. | 1 | 2 | 3 | 4 | 5 |
| PN5 | I consider it crucial to regularly sends new product information based on my preferences on the social media platform. | 1 | 2 | 3 | 4 | 5 |

| | | Strongly Disagree | Disagree | Neutral | Agree | Strongly Agree |
|---|---|---|---|---|---|---|
| DV1 | Customer Satisfaction (CS) | | | | | |
| CS1 | My choice to purchase from this social media platform was a wise one. | 1 | 2 | 3 | 4 | 5 |
| CS2 | I think I did the right thing by buying from this social media platform. | 1 | 2 | 3 | 4 | 5 |
| CS3 | If I had it to do over again, I'd make my most recent online purchase on this social media platform. | 1 | 2 | 3 | 4 | 5 |
| CS4 | I am happy I made my most recent online purchase on this social media platform. | 1 | 2 | 3 | 4 | 5 |
| CS5 | Social media platform always meets my needs. | 1 | 2 | 3 | 4 | 5 |

## Appendix 2.0: Internal Consistency Analysis (Pilot test)

➡ **Reliability**

### Scale: Pilot Test: Customer Satisfaction (CS)

#### Case Processing Summary

|        |                        | N  | %     |
|--------|------------------------|----|-------|
| Cases  | Valid                  | 30 | 46.9  |
|        | Excluded[a]            | 34 | 53.1  |
|        | Total                  | 64 | 100.0 |

a. Listwise deletion based on all variables in the procedure.

#### Reliability Statistics

| Cronbach's Alpha | N of Items |
|------------------|------------|
| .882             | 5          |

➡ **Reliability**

### Scale: Pilot Study: Platform Design (PD)

#### Case Processing Summary

|        |                        | N  | %     |
|--------|------------------------|----|-------|
| Cases  | Valid                  | 30 | 46.9  |
|        | Excluded[a]            | 34 | 53.1  |
|        | Total                  | 64 | 100.0 |

a. Listwise deletion based on all variables in the procedure.

#### Reliability Statistics

| Cronbach's Alpha | N of Items |
|------------------|------------|
| .861             | 5          |

➡️ **Reliability**

### Scale: Pilot Study: Fulfillment (FF)

#### Case Processing Summary

| | | N | % |
|---|---|---|---|
| Cases | Valid | 30 | 46.9 |
| | Excluded[a] | 34 | 53.1 |
| | Total | 64 | 100.0 |

a. Listwise deletion based on all variables in the procedure.

#### Reliability Statistics

| Cronbach's Alpha | N of Items |
|---|---|
| .910 | 5 |

➡️ **Reliability**

### Scale: Pilot Test: Chatbot Quality (CQ)

#### Case Processing Summary

| | | N | % |
|---|---|---|---|
| Cases | Valid | 30 | 46.9 |
| | Excluded[a] | 34 | 53.1 |
| | Total | 64 | 100.0 |

a. Listwise deletion based on all variables in the procedure.

#### Reliability Statistics

| Cronbach's Alpha | N of Items |
|---|---|
| .893 | 5 |

➡ **Reliability**

**Scale: Pilot Test: Privacy Protection (PP)**

**Case Processing Summary**

|       |                       | N   | %     |
|-------|-----------------------|-----|-------|
| Cases | Valid                 | 30  | 46.9  |
|       | Excluded[a]           | 34  | 53.1  |
|       | Total                 | 64  | 100.0 |

a. Listwise deletion based on all variables in the procedure.

**Reliability Statistics**

| Cronbach's Alpha | N of Items |
|------------------|------------|
| .900             | 5          |

➡ **Reliability**

**Scale: Pilot Test: Personalization (PN)**

**Case Processing Summary**

|       |                       | N   | %     |
|-------|-----------------------|-----|-------|
| Cases | Valid                 | 30  | 46.9  |
|       | Excluded[a]           | 34  | 53.1  |
|       | Total                 | 64  | 100.0 |

a. Listwise deletion based on all variables in the procedure.

**Reliability Statistics**

| Cronbach's Alpha | N of Items |
|------------------|------------|
| .838             | 5          |

## Appendix 3.0 Descriptive Analysis

### Frequencies

**Statistics**

|   |   | D1 | D2 | D3 | D4 | D5 |
|---|---|---|---|---|---|---|
| N | Valid | 200 | 200 | 200 | 200 | 200 |
|   | Missing | 0 | 0 | 0 | 0 | 0 |

### Frequency Table

**D1**

|   |   | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Female | 112 | 56.0 | 56.0 | 56.0 |
|   | Male | 88 | 44.0 | 44.0 | 100.0 |
|   | Total | 200 | 100.0 | 100.0 |   |

**D2**

|   |   | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Arab | 1 | .5 | .5 | .5 |
|   | Chinese | 135 | 67.5 | 67.5 | 68.0 |
|   | Indian | 31 | 15.5 | 15.5 | 83.5 |
|   | Malay | 33 | 16.5 | 16.5 | 100.0 |
|   | Total | 200 | 100.0 | 100.0 |   |

**D3**

|   |   | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | 18-24 years old | 97 | 48.5 | 48.5 | 48.5 |
|   | 25-40 years old | 62 | 31.0 | 31.0 | 79.5 |
|   | 41-56 years old | 26 | 13.0 | 13.0 | 92.5 |
|   | 57 years old & above | 15 | 7.5 | 7.5 | 100.0 |
|   | Total | 200 | 100.0 | 100.0 |   |

**D4**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | 1 year - 2 years | 20 | 10.0 | 10.0 | 10.0 |
| | 3 years - 5 years | 37 | 18.5 | 18.5 | 28.5 |
| | 6 years - 10 years | 66 | 33.0 | 33.0 | 61.5 |
| | Less than 1 year | 5 | 2.5 | 2.5 | 64.0 |
| | More than 10 years | 72 | 36.0 | 36.0 | 100.0 |
| | Total | 200 | 100.0 | 100.0 | |

**Appendix 4.0: Internal Consistency Analysis**

➡️ **Reliability**

**Scale: Main Test: Customer Satisfaction (CS)**

**Case Processing Summary**

|        |                      | N   | %     |
|--------|----------------------|-----|-------|
| Cases  | Valid                | 200 | 100.0 |
|        | Excluded[a]          | 0   | .0    |
|        | Total                | 200 | 100.0 |

a. Listwise deletion based on all variables in the procedure.

**Reliability Statistics**

| Cronbach's Alpha | N of Items |
|------------------|------------|
| .908             | 5          |

➡️ **Reliability**

**Scale: Main Test: Platform Design (PD)**

**Case Processing Summary**

|        |                      | N   | %     |
|--------|----------------------|-----|-------|
| Cases  | Valid                | 200 | 100.0 |
|        | Excluded[a]          | 0   | .0    |
|        | Total                | 200 | 100.0 |

a. Listwise deletion based on all variables in the procedure.

**Reliability Statistics**

| Cronbach's Alpha | N of Items |
|------------------|------------|
| .898             | 5          |

➡ **Reliability**

**Scale: Main Test: Fulfillment (FF)**

**Case Processing Summary**

|        |          | N   | %     |
|--------|----------|-----|-------|
| Cases  | Valid    | 200 | 100.0 |
|        | Excluded[a] | 0   | .0    |
|        | Total    | 200 | 100.0 |

a. Listwise deletion based on all variables in the procedure.

**Reliability Statistics**

| Cronbach's Alpha | N of Items |
|------------------|------------|
| .895             | 5          |

➡ **Reliability**

**Scale: Main Test: Chatbot Quality (CQ)**

**Case Processing Summary**

|        |          | N   | %     |
|--------|----------|-----|-------|
| Cases  | Valid    | 200 | 100.0 |
|        | Excluded[a] | 0   | .0    |
|        | Total    | 200 | 100.0 |

a. Listwise deletion based on all variables in the procedure.

**Reliability Statistics**

| Cronbach's Alpha | N of Items |
|------------------|------------|
| .898             | 5          |

➡ **Reliability**

**Scale: Main Test: Privacy Protection (PP)**

**Case Processing Summary**

| | | N | % |
|---|---|---|---|
| Cases | Valid | 200 | 100.0 |
| | Excluded[a] | 0 | .0 |
| | Total | 200 | 100.0 |

a. Listwise deletion based on all variables in the procedure.

**Reliability Statistics**

| Cronbach's Alpha | N of Items |
|---|---|
| .902 | 5 |

➡ **Reliability**

**Scale: Main Test: Personalization (PN)**

**Case Processing Summary**

| | | N | % |
|---|---|---|---|
| Cases | Valid | 200 | 100.0 |
| | Excluded[a] | 0 | .0 |
| | Total | 200 | 100.0 |

a. Listwise deletion based on all variables in the procedure.

**Reliability Statistics**

| Cronbach's Alpha | N of Items |
|---|---|
| .876 | 5 |

## Appendix 5.0 Pearson's Correlation Analysis

**Correlations**

|  |  | PD | FF | CQ | PP | PN | CS |
|---|---|---|---|---|---|---|---|
| PD | Pearson Correlation | 1 | .895** | .878** | .878** | .838** | .772** |
|  | Sig. (2-tailed) |  | .000 | .000 | .000 | .000 | .000 |
|  | N | 201 | 201 | 201 | 201 | 201 | 201 |
| FF | Pearson Correlation | .895** | 1 | .857** | .863** | .807** | .726** |
|  | Sig. (2-tailed) | .000 |  | .000 | .000 | .000 | .000 |
|  | N | 201 | 201 | 201 | 201 | 201 | 201 |
| CQ | Pearson Correlation | .878** | .857** | 1 | .836** | .848** | .801** |
|  | Sig. (2-tailed) | .000 | .000 |  | .000 | .000 | .000 |
|  | N | 201 | 201 | 201 | 201 | 201 | 201 |
| PP | Pearson Correlation | .878** | .863** | .836** | 1 | .778** | .698** |
|  | Sig. (2-tailed) | .000 | .000 | .000 |  | .000 | .000 |
|  | N | 201 | 201 | 201 | 201 | 201 | 201 |
| PN | Pearson Correlation | .838** | .807** | .848** | .778** | 1 | .820** |
|  | Sig. (2-tailed) | .000 | .000 | .000 | .000 |  | .000 |
|  | N | 201 | 201 | 201 | 201 | 201 | 201 |
| CS | Pearson Correlation | .772** | .726** | .801** | .698** | .820** | 1 |
|  | Sig. (2-tailed) | .000 | .000 | .000 | .000 | .000 |  |
|  | N | 201 | 201 | 201 | 201 | 201 | 201 |

**. Correlation is significant at the 0.01 level (2-tailed).

## Appendix 6.0: Multiple Regression Analysis

**Regression**

**Variables Entered/Removed[a]**

| Model | Variables Entered | Variables Removed | Method |
|---|---|---|---|
| 1 | PN, PP, FF, CQ, PD[b] | . | Enter |

a. Dependent Variable: CS
b. All requested variables entered.

**Model Summary**

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
|---|---|---|---|---|
| 1 | .847[a] | .717 | .710 | .49309 |

a. Predictors: (Constant), PN, PP, FF, CQ, PD

**ANOVA[a]**

| Model | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| 1 | Regression | 119.423 | 5 | 23.885 | 98.236 | <.001[b] |
| | Residual | 47.168 | 194 | .243 | | |
| | Total | 166.591 | 199 | | | |

a. Dependent Variable: CS
b. Predictors: (Constant), PN, PP, FF, CQ, PD

**Coefficients[a]**

| Model | | Unstandardized Coefficients B | Std. Error | Standardized Coefficients Beta | t | Sig. | 95.0% Confidence Interval for B Lower Bound | Upper Bound | Collinearity Statistics Tolerance | VIF |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | (Constant) | -.054 | .188 | | -.289 | .773 | -.425 | .316 | | |
| | PD | .201 | .115 | .188 | 1.747 | .082 | -.026 | .429 | .126 | 7.955 |
| | FF | -.054 | .102 | -.050 | -.524 | .601 | -.256 | .148 | .160 | 6.263 |
| | CQ | .371 | .100 | .346 | 3.728 | <.001 | .175 | .568 | .169 | 5.905 |
| | PP | -.084 | .091 | -.081 | -.931 | .353 | -.263 | .094 | .193 | 5.195 |
| | PN | .543 | .090 | .472 | 6.057 | <.001 | .366 | .719 | .240 | 4.167 |

a. Dependent Variable: CS

**Collinearity Diagnostics[a]**

| Model | Dimension | Eigenvalue | Condition Index | Variance Proportions | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | (Constant) | PD | FF | CQ | PP | PN |
| 1 | 1 | 5.945 | 1.000 | .00 | .00 | .00 | .00 | .00 | .00 |
| | 2 | .030 | 13.993 | .93 | .01 | .01 | .01 | .01 | .00 |
| | 3 | .009 | 25.283 | .04 | .01 | .05 | .06 | .28 | .49 |
| | 4 | .006 | 32.441 | .01 | .01 | .47 | .05 | .62 | .18 |
| | 5 | .005 | 33.202 | .01 | .02 | .17 | .86 | .01 | .28 |
| | 6 | .004 | 38.557 | .01 | .95 | .30 | .02 | .08 | .05 |

a. Dependent Variable: CS

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