DETERMINANTS OF CHATBOT ADOPTION TOWARDS CONTINUANCE INTENTION IN SPORT INDUSTRY

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DETERMINANTS OF CHATBOT ADOPTION TOWARDS CONTINUANCE INTENTION IN SPORT INDUSTRY

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2024

DECLARATION

I declare that this thesis entitled "Determinants of Chatbot Adoption Towards Continuance Intention in Sport Industry is the result of my own research except as cited in the references. The thesis has not been accepted for any degree and is not concurrently submitted in the candidature of any other degree.

Signature : 

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Date : 1 February 2024

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APPROVAL

I hereby declare that I have checked this report entitled " Determinants of Chatbot Adoption Towards Continuance Intention in Sport Industry ", and in my opinion, this thesis fulfils the partial requirement to be awarded the degree of Bachelor of Technology Management (High Technology Marketing) With Honours.

Signature : 

Supervisor Name : TS. DR. TEOH BAK AUN

Date : 14 January 2024

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DEDICATIONS

I want to dedicate this work to my parents; they have always supported, encouraged, and loved me unconditionally in study and life. Their love and trust supported me, allowing me to overcome many difficulties. They provide guidance and motivation for my studies. Through their selfless dedication, I can persevere to reach my goals. With a grateful heart, I sincerely thank you for your love and support. You are the most important mentors in my life.

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ABSTRACT

Chatbots have increased in popularity across numerous industries due to technological development and societal change. Chatbots help customers search for products, make appointments, and answer consumers' inquiries. Due to COVID-19, many business models have changed from physical to online. The sports industry is in the same situation, so chatbots are needed on their online websites to improve the customer shopping experience. This study investigated the determinants of chatbot adoption toward continuance intention in the sports industry. This research aims to examine the relationship between chatbot adoption and continuance intention. Four measurements will be explored in this study: perceived usefulness, perceived ease of use, satisfaction, and perceived enjoyment. Consequently, the framework was underpinned by the ECM (Expectation Confirmation Model) and TAM (Technology Acceptance Model) theories to position the possible relationships between the variables in the framework. Customer's continuance intention will decrease when they encounter difficulties using the chatbot. There is a need for the researcher to explore this research title to understand the factors that will influence the continuance intention of users to use chatbots. The research uses a quantitative method and a survey questionnaire to collect data from 175 respondents who have experience interacting with chatbots in the Kuala Lumpur region. The study's results have significant practical implications for sports organizations, marketers, and chatbot developers. It can assist sports organizations and marketers design and implement effective chatbot strategies that cater to their target audience's demands and preferences. Based on the findings, the determinants of chatbot adoption positively influence the users' continuance intention. Users' continuance intention is correlated to the variables of perceived usefulness, perceived ease of use, satisfaction, and perceived enjoyment. All the hypotheses are supported in the findings.

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ABSTRAK

Chatbots telah meningkat dalam populariti merentas pelbagai industri disebabkan oleh perkembangan teknologi dan perubahan masyarakat. Chatbots membantu pelanggan mencari produk, membuat janji temu dan menjawab pertanyaan pengguna. Disebabkan covid-19, banyak model perniagaan telah berubah dari fizikal kepada dalam talian. Industri sukan mempunyai situasi yang sama, jadi chatbots diperlukan dalam tapak web dalam talian mereka untuk meningkatkan pengalaman membeli-belah pelanggan. Kajian ini menyiasat penentu penggunaan chatbot ke arah niat berterusan dalam industri sukan. Penyelidikan ini bertujuan untuk mengkaji hubungan antara penggunaan chatbot dan niat berterusan. Empat ukuran akan diterokai dalam kajian ini: persepsi kebergunaan, persepsi kemudahan penggunaan, kepuasan, dan persepsi keseronokan. Oleh itu, rangka kerja adalah berdasarkan teori ECM (Model Pengesahan Jangkaan) dan TAM (Model Penerimaan Teknologi) untuk mencari kemungkinan hubungan antara pembolehubah dalam rangka kerja. Niat berterusan pelanggan akan berkurangan apabila mereka menghadapi kesukaran menggunakan chatbot. Terdapat keperluan untuk pengkaji meneroka tajuk kajian ini untuk memahami faktor-faktor yang akan mempengaruhi niat berterusan pengguna untuk menggunakan chatbots. Penyelidikan menggunakan kaedah kuantitatif dan soal selidik tinjauan untuk mengumpul data daripada 175 responden yang mempunyai pengalaman berinteraksi dengan chatbot di wilayah Kuala Lumpur. Keputusan kajian mempunyai implikasi praktikal yang ketara untuk organisasi sukan, pemasar dan pembangun chatbot. Ia boleh membantu organisasi sukan dan pemasar dalam mereka bentuk dan melaksanakan strategi chatbot yang berkesan yang memenuhi permintaan dan pilihan khalayak sasaran mereka. Berdasarkan penemuan, penentu penggunaan chatbot mempengaruhi niat berterusan pengguna secara positif. Niat berterusan pengguna dikaitkan dengan pembolehubah persepsi kebergunaan, persepsi kemudahan penggunaan, kepuasan dan persepsi keseronokan. Semua hipotesis disokong dalam dapatan.

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LIST OF SYMBOLS AND ABBREVIATIONS

IV	-	Independent Variables
DV	-	Dependent Variables
ECM	-	Expectation Confirmation Model
TAM	-	Technology Acceptance Model
ECT	-	Expectation Confirmation Theory
PE	-	Performance Expectancy
AI	-	Artificial Intelligence
AR	-	Augmented Reality
KL	-	Kuala Lumpur
DOSM	-	Department of Statistics Malaysia
SPSS	-	Software Package for Social Science
MLR	-	Multiple Linear Regression

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CHAPTER 1

INTRODUCTION

1.1 Chapter Overview

The purpose of this research is to examine the factors that influence chatbot adoption towards continued use in the field of sports. The background of the study, problem statement, research objectives, research questions, scope of the studies, significance of the study, definition of key terms, and organization of the thesis are all presented in this chapter as an introduction to the research. It lays the groundwork for the succeeding chapters, which will delve into the specific aspects of the research in more detail.

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1.2 Background of Study

Due to technology improvements and changing customer behaviour, the sports sector has recently experienced substantial expansion and transformation (Gupta et al., 2023; Point, 2023). Chatbots are a developing technology that has gained attention in various industries, including sports (Toader et al., 2019; Sperlí, 2020). For example, previous researchers created a sports website interface to test Chabot's availability on a retail website that sells sports apparel (Toader et al., 2019). Chatbots are computer programs driven by artificial intelligence (AI) that will deliver automatic responses to users' queries and requests, and they are now can understand users' text and voice messages (IBM, 2022). Furthermore, according to Bakhshi et al. (2018), chatbots are intelligent and autonomous agents that will improve their responses after learning from previous interactions.

Customer service and engagement in the sports industry could be revolutionized by chatbots (Frckiewicz, 2023). Integrating chatbots into websites, mobile applications, and social media platforms will enable companies to communicate with consumers more efficiently and personally (SPAR, 2023; Frckiewicz, 2023). For example, to improve language learning for Japanese grammar, previous researchers created a chatbot-based application associated with the social network LINE (Haristiani & Rifa'i, 2020). Chatbots can deliver real-time information, answer frequently asked questions, discuss a specific topic, complete a task, and do various other functions (Smutny & Schreiberova, 2020).

Due to the growing interest in chatbots (Jang et al., 2021; Lommatzsch, 2018; Frangoudes et al., 2021), there is an opportunity to study the determinants that influence their adoption and, more importantly, their impact on users' continuance intention within the sports industry. Continuance intention is the willingness of users to continue utilizing technology or service over a lengthy period (Aigbogun et al., 2023). It is crucial for sports organizations to foster continued usage of chatbots to enhance customer satisfaction, loyalty, and engagement.

In the sports industry, there are a variety of factors that can influence chatbot adoption and users' continued use intent. Perceived usefulness, ease of use, enjoyment, and satisfaction are examples of these factors. Perceived usefulness refers to users' perception of how beneficial and advantageous the chatbot is in fulfilling their needs and requirements (Le, 2023). The user's perception of the ease of learning and utilising the chatbot is called perceived ease of use (Park & Kim, 2023). Satisfaction refers to individuals' overall evaluation or judgment regarding their experiences with a particular product, service, or technology (Hwang & Koo, 2023). Lastly, perceived enjoyment refers to the subjective experience of pleasure, enjoyment, and the positive effect individuals derive from using a particular product, service, or technology (Han et al., 2023).

Sports organizations, marketers, and chatbot developers must understand the factors influencing chatbot adoption and continuance intent in the sports industry. It can assist businesses in designing and implementing effective chatbot strategies that cater to their target audience's wants and preferences. Furthermore, it can also help to

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increase the theoretical understanding of technology adoption and utilization in the setting of the sports industry. This research focuses on the characteristics influencing chatbot adoption in the sports field. By examining the previously listed criteria, this study will provide an understanding of the aspects influencing consumers' adoption decisions and willingness to continue utilizing chatbots in the sports industry. The study's findings can help sports organizations, marketers, and chatbot developers establish effective chatbot strategies to increase customer engagement and satisfaction.

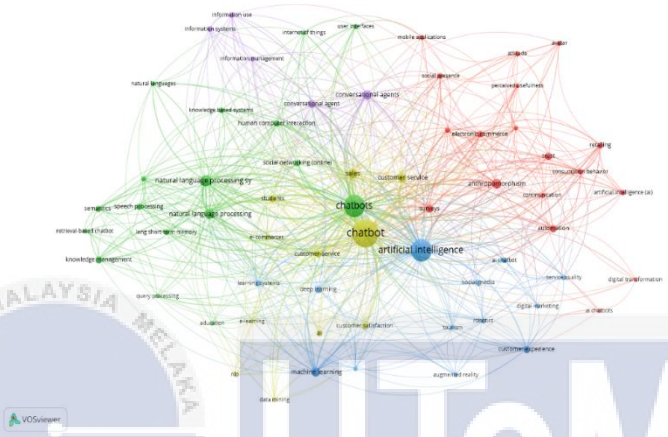

Figure 1.1: The Network Visualization of Chatbots.

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1.3 Problem Statement

Consumers think that chatbots lack the human touch and empathy to deal with mad users (Nguyen, 2019). Hence, consumers still hesitate to utilise chatbots and are unsure about their performance (Nguyen, 2019). This research only used a few metrics from previous studies to quantify chatbot adoption (Liu et al., 2023; Huang & Chueh, 2021; Ashfaq et al., 2020). Based on the four metrics used in this study, previous research has investigated the mechanisms underlying chatbots' continuance intent (Choi et al., 2019; Nguyen et al., 2021). In the chatbot industry, perceived usefulness is a relevant aspect for customers; it is critical in shaping consumer attitudes towards chatbots throughout the early phases of adoption (Belanche et al., 2019). In the marketing literature, satisfaction is regarded as the core antecedent (Brill et al., 2019), and it is critical for building and retaining loyal customers for a long time (Nascimento et al., 2018; Ashfaq et al., 2019). Aside from that, positive customers' attitudes towards

chatbots if the service or system is easier and fun to use (Ashfaq et al., 2020). Previous studies on these factors in the technological environment claimed they could influence actual outcomes (Ashfaq et al., 2020). Nevertheless, there is no significant study on adopting chatbots and continuous intention measures. In the research of Okonkwo & Ade-Ibijola (2020), 60.5% of people claimed that computer programs (chatbots) are difficult to use (Okonkwo & Ade-Ibijola, 2020). In practice, consumers face difficulties when using chatbots, such as ineffective chatbot functionality (Fan et al., 2022), insufficient interpretation of languages (Folstad & Brandtzaeg, 2020), or difficulty in using (Okonkwo & Ade-Ibijola, 2020).

Past research has measured chatbot adoption in areas such as tourism (Orden-Mejía & Huertas, 2022), veterinary (Huang & Chueh, 2021), and banks (Nguyen et al., 2021). In the mobile technology industry, the perceived usefulness of consumers was a powerful predictor of their desire to accept cutting-edge technologies (An et al., 2023). In the tourism industry, perceived ease of use is vital for enhancing consumer satisfaction and continued intent to use (Choi et al., 2019). Besides that, Chung et al. (2018) discovered that fashion firms employ chatbots to engage with customers, respond quickly to customer issues, and provide expertise to minimise uncertainty and satisfy customers. Although recent studies tackle the adoption of consumers and tolerance for emerging technologies (Manis & Choi, 2019), research on consumer involvement and participation in technology is still limited availability (Ameen et al., 2021). Researchers have examined how enjoyment plays a role in online shopping and text in the electronic retail sector. However, De Cicco et al. (2020) note that research into enjoyment in human-chatbot interaction is still in the early phases. Thus, based on previous results, the factors of chatbot adoption and the continued intent of users in the sports market may differ. Theoretically, a previous study has shown no evidence to support the availability of chatbot adoption towards continuance intention in the sports industry (Nguyen et al., 2021).

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Table 1.1: Summary of Previous Research between IVs and DV.

Authors (Year)	Independent Variables	Dependent Variable	Relationship	Research Method
1) Ashfaq et al. (2020)	The determinants of AI-powered service agents	Users' Satisfaction and Continuance Intention	Relationship between AI-powered service agents, and users' satisfaction and continuance intention.	Quantitative
2) Dhiman & Jamwal (2022)	Tourists' post-adoption of chatbots	Tourists' continuance intentions	Relationship between chatbot post-adoption and continuance intention.	Quantitative
3) Ahonen (2022)	Agility in the post-COVID-19 era	Supply chain management	Relationship between agility in the post-COVID-19 era and supply chain management.	Qualitative
4) Chen et al. (2021)	Usability and responsiveness of artificial intelligence chatbot	Online Customer Experience	Relationship between usability and responsiveness of artificial intelligence chatbot, and online customer experience.	Quantitative
5) Huang & Ren (2020)	Technological functions of fitness mobile apps	Continuance Usage	Relationship between technological functions of fitness mobile apps and continuance usage.	Quantitative
6) Chung et al. (2018)	Chatbot e-service	Customer Satisfaction	Relationship between chatbot e-service and customer satisfaction.	Quantitative
7) Zulpratita (2021)	AI Impact	Sport Industry	Relationship between AI impact and sport industry.	Quantitative

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Authors (Year)	Independent Variables	Dependent Variable	Relationship	Research Method
8) Rese et al. (2020)	Chatbots in retailers' customer communication	Customer Acceptance	Relationship between customer communication and customer acceptance.	Quantitative
9) Tsai et al. (2020)	Effects of antecedents	Continuance Intention	Relationship between effect of antecedents and continuance intention.	Quantitative
10) Hsu & Lin (2022)	Conversational AI quality	Users' Satisfaction and Loyalty	Relationship between conversational AI quality and users' satisfaction and loyalty.	Quantitative

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1.4 Research Objective

This study's primary goal is to define the determinants of chatbot adoption towards continuance intention. The following specific objectives guide this study:

1. To determine the factors influencing chatbots' continued intent in the sports industry.
2. To examine the relationship between chatbot adoption and continued intent in the sports industry.
3. To explore the most significant variables that influence the continued intent of chatbots in the sports industry.

1.5 Research Question

The following research questions about the factors that influence chatbot adoption with regard to continuance intention will serve as the study's compass to fulfil the stated objectives.

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1. What are the factors that influencing chatbots' continued intent in the sports industry?
2. What is the relationship between chatbot adoption and continued intent in the sports industry?
3. What are the most significant variables that influence the continued intent of chatbots in the sports industry?

1.6 Scope of Study

This study aims to identify the variables that affect the continuance intention of chatbots in sports fields. The study will look into the elements that influence user adoption decisions and their continuance intention of chatbots, particularly in the setting of the sports sector. The study will focus on sports consumers in Kuala Lumpur, such as fans, fitness enthusiasts, spectators, and customers of sports organizations that interact with chatbot technology in a variety of areas, such as sports websites, social media platforms, and mobile apps. The study will examine a variety of determinants, including perceived usefulness, ease of use, enjoyment, and satisfaction, to see how these affect the adoption of chatbots and continued use in the sports sectors. Survey methods will be used to study these determinants.

The study's geographical scope will be limited to Malaysia's Kuala Lumpur region. Kuala Lumpur is known as the sports hub of Malaysia and hosts a wide range of sports events throughout the year. The study gives insight into factors impacting chatbot adoption and continuance intentions in the Kuala Lumpur sports market by focusing on this area, taking into account any special characteristics or cultural components unique to the region. The study does not delve into the technical aspects of chatbot development or the exact algorithms utilized for interactions, despite its primary focus on the determinants of chatbot adoption and continuance intentions. Instead, it will concentrate on the user's point of view and the elements that affect chatbot adoption and continued intent in the sports sectors.

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The study's scope was limited to the sports industry and may not apply to other industries or situations. The research will provide specific insights for sports organizations and marketers seeking to increase customer involvement and fulfilment in the sports sectors. By outlining the scope of the study, this research would remain concentrated, available, and controllable within set constraints, offering valuable insights into the factors of chatbot adoption and continued intent in the sports industry.

1.7 Significance of Study

The research's findings on the determinants of chatbot adoption in the Kuala Lumpur sports industry have significant practical implications for sports organizations, marketers, and chatbot developers. Sports organizations in Kuala Lumpur may design more effective chatbot strategies to match the demands and preferences of their target audience by studying the factors driving chatbot adoption. Chatbots' design, functionality, and user experience can be guided by insights from the study of determinants, which will increase customer engagement, satisfaction, and loyalty. The study's findings help Kuala Lumpur sports organizations better allocate resources based on work priorities to the areas that will most impact the continuance intention of chatbots. The findings also inform strategic decisions related to chatbot technology investments and digital transformation projects of this study. Beyond that, companies can concentrate on providing customized, effective, and pleasurable interactions with chatbot technology by determining the factors that influence customers' intent to keep using chatbots. This chatbot technology improves response times, boosts consumer satisfaction, and results in more effective customer service. This research enhances the total consumer experience in Kuala Lumpur's sports industry.

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This study brings a localized perspective to understanding chatbot adoption and continuance intentions by focusing on the Kuala Lumpur region. It considers specific characteristics, cultural influences, and preferences unique to Kuala Lumpur, contributing to a contextual knowledge of technology adoption within a specific location. The study particularly emphasizes the sports sector and offers valuable insight into the variables affecting chatbot adoption in this setting. By bridging the gap between technology adoption theory and the realm of the sports industry, this study expands the scarce body of literature on chatbot adoption in the sports sector. This study adapts and extends acknowledged factors of technology adoption to the setting of chatbots in the sports industry by analyzing perceived usefulness, ease of use, enjoyment, and satisfaction. The significance of these criteria in shaping users' adoption decisions and continuation intentions within that particular area can be supported theoretically and empirically by these findings.

1.8 Definition of Key Terms

Chatbots is defined as a computer programme that mimics and handles conversations with users and automatically responds to their questions and requests (Lin et al., 2023).

Technology Adoption is defined as the process by which individuals or organizations adopt and begin to employ new technologies or ideas (Mirthinti, 2023).

Continuance Intention is defined as the willingness of people or consumers to continue using technology, services, or products (Chen et al., 2021).

Perceived Usefulness is defined as consumers' expectations that a certain technology will enhance their current performance (Arghashi & Yuksel, 2022).

Perceived Ease of Use is defined as a measure of a person's perception of how easy-to-use a system (Basuki et al., 2022).

Satisfaction is defined as a user's level of satisfaction after contrasting the performance of a specific service with what was expected of them (Nguyen et al., 2021).

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Perceived Enjoyment is defined as a person's subjectively positive experience when using a specific technology (Holdack et al., 2022).

1.9 Organization of Thesis

This study is organized into five chapters, each of which is relevant to the direction of the research:

Chapter One provides a quick overview of the study's primary objectives and limitations. It emphasizes several key determinants so the reader knows what this study measures. This chapter provides a brief overview of the research background, problem statement, research aims, research questions, research scope, research significance, keyword definitions, and the organization of the paper.

Chapter Two includes a literature overview on numerous related chatbot issues. This chapter discusses the study's measurement variables, theory, and hypothesis. The study looked at the empirical literature on past studies related to this research.

Chapter Three is on research technique, which goes through the research design, study type, unit of analysis, population, sample frame, sampling size, sampling method, data collection method, survey instrument, and in-depth data analysis.

Chapter Four summarizes the results, referencing the literature studied in Chapter Two. This chapter mainly analyses and summarises poll results.

Chapter Five summarises the findings, conclusions, and suggestions. The paper makes policy recommendations based on the findings. This chapter also includes suggestions for further research.

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CHAPTER 2

LITERATURE REVIEW

2.1 Chapter Overview

This chapter mainly reviews chatbot adoption towards continuance intention in the sports industry. The reviews are based on previous research studies that explore by other research authors. It also shows chatbot adoption, continuance intention, and conceptual framework. This chapter's conceptual framework clearly shows the study's measurements. By examining the most recent study findings, this chapter offers insights into the adoption of chatbots in the sports industry.

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2.2 Underpinning Theory

2.2.1 Expectation Confirmation Model (ECM)

The expectation confirmation model (ECM) (Bhattacherjee, 2001) is used as part of this research's supporting theory. Oliver's (1980) expectation confirmation theory (ECT) provides the foundation for Bhattacherjee's (2001) ECM. ECM is a successful model in marketing services and information technology (IT) research, showing customers' intent to continue using it (Park, 2020; Gupta et al., 2020; Ashfaq et al., 2019). ECM has been utilized in several areas, including mobile advertising (Lu et al., 2019) and mobile apps (Tam et al., 2018) to investigate users' continuance, repurchase, and behaviour. According to 51 ECM studies by Ambalov (2018), ECM is suitable for studying user satisfaction and retention intent.

The ECM suggests that performance expectancy, confirmation, and satisfaction are three essential criteria for explaining the consumers' continuing intent

to utilize a product or service (Zhao & Bacao, 2020). Performance expectancy (PE), as defined by Al-Sharafi et al. (2023), is the degree to which a person thinks using a given technology would increase their performance in a particular task. Moreover, confirmation and satisfaction can effectively express the expectations of consumers of continuing utilization of information technology (Almazroa & Gulliver, 2018). If people believe new technologies, like chatbots, are valuable and advantageous, they are more inclined to adopt them (Ashfaq et al., 2020; Bolen, 2020). Besides the three essential criteria, perceived enjoyment is also an important determinant of users' views and intentions toward continuing to use technology (Won et al., 2023; Ni & Cheung, 2023; Kim et al., 2023).

Thus, this research would be underpinned by ECM in investigating the relationship between satisfaction and continuance intention and between perceived enjoyment and continuance intention. It is possible to use only a few ECM constructs, as referred to by the study of Ashfaq et al. (2020). Excluding confirmation and performance expectancy may simplify the model (Ashfaq et al., 2020). This research used a similar approach to generate the suggested model except for the construct confirmation and performance expectancy.

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2.2.2 Technology Acceptance Model (TAM)

Davis (1989) developed the Technology Acceptance Model (TAM) of information systems to describe the ways consumers accept and use information systems. Two reasons consider critical determinants of TAM to anticipate a user's attitudes toward technology use: perceived usefulness and ease of use (Rizun & Strzelecki, 2020). According to TAM, perceived usefulness and simplicity are associated with information system adoption behaviour. These two determinants reflect the consumers' belief that technology would enhance their experience (Ashfaq et al., 2020).

Perceived usefulness reflects how much people think a particular technology would improve their performance, productivity, or efficiency in completing particular

tasks or goals (Hew et al., 2023; Chocarro et al., 2023). How difficult a person perceives a particular technology or system to use is perceived ease of use (Park & Kim, 2023; Kumari & Devi, 2023; Afsay et al., 2023). For example, in this study, perceived ease of use is user impressions of how simple it is to communicate with and use chatbots. In several areas: digital payments (Pushpa et al., 2023), smart factories (Jo, 2023), and tutoring systems (Ni & Cheung, 2023), TAM is being used to investigate users' perceived usefulness, ease of use, and continued intent.

It is feasible to analyse the intention to continue using technology by integrating ECM with other adoption models. Mobile learning systems (Alshurideh et al., 2020), learning management systems (Al-Mamary et al., 2023), m-government (Huda, 2023), and other mobile technologies are examples of how ECM combined with TAM explains consumers' continued use of intent. Since using chatbots in the sports industry is a recent technological development, these two models form the basis of theory for the present research (Frąckiewicz, 2023).

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2.3 Sport Retailing Industry

The sports retailing industry is the industry that sells and distributes sporting goods, equipment, apparel, and associated products to consumers (Chiu et al., 2018). Athletes, sports enthusiasts, fitness enthusiasts, and recreational users are just a few of the diverse groups of consumers served by the sports retailing field. In the sports retailing industry, Foot Locker, JD Sports, Sports Direct, Sports World, JJB Sports, and supermarket chains are some of the major participants (IvyPanda, 2020). Due to new technologies and continual changes in consumer preferences and behaviours, the sports retailing setting is constantly evolving (Mons, 2020). As global supply chains become disrupted due to COVID-19, sporting goods, especially for home use, are in increasing demand (Ahonen, 2022). Conversely, outdoor sports equipment and clothing demand increased after the lockdown (Ahonen, 2022). In addition, due to covid-19, the mode of sports retailing has changed from physical retail stores to online stores (Mons, 2020) to cater for the needs and preferences of individuals interested in

sports and fitness activities. E-commerce has thus become more prevalent, but delivery times have increased.

As a result, consumers have discovered the convenience of buying sporting goods online (Mons, 2020). Customer involvement will become a crucial marketing tactic as online retail overtakes brick-and-mortar establishments (Mons, 2020). It is about creating a lasting impression in customers' eyes (Mons, 2020). During Covid-19, the Americas area, driven by Dick's Sporting Goods and Foot Locker, they have increased aggregate annual sales from $56,653 million to $68,535 million, with 16 shops exceeding $1 billion in revenue from 2020 to 2021 (McGee, 2022). Furthermore, to deal with pandemic-related closures, US retailers quickly adapted to e-commerce and launched features BOPIS (Buy Online, Pick Up In-Store) (McGee, 2022). However, customers may be exposed to information overload while using an online retail store (Alrawad et al., 2023). Leveraging chatbots can help online retailers create a more satisfying, efficient, and customer-centric buying experience (Aslam, 2023).

2.3.1 Technology Introduced in Sport Retailing Industry

Artificial Intelligence (AI) is one of the technologies used in the sports industry (Bellinda, 2023; Xu, 2023; Li, 2023). AI can do things automatically, help people do things better and faster, help them make better choices, and eventually automate decision-making processes that can be done without people (Zulpratita, 2021). AI is significantly changing sports, taking them to a new level (Zulpratita, 2021). AI is also used in professional sports, promotion, and marketing, as well as in areas related to health (Zulpratita, 2021). According to Jim Mollica, SVP of Digital Marketing and Media at Under Armour, the company increasingly utilizes artificial intelligence (AI) to enhance the exercise data it gets via customers to promote its product (Draper, 2019). In this study, a chatbot can personalize the customer experience by collecting and analyzing consumer data, helping to improve customer satisfaction.

Additionally, augmented and virtual reality can enhance the consumer experience (Mons, 2020). For instance, customers try on new clothing while perusing

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the store, and AR/VR will show them what they appear like and what colours complement them best (Mons, 2020). Adidas introduced an augmented reality (AR) function for its iOS app, enabling customers to visually try some of its most iconic footwear (Manalac, 2019). The application offers consumers an immersive and interactive shopping experience. Customers can preview footwear and apparel on their handsets before purchase. Assuming that while previewing and trying on products, users can receive recommendations and information from chatbots, which will help increase user experience and satisfaction.

2.3.2 The Use of Chatbots

The way retailers communicate with consumers is gradually changing due to the rapid adoption of chatbots (Olmez, 2018). In a retail environment, users can ask chatbot questions about purchasing sporting products without waiting a long time for a response from a customer service agent (Rese et al., 2020). As more individuals utilize text-based chatbots in messaging systems, they are being hailed as "an essential component of the consumer services of the future"(Koumaras et al., 2018). In prior studies, chatbots are advantageous for the retail sector (Capgemini, 2018; Patil, 2019). Chatbots offer retailers a substitute for customer service employees to engage with consumers, advertise new items, and answer problems (Przegalinska et al., 2019; Chen et al., 2021). For example, the chatbot can assist users with concerns such as renting a football pitch, discovering sports clubs, changing their profile, or helping them locate what they seek (Qeyam, 2020).

Humans cannot always be present to connect with users and answer numerous repetitive messages and questions (Qeyam, 2020). However, chatbots can provide a versatile tool (Chalaguine, 2023), from personalized recommendations (Kim et al., 2020; Chew, 2022) and customer support (Okuda & Shoda, 2018; Nguyen, 2019) to fitness advice (Mokmin & Ibrahim, 2021) and order management (Mantravadi et al., 2020). Sport retail organizations can improve client experiences, build customer loyalty, and gain a competitive edge by embracing chatbot technology.

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2.4 Continuance Intention

A person's willingness to utilize a specific product, service, or technology throughout time is called their "continuance intention"(Yan et al., 2021). Continued intent is defined as the continuance intention of users to keep utilizing chatbots in their contacts with sports retail companies in the study setting on the determinants of chatbot adoption in the sports industry. Customer endorsement and continuous intention to employ chatbots remain low, although being widely used by the general public today (Ashfaq et al., 2020). This is because of the difficulties consumers face when using chatbots, such as ineffective chatbot functionality (Fan et al., 2022), insufficient interpretation of languages (Folstad & Brandtzaeg, 2020), or privacy issues (Luo et al., 2019). Users will revert to traditional methods, the conversational agent, if they face difficulties using new technology (Dhiman & Jamwal, 2022). Therefore, chatbot adoption is influenced by the user's comfort with technology (Dhiman & Jamwal, 2022).

In addition, if consumers perceive chatbots to exhibit poor technical characteristics, their willingness to continue using them will be affected and slowly decrease (Dhiman & Jamwal, 2022). Superior technical performance can facilitate and improve user performance (Tam & Oliveira, 2019). Dhiman and Jamwal (2022) concluded that measuring continuance usage intentions is as crucial as initial adoption to ensure new technology's success. Survey reports show that 74% of consumers predict that there will be chatbots on the websites they enter, but only 13% of consumers like to talk to chatbots (Forbes, 2019). Based on the above arguments, determinants of chatbot adoption towards continuance intention are worth researching.

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2.5 Technology Adoption

Technology adoption is effectively implementing new technology into an organization (Altadonna, 2023). According to Przegalinska et al. (2019), chatbots are components of artificial intelligence software designed to interact with people via sms or chat. Applying chatbots to customer service is increasingly popular, which benefits

both companies and customers (Nguyen et al., 2021). Chatbot services can handle the needs of a large number of customers 24/7 without the participation of employees (Forbes, 2019). In the long run, the application of chatbots can effectively reduce operating costs and promote the sustainable development of enterprises (Mora et al., 2021).

Table 2.1: Comparison Measurements of Previous Study Towards Continuance Intention.

Items	Ashfaq et al., 2020	Dhiman & Jamwal, 2022	Huang & Ren, 2020	Tsai et al., 2020	Nguyen et al., 2021	Zhu et al., 2022	Zhao & Bacao, 2020	Liu et al., 2022	Belanche et al., 2019	Singh et al., 2019	Akdim et al., 2022	Frequency
Perceived Usefulness	✓	✓	✓	✓	✓			✓	✓	✓	✓	9
Perceived Ease Of Use	✓		✓	✓				✓	✓	✓	✓	7
Satisfaction	✓	✓		✓	✓	✓	✓			✓	✓	8
Perceived Enjoyment	✓		✓			✓		✓			✓	5
Continuance Intention	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	10
Perceived Trust	✓				✓		✓	✓				4
Information Quality	✓				✓							2
Service Quality	✓				✓							2
Need For Interaction With A Service Employee	✓											1
Confirmation		✓		✓	✓		✓					4
Task technology fit							✓					1
Exercise Self Efficacy			✓									1
Technological Functions			✓									1
Positive technology readiness				✓								1
Negative technology readiness				✓								1
System Quality					✓							1
Personalization						✓						1
Voice Interaction						✓						1
Learning						✓						1
Condition						✓						1
Performance Expectancy							✓					1
Effort Expectancy							✓					1
Social Influence							✓			✓		2
Independent Personality								✓				1
Attitude									✓	✓		2
Subjective Norms									✓			1
Perceived Risk										✓		1
Innovativeness										✓		1
Recommendation to use										✓		1
Stress to use a technology										✓		1
Intention to use										✓		1
User Experience											✓	1

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2.5.1 Perceived Usefulness

Safari et al. (2020) indicate that perceived usefulness is "the extent to which a person believes that utilising a particular system would enable them to perform their jobs more effectively". Because perceived usefulness is so frequently used in studies about how people use information systems, researchers have widely used it to measure

continuance intentions in various situations. For example, they are used in instant texting on mobile devices (Dhiman & Jamwal, 2022), mobile self-scanning applications (Ferreira et al., 2023), application-based mobile payment systems (Khayer et al., 2023), mobile shopping (Maduku & Thusi, 2023), and mobile food delivery applications (An et al., 2023).

Emerson's (1976) social exchange theory says that users will be happy with a chatbot if they think interacting with it is worth more than it costs (Dhiman & Jamwal, 2022). However, when a chatbot does not assist consumers effectively, they will perceive the interaction as worth less than the cost (Dhiman & Jamwal, 2022). User's interactions with chatbots may be improved if they believe using chatbot services benefits their duties, such as searching for information or doing online transactions. When they perceive the chatbot's usefulness, quick responses, and realistic solutions, they will continue using chatbots (Nguyen et al., 2021). The perceived usefulness of technology has also been shown in other research to have a considerable impact on users' intentions to continue using it (Nguyen et al., 2021; Wang et al., 2022; Khlaif et al., 2022). Thus, one of the reasons people continue using chatbots is their perceived usefulness (Ashfaq et al., 2020).

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2.5.2 Perceived Ease of Use

Perceived ease of use, a key element in technology studies (Davis et al., 1989), is defined as "the degree to which the potential user expects the system to be simple" (Alshurafat et al., 2023). According to earlier research, it is important for the continuous intent to employ new technology (Liu et al., 2022). Chatbot services must be easy to understand, transparent, and help complete tasks to retain users (Ashfaq et al., 2020). These characteristics are positively associated with continuation intent (Ashfaq et al., 2020; Ashfaq et al., 2019). The first stage in users understanding of new technology will be the perceived ease of use (Park & Kim, 2023). Certain chatbots have a disorganized user interface or extremely complicated settings that will make users difficult to start a conversation (Ashfaq et al., 2020). If chatbots are user-friendly, users will be more satisfied and likely to keep using them (Ashfaq et al., 2020).

2.5.3 Satisfaction

Customer satisfaction is essential for users' continued desire to utilize technology, according to Bhattacherjee's (2001) ECM. Numerous research contexts (Alghamdi et al., 2018; Mishra et al., 2023) proved that satisfaction is crucial for users' continuation intentions (Nascimento et al., 2018). Sanny et al. (2020) claim that interactions with chatbots that can perform information searches and identify items that suit customers' needs are the most likely source of customer satisfaction. Additionally, according to Kruus et al. (2019), process efficiency, convenience, personalization, and recommendation accuracy are key characteristics of chatbots that have a favourable relationship with customer satisfaction. Consumers will feel satisfied when the chatbot's expectations and performance are equal (Dhiman & Jamwal, 2022). Then, customer satisfaction can help improve their loyalty and affect their willingness to continue using and future behaviour (Zaid et al., 2020). In certain marketing literature, satisfaction is also recognized as the primary antecedent (Brill et al., 2019) and is vital in establishing and sustaining long-term, devoted clients (Nascimento et al., 2018; Ashfaq et al., 2019).

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2.5.4 Perceived Enjoyment

Perceived enjoyment is an extension of ECM, as demonstrated by Pereira & Tam (2021), who extended ECM with perceived enjoyment to examine the desire to continue using video-on-demand services. A person's subjective assessment of the pleasure, enjoyment, and happiness experience brought about by using a given product, service, or technology is called perceived enjoyment or hedonic motivation (Won et al., 2023). Consumers are more inclined to continue utilizing a media or information system if it provides enjoyment or emotional gratification (Huang & Ren, 2020). The literature demonstrates that users find systems entertaining, which can affect their fulfilment and desire to continue, as users sometimes use technology for enjoyment rather than performance enhancement (McLean et al., 2020). Additionally, research has proven that perceived enjoyment, particularly in technical contexts, is critical in determining user fulfilment and continuance intent (Ashfaq et al., 2020). For

example, AI-powered intelligent tutoring systems (Ni & Cheung, 2023), travel apps (Foroughi et al., 2023), and mobile banking applications (Orehovački et al., 2023). When users interact with chatbots, a pleasant and entertaining experience generates positive emotions (Chung et al., 2018), increasing customer satisfaction (Park, 2020). Consumers will be satisfied and likely to use it again if there is a pleasant interaction with a chatbot.

2.6 Conceptual Framework

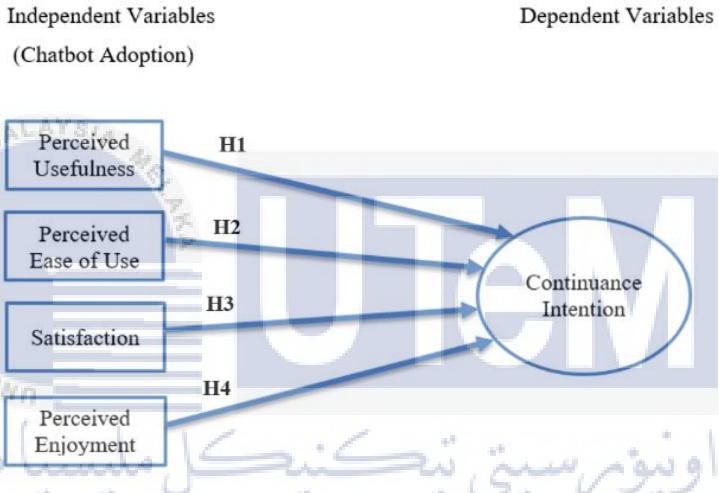

Figure 2.1: Research Model of the Study.

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2.7 Hypothesis on Chatbots Adoption and Continuance Intention

The level of service may boost users' desire to return if the chatbot interface is well-organized, understands customers' concerns, and solves their problems quickly (Ashfaq et al., 2020). According to a previous study, perceived usefulness can boost user adoption of Chatbots (Rese et al., 2020). Researchers have utilized perceived usefulness to gauge continuation intention in various situations with the consistent usage of perceived usefulness in information system adoption studies (Singh et al., 2019; Zhao & Bacao, 2020). Recent research discovered that perceived usefulness is a substantial driver of the continued utilizing chatbots (Ashfaq et al.,

2020). Recent research has also indicated that perceived usefulness significantly influences continued intention to employ technology (Wang et al., 2022; Nguyen et al., 2021; Khlaif et al., 2022). Therefore, the following is how the hypothesis is developed:

H1 : There is a positive relationship between perceived usefulness and continuance intention.

Perceived ease of use from TAM is being viewed as an essential element in improving continuance intention, particularly in the technological environment (Choi et al., 2019). According to Ashfaq et al. (2019), If a system or service is simple and pleasurable to use, users are more inclined to have a positive attitude towards it. However, when using chatbots in a working setting, perceived ease of use is essential (Rietz et al., 2019). Technology such as chatbots should be easy to use and understand, according to Davis et al. (1989), to enhance customer fulfilment. The task in chatbots should make it easy for consumers to accomplish. These characteristics are strongly connected to continued intent (Cheng et al., 2021; Kim & Song, 2021; Phuong et al., 2020; Ashfaq et al., 2019). Therefore, the following is how the hypothesis is developed:

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H2 : There is a positive relationship between perceived ease of use and continuance intention.

Reviews of the consumer's initially testing experience with the service, which can be captured as either good or negative feelings (satisfaction or dissatisfaction), are used to construct satisfaction criteria (Ye et al., 2023; Tam et al., 2022). In previous research, brand extension products (Guo et al., 2018), mobile apps (Tam et al., 2020), and information technology (Zhu et al., 2022; Nong et al., 2022) were all examples of scenarios where satisfaction had a favourable impact on continued use. Furthermore, in an e-learning system, users will keep using it if they are fulfilled by it (Yang et al., 2022; Cheng, 2022). Satisfaction also can be used in a chatbot context to explain the relationship with continuance intention. If users are satisfied with its overall performance, they will continue to utilise it. Following ECM studies (Bhattacherjee, 2001), it was discovered that users' satisfaction level significantly influences their

continued use of IT (Hsu & Lin, 2022; Chiu et al., 2021). For instance, communicating with customers, responding to inquiries quickly, and giving customers broad and in-depth information can eliminate uncertainty and increase customer satisfaction (Chung et al., 2018). Fashion brands adopt chatbots to quickly respond to inquiries and give customers broad and in-depth information (Chung et al., 2018). Chatbots help to eliminate uncertainty and increase customer satisfaction (Chung et al., 2018). Therefore, the following is how the hypothesis is developed:

H3: There is a positive relationship between satisfaction and continuance intention.

Perceived enjoyment significantly shapes users' attitudes and intentions towards continued usage (Abdelwahed & Soomro, 2023; Meena & Sarabhai, 2023). When users perceive the chatbot interactions as enjoyable, entertaining, and satisfying, it can positively influence their overall experience and increase their continued intent to utilize the chatbot. The desire to use technology is increased by the entertainment effect (Chung et al., 2018). According to several lines of research, particularly in technological contexts, perceived enjoyment strongly predicts users' satisfaction and continued intent (Ashfaq et al., 2020; Akdim et al., 2022). Thus, when users are satisfied with the chatbot service, they are more inclined to adopt chatbots (Rese et al., 2020). As a result, perceived enjoyment contributes to the user's overall experience with the chatbot and influences their intention to keep utilizing it (Ashfaq et al., 2020). Therefore, the following is how the hypothesis is developed:

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H4: There is a positive relationship between perceived enjoyment and continuance intention.

2.8 Summary

After reviewing the past research studies, there are different measurements between them, and this research only uses particular measurements to evaluate. Chatbot adoption and continuing intention have a positive relationship between it. The measurements of these two relationships are perceived usefulness, ease of use, enjoyment, and satisfaction. ECM and TAM are utilized in this research to measure chatbot adoption towards continuance intention in the sports retail industry. The functionality of chatbots may affect the continuance intention of the customer. Hence, researchers seek to investigate the association between chatbot adoption and continuing intention.

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CHAPTER 3

RESEARCH METHODOLOGY

3.1 Chapter Overview

Methods that use in research to evaluate research topics are called research methodology. It is critical to use the most suitable method in the research, as it will directly affect the accuracy of the research. This section will show the research design, survey instruments, data analysis, and a summary.

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3.2 Research Design

3.2.1 Type of Study

Respondent data will be collected for the study via questionnaires. A questionnaire is a research tool that asks pertinent questions of respondents to collect pertinent data. Online, over the phone, on paper, or in person are many options for administering questionnaires, which might be qualitative or quantitative. There is no requirement that questionnaires be filled out in front of a researcher. Using questionnaires, researchers may deliberately manage their target audience, questions, and format while gathering massive amounts of data on any topic (Cint, 2022).

This study only employs quantitative research methods. Its goal is to collect numerical data and analyze relationships and patterns between variables connected to adopting chatbots in the sports industry and the determinants of continuance intention. In quantitative research, it is assumed that the structure under study can be measured. Quantitative research analyses numerical data to identify patterns and connections and takes measurements to validate answers to queries. In this context, digital data

processing refers to actions to assist researchers and research consumers in deriving meaning from data. This procedure must thoroughly analyze and interpret its implications to assess how effectively the data addresses the research topic (Kotronoulas et al., 2023).

3.2.2 Unit of Analysis

The "who" and "what" the researchers are analysing serve as the unit of analysis (Oliveira et al., 2023). The individual consumer or chatbot user in the sports retail industry is this study's analysis unit. The consumers could be sports enthusiasts or fitness enthusiasts who have bought sport product online and used chatbots. The main goal is to understand the elements influencing their adoption of chatbots and their intention to keep using them. Perceived usefulness, ease of use, enjoyment, and satisfaction are the aspects that this research looks at as they relate to user adoption. Additionally, these elements will be considered precursors of the user's intention to keep using the system.

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3.2.3 Population

The users of chatbots in the Kuala Lumpur research area's sports retail sector are the study's targeted population. It includes individuals who have interacted with chatbots in the context of sports retail, such as customers seeking information, making purchases, or engaging in customer support interactions. This study targeted the population in Kuala Lumpur because it is widely recognised as Malaysia's sports capital, and it organises various sporting events throughout the year. KL has hosted many international sporting events, including the Malaysia Open Badminton Championships, the SEA Games, and the Formula 1 Malaysian Grand Prix. After hosting the 16th Commonwealth Games in 1998, sports and recreational facilities grew fast throughout Malaysia, particularly in Kuala Lumpur (Gift, 2017). Kuala Lumpur

has 1.9 million residents, according to the Department of Statistics Malaysia (DOSM) (Dosm, 2022).

Table 1: No. of population and annual population growth rate by state, 2021-2022

State	2021		2022[e]	
	No. of population (Million)	Growth rate (%)	No. of population (Million)	Growth rate (%)
Johor	4.0	0.3	4.0	0.1
Kedah	2.2	0.9	2.2	0.9
Kelantan	1.8	1.1	1.8	0.9
Melaka	1.0	0.6	1.0	0.3
N.Sembilan	1.2	0.3	1.2	0.4
Pahang	1.6	0.6	1.6	0.7
Perak	2.5	0.8	2.5	0.2
Perlis	0.3	0.9	0.3	0.8
Pulau Pinang	1.7	-0.0	1.7	-0.1
Sabah	3.4	-0.2	3.4	-0.6
Sarawak	2.5	0.5	2.5	0.2
Selangor	7.0	0.3	7.0	0.3
Terengganu	1.2	1.8	1.2	1.4
W.P. Kuala Lumpur	2.0	-0.9	1.9	-1.0
W.P. Labuan	0.1	0.9	0.1	0.9
W.P. Putrajaya	0.1	5.4	0.1	4.3

[e] Estimates

Figure 3.1: Population Data from Department of Statistics Malaysia (2022).

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3.2.4 Sampling Frame

The sampling frame outlines the collection of variations the researchers picked to include in the sample and forms the basis of the units of analysis (Welser et al., 2020). The list or source from which the sample will be taken is another term for the sampling frame. The databases or records of clients or users who have previously engaged with chatbots in the Kuala Lumpur sports retail industry could serve as this study's sampling frame. This could include customer databases, online platforms, or membership lists of sports retail businesses.

3.2.4.1 Sample Size

The study used the Davidson et al. (2022) sample size determination approach with G*Power software to reinforce the justifications for the sample size needed. The G*Power software allows users to compute statistical power based on various tests. To calculate the required sample size, the user can provide the test type, desired level of power, and alpha level. Based on Cohen's recommendations, G*Power software offers the impact of size categories of "small," "medium," and "large" for the computation of the sample size for a statistical test (Jama, 1997; Kang, 2021). These offer standard effect size figures that vary for various tests (Kang, 2021). According to the G*Power software's findings, 85 samples would be adequate for this study. Hence, 85 respondents from Kuala Lumpur will be randomly chosen for this study.

However, the researchers decided to increase the required sample size due to the poor response rate, as Mpofu et al. (2023) indicated. Lower response rates may result in weakened statistical power, restricted applicability of complex statistical procedures, concern regarding the sample's validity, and contributed to the smaller data samples (Pielsticker & Hiebl, 2020). In other words, low response rates may indicate potential biases in survey research, including non-response bias (Pielsticker & Hiebl, 2020). As a result, the number of questionnaires issued will be doubled to around 170 responders.

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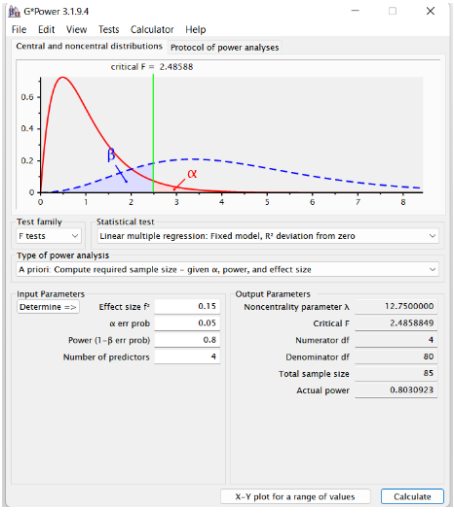

Figure 3.2: Data from G-power Application.

3.2.5 Sampling Method

Probability sampling and non-probability sampling are the two different types of sampling techniques. According to probability sampling, each component of the population has an equal opportunity to get selected for the study's sample (Rahi et al., 2019). Systematic sampling, simple random sampling, stratified random sampling, cluster sampling, and multistage sampling are a few examples of probability sampling techniques (Obilor, 2023). On the other hand, there is no predetermined likelihood that each item in the population will be selected for the sample is defined as non-probability sampling (Rahi et al., 2019). Non-probability sampling strategies include snowball, quota, convenience, and purpose (Obilor, 2023).

The sampling method for this study would be a combination of probability and non-probability. To guarantee that everyone has an equal chance of being selected for the population sample, probability sampling techniques—simply random sampling—are used. The questionnaire will be distributed to the chatbot users associated with sports retail stores by a simple random sampling method for the online platform. Non-probability, which is convenience sampling, is utilized to reach out to users who are readily accessible or have shown prior interest in chatbot interactions. The questionnaire will be distributed to the user who has interacted with chatbots using a convenience sampling method.

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3.2.6 Data Collection Method

The chosen sample of chatbot users will be given a survey questionnaire as part of the data collection procedure for this study. One of the techniques used in quantitative research for gathering data is surveys. Depending on the accessibility and preferred methods of the respondents, the survey may be carried out using online platforms, email invitations, or in-person contacts. In this research, 170 copies of the questionnaire will be distributed physically (sports retail stores or gyms in Kuala Lumpur) or online (social media platform). Respondents will be asked a question before answering the questionnaire; “Do you have experience using chatbots to buy

sports equipment or sports apparel?". This question is asked to ensure that the respondent has interacted with chatbots in the sports industry. Items on perceived usefulness, ease of use, enjoyment, satisfaction, and other pertinent variables noted in the research objectives and research questions are all included in the questionnaire.

The most popular quantitative data-collection technique is conducting a survey. Close-ended surveys in this research ask respondents to rate chatbots along a scale. A closed-ended question consists of pre-populated answer possibilities from which the respondent must select; a special or unexpected response cannot be provided (Chattermill, 2018). In order to analyse the relationships between chatbot users, these surveys also collect demographic information about them, such as age, gender, occupation, and income (Houston, 2023).

Employing questionnaires is intended to guarantee that the information gathered is precise and standardized. By offering standardized response options, questionnaires provide a systematic framework for respondents to choose their responses. This makes answering questions clearer, assures consistency, and simplifies analyzing and contrasting answers. Finding patterns, trends, and correlations between variables is made easier for researchers by using standardized responses to statistically analyze and categorize data (Lindemann, 2023). In this study, we used questions from other researchers' surveys to verify that the questions we asked the respondents were highly valid. The greater the validity, the more precisely the measure can reflect the theory.

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3.3 Survey Instrument

The survey instrument for this study was created using multiple relevant research journals as references. This study used a survey questionnaire to collect the data and quantitative methods to analyze the data collected. A questionnaire is a research tool made up of a series of questions or other kinds of instructions designed for gathering data from a respondent (Bhat, 2023). Quantitative questionnaires are used to validate or test previously developed hypotheses (Bhat, 2023).

3.3.1 Measurement of Variables and Construct

In order to examine users' experiences with chatbots and their intention to continue using them, the Nominal scale and Likert scale will be employed in the study's questionnaire.

Nominal scales group or categorise data into mutually exclusive groups or categories. The initial and most fundamental level of measurement is the nominal level. It qualitatively classifies and names variables. It assigns individuals to recognisable groups without offering any numerical data (Stevens, 2023). Section A of the questionnaire in this research are designed by nominal scale. For example, Question 1 category by gender, 2 categories by age, 3 by education, 4 by occupational status, and 5 by income.

People can express how strongly they agree or disagree with a given idea using the Likert scale, which has five (or seven) points (Mcleod, 2023). Based on the enormous amount of measurement components, a five-point Likert scale appears less difficult and requires less time for respondents to increase their response rate (Zhao & Bacao, 2020). A five-point Likert scale is used in this study's questionnaire, parts B and C, to examine user responses. Numbers from 1 to 5 signifying strongly disagree through strongly agree will be used to assess Sections B and C.

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3.3.1.1 General Questions

Sections A, B, and C are three sections divided in the questionnaire of this study. Section A contains information about the respondents' demographic data, including gender, age, the highest level of formal education, occupational status, and income.

Table 3.1: Respondent's Demographic Data (Section A).

List of items
Gender - Male - Female
Age - Below 18 years - 18 - 29 years - 30 - 39 years - 40 - 49 years - 50 - 59 years - Above 59 years
Highest level of formal education - Secondary (SPM) - Pre-university (STPM, A-level, or Matriculation) - Tertiary (Degree, Master, or PhD)
Occupational status - Employed worker - Self-employed - Housewife - Student - Retirees - Other
Income - No Income - RM 2500 & Below - RM 2501 - RM 5000 - RM 5001 - RM 10000 - RM 10001 - RM 15000 - Above RM15000

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3.3.1.2 Independent and Dependent Variables Construct

The determinants that influence chatbot adoption, such as perceived usefulness, ease of use, enjoyment, and satisfaction, are covered in Section B. The impact of chatbot adoption on continued intent is covered in Section C. There are four to six questions provided in each item for respondents to answer.

Table 3.2: Determinants of Chatbot Adoption Towards Continuance Intention (Section B & C).

List of items	Number of items
Perceived usefulness 1. Chatbots are useful in my daily life. 2. Chatbots raises my chances of picking up critical items. 3. By using chatbots, I can complete the shopping process more quickly. 4. I feel secure when I use chatbots to make purchases. 5. In general, chatbots are helpful.	5
Sources: (Lee et al., 2019)	
Perceived ease of use 1. My interaction with chatbots is simple and easy to comprehend. 2. Chatbot interaction doesn't need a lot of psychological effort. 3. I find chatbots to be user-friendly. 4. It is simple for me to get chatbots to perform what I want them to accomplish. 5. It is simple for me to figure out the use of chatbots. 6. I possess the expertise required to employ chatbots	6

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Sources: (Venkatesh & Davis, 2000; Buabeng-Andoh, 2018)	
List of items	**Number of items**
Satisfaction 1. I find chatbots to be satisfactory 2. I like using chatbots. 3. The chatbots performed well. 4. The chatbots performed as I anticipated. 5. I like interacting with chatbots. 6. My experience communicating with chatbots was positive.	6
Sources: (Chung, 2020)	
Perceived enjoyment 1. I enjoy chatting with the chatbot. 2. Having a conversation with the chatbot is enjoyable and fun. 3. The chatbot dialogue is appealing. 4. I like purchasing things that the chatbot suggests over those I chose on my own. 5. I was fully engaged in the chatbot's dialogue.	5
Sources: (Lee & Choi, 2017)	
Continuance intention 1. I want to keep communicating with the chatbot. 2. I would like to remain using the chatbot's services. 3. I will remain to use the chatbot rather than call human customer service. 4. I will keep utilizing the chatbot in the future.	4
Sources: (Bhattacherjee, 2001; Jiang et al., 2022)	

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3.4 Data analysis

According to Calzon (2023), data analysis is the procedure of acquiring, designing, and evaluating data using various statistical and logical approaches and processes. This study will examine the data gathered using IBM SPSS Statistics software. The association between independent and dependent variables will be examined using multiple regression analysis using the Software Package for Social Science (SPSS).

Multiple regression analysis is a statistical technique for investigating the association between a dependent variable and one or more independent variables (Niu et al., 2019). It enables evaluating how several independent factors interact with the dependent variable and quantifying their individual contributions. A traditional statistical tool for simulating intricate input-output interactions is multiple linear regression (MLR). Finding a linear function that roughly approximates a group of independent variables and the dependent variable is the basic goal of MLR (Niu et al., 2019).

In contrast, a dependent variable and several independent variables are modelled linearly by linear regression. Multiple linear regression is performed when there are many independent variables. Since changes in the independent variables are proportionate to changes in the dependent variable, the term "linear" in multiple linear regression signifies that the relationship between the variables is thought to be linear.

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In summary, multiple regression analysis and multiple linear regression are the same technique in which numerous independent variables are utilised to predict or explain a dependent variable via a linear connection.

3.4.1 Descriptive analysis

A descriptive analysis must be conducted for researchers to convey their findings effectively. Any interpretive reflection must begin with the descriptive

analysis method, which seeks to provide an explanation for what occurred. This is accomplished by arranging, adjusting, and assessing unprocessed data from diverse sources to produce insightful data useful to the organisation (Calzon, 2023). A measure of central tendency, sometimes referred to as a measure of central location, is typically used to describe the observations when calculating the representative value of a data collection. The mean, median, and mode are three parameters of central tendency (Mishra et al., 2019). This can help researchers to understand the pattern behind the data collected, such as different gender will have different perspectives towards the research question.

3.4.2 Reliability Analysis

Using reliability analysis, it is feasible to investigate the properties of assessing scales and the elements that comprise them. The reliability analysis method generates a variety of commonly used scale reliability measures in addition to generating data on the associations between the scale's component items. Intraclass correlation metrics can draw inter-rater confidence intervals (IBM, 2021). If the correlation in the reliability analysis is strong, the scale delivers reliable results. A reliability test will be conducted in this research to assess the credibility of the survey instrument. This study will use Cronbach's alpha to calculate the survey questionnaire variables. Cronbach's alpha is the most well-known metric of internal coherence (or "reliability"). It is most commonly used when a questionnaire or survey comprises numerous Likert ratings that form a scale, and researchers want to know how accurate it is (Glen, 2023).

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3.4.3 Inferential Analysis

3.4.3.1 Pearson Correlation Analysis

For identifying a linear relationship, the Pearson correlation coefficient (r) is the most often used statistic. A value between -1 and 1 represents the intensity and direction of a relationship between two variables. This study uses this methodology to

investigate the association between chatbot adoption and the intention to continue using it. Furthermore, the correlation coefficient of Pearson is an inferential statistic that may be used to assess statistical hypotheses. It can, for example, develop whether there is a substantial relationship between two variables. The correlation Pearson's value also shows whether the best-fit line has a positive or negative slope. When the slope is negative, likewise is r. When the slope is positive, r is positive (Turney, 2023).

Pearson correlation coefficient (*r*) value	Strength	Direction
Greater than .5	Strong	Positive
Between .3 and .5	Moderate	Positive
Between 0 and .3	Weak	Positive
0	None	None
Between 0 and –.3	Weak	Negative
Between –.3 and –.5	Moderate	Negative
Less than –.5	Strong	Negative

Figure 3.3: Pearson Correlation Coefficient (r) Value.

3.4.3.2 Linear Regression Analysis

Regression analysis is a set of statistical techniques used for assessing the associations between one or more independent variables and one dependent variable. It can assess the strength of a variable's association and predict its future association. Regression analysis is classified into three types: linear, multiple linear, and nonlinear. The most common are simple linear and multiple linear models. Nonlinear regression analysis is frequently employed with more complicated data sets that include a nonlinear association between the dependent and independent variables. Simple linear regression is a model that investigates the association between a dependent variable and an independent variable. Multiple linear regression analysis is equivalent to simple linear regression analysis in that it includes many independent variables in the framework (Taylor, 2023).

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3.5 Pilot Test

Table 3.3: Pilot Test Result of the Measurement Instruments (10 Responses Data).

Dimensions	Code	No. of Items	Pilot Study Cronbach's Alpha Value (>0.70)
Perceived Usefulness	PU	5	0.860
Perceived Ease of Use	PEOU	6	0.908
Satisfaction	SA	6	0.928
Perceived Enjoyment	PE	5	0.889
Continuance Intention	C	4	0.780

Note: PU = Perceived Usefulness, PEOU = Perceived Ease of Use, SA = Satisfaction, PE = Perceived Enjoyment, C = Continuance Intention

3.6 Summary

Conclusively, the information gathered from the distributed surveys will be combined, and the SPSS results will be analysed. There were various aspects to the analysis, including descriptive analysis, normality analysis, reliability analysis, and inferential analysis. Other than that, the pilot test in Table 3.3 shows the reliability of measurements in this study, in which all the Cronbach's Alpha values are higher than 0.7. The other analytical results will be presented in the subsequent section for further discussion.

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CHAPTER 4

DATA ANALYSIS

4.1 Chapter Overview

In order to discuss the study's findings further, SPSS version 27.0 will be used to analyze the response data gathered in this chapter. The analysis is divided into various sections, such as the demographic analysis of the respondents, factor analysis, reliability analysis, Pearson correlation analysis, and multiple regression analysis. The results summary will be expanded upon at the end of this chapter.

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4.2 General Information of Data Collected

4.2.1 Data Entry – Codebook

Table 4.1: Codebook of Independent and Dependent Variables.

Items	Code
Perceived Usefulness	PU
Perceived Ease of Use	PEOU
Satisfaction	SA
Perceived Enjoyment	PE
Continuance Intention	C

4.3 Respondents' Demographic Analysis

The first part of the survey questionnaire needs respondents to answer five questions about themselves, including gender, age, highest level of formal education, occupational status, and income. Researchers may use this segmentation to understand better the varying requirements and preferences of various demographic groups. In this section, frequency analysis will be used to examine the demographic profile of respondents.

Table 4.2 outlines that most of the respondents are female. There are 99 females out of 175 respondents, while the left is males (76 people). In terms of respondent's age, most of the respondents are between 18-29 years (45.1 percent), while others are below 18 years (6.9 percent), between 30-39 years (24 percent), between 40-49 years (14.3 percent), between 50-59 years (5.1 percent), and above 59 years (4.6 percent). Additionally, the frequency analysis revealed that the majority of the survey respondents have a higher level of formal education. Hence, most respondents have tertiary (43.4 percent), followed by secondary (40 percent) and pre-university (16.6 percent).

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Furthermore, the respondents' data also implied that most respondents are students and employed workers, who account for 38.9 percent and 37.7 percent, respectively. Remain are self-employed (14.3 percent), housewife (6.9 percent), retirees (1.1 percent), and other (1.1 percent). Lastly, in respect of income (Ringgit Malaysia), most of the respondents do not have income (37.7 percent), and the rest are between RM2501 - RM 5000 (28 percent), RM 5001 - RM 10000 (16.6 percent), RM 2500 & Below (13.1 percent), RM 10001 - RM 15000 (4 percent), and above RM 15000 (0.6 percent).

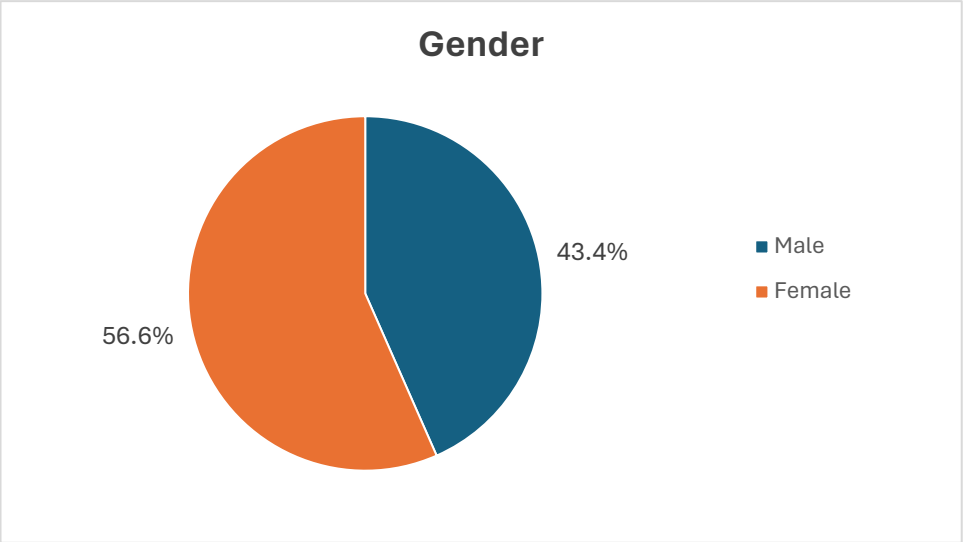

Figure 4.1: Respondent's Gender.

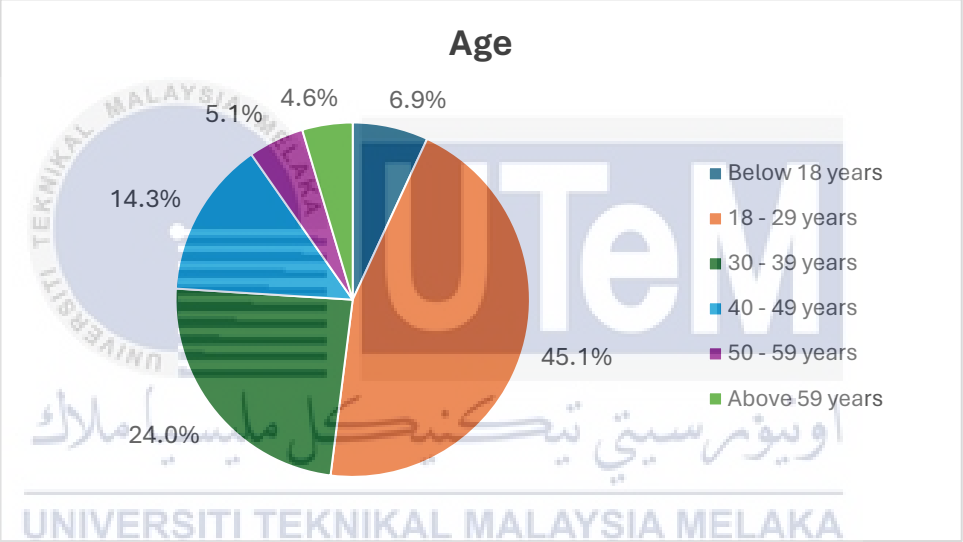

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Figure 4.2: Respondent's Age.

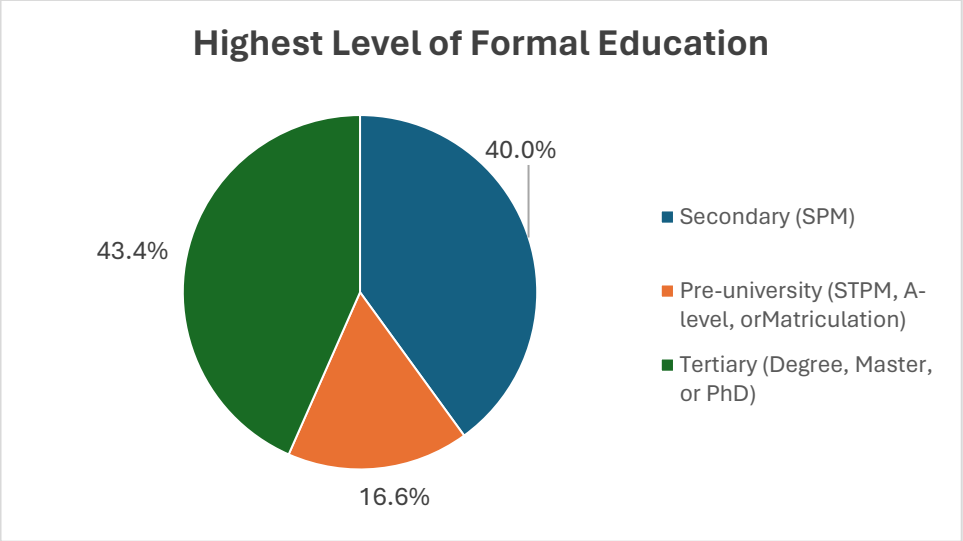

Figure 4.3: Respondent's Highest Level of Formal Education.

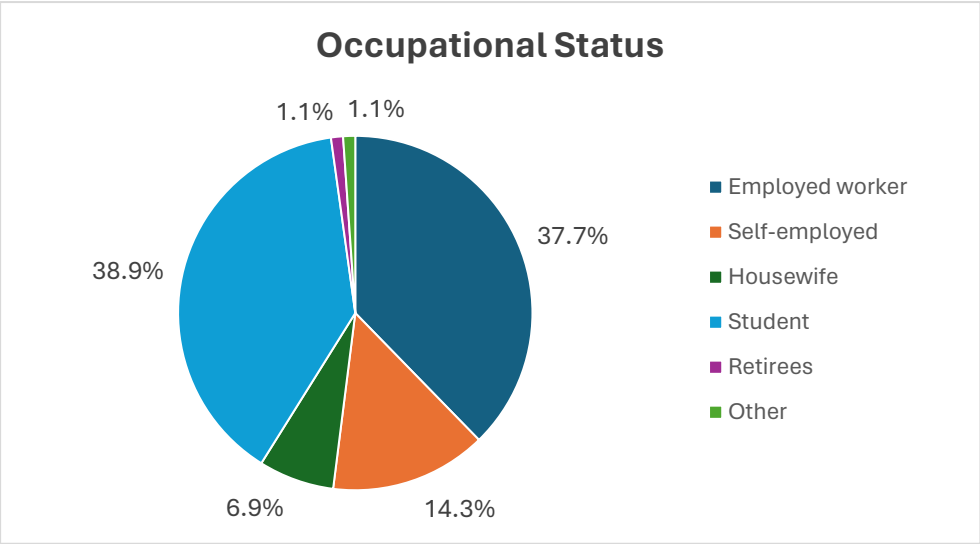

Figure 4.4: Respondent's Occupational Status.

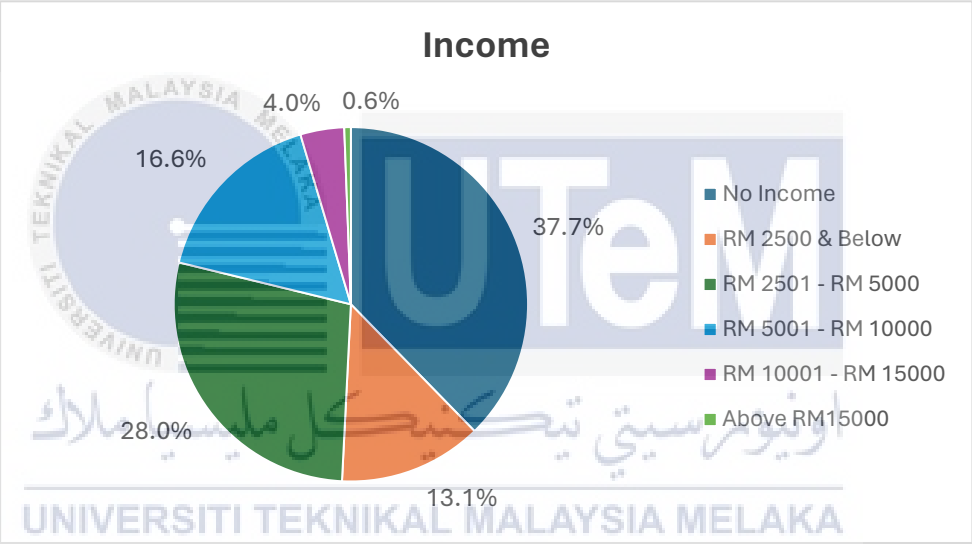

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Figure 4.5: Respondent's Income.

Table 4.2: Demographic Profile of the Respondents (n = 175).

Demographic Variables	Categories	Frequency	Percentage
Gender	Male	76	43.4
	Female	99	56.6
Age	Below 18 years	12	6.9
	18-29 years	79	45.1
	30-39 years	42	24
	40-49 years	25	14.3
	50-59 years	9	5.1
	Above 59 years	8	4.6
Highest level of formal education	Secondary (SPM)	70	40
	Pre-university (STPM, A-level, or Matriculation)	29	16.6
	Tertiary (Degree, Master, or PhD)	76	43.4
Occupational status	Employed worker	66	37.7
	Self-employed	25	14.3
	Housewife	12	6.9
	Student	68	38.9
	Retirees	2	1.1
	Other	2	1.1
Income	No Income	66	37.7
	RM2500 & Below	23	13.1
	RM2501-RM5000	49	28
	RM5001-RM10000	29	16.6
	RM10001-RM15000	7	4
	Above RM15000	1	6

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4.4 Goodness of Measures

To assess the quality of variables, both factor analysis and reliability tests are carried out on both the independent variables (perceived usefulness, perceived ease of use, satisfaction, and perceived enjoyment) and dependent variables (continuance intention).

4.4.1 Factor Analysis

Factor analysis is a statistical technique for determining underlying relationships between observed variables (Axelrad et al., 2023; Shrestha, 2021). Researchers and analysts can use factor analysis to simplify complicated relationships and get insights into the underlying elements contributing to observed patterns.

An analysis of the independent and dependent variables was conducted on a set of 26 items, revealing 5 distinct components: perceived usefulness (5 items), perceived ease of use (6 items), satisfaction (6 items), perceived enjoyment (5 items), and continuance intention (4 items). This analysis confirmed the presence of 5 factor components within the results.

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Table 4.3: Result of KMO and Bartlett's Test.

Component	1	2	3	4	5
Eigenvalues	19.357	0.709	0.521	0.489	0.432
Total Variances Explained	74.450	2.725	2.005	1.882	1.660
KMO	0.977				
Bartlett's Test of Sphericity Test			Approx. Chi-Square		5641.734

According to the factor analysis findings, the independent and dependent variables comprise five components with eigenvalues larger than 1.0 and a total variance of 82.72 percent. A significant correlation in the sampling was demonstrated by the Kaiser-Meyer-Olkin (KMO) of 0.977, which is used to assess the data suitability for factor analysis (Shrestha, 2021; Shkeer & Awang, 2019). KMO values between 0.8

and 1.0 show that the sampling is sufficient and appropriate for data analysis (Shrestha, 2021). Bartlett's Test of Sphericity is used to determine whether a correlation exists, and the results indicate that it is significant (Chi-square = 5641.734, p< 0.00). A significant value of less than 0.05 shows that implementing factor analysis for the data set may be valuable (Shrestha, 2021; Ostic et al., 2021). Appendix B indicated factor loadings for independent and dependent variables that were obtained from the rotated component matrix.

All five perceived usefulness items (PU1, PU2, PU3, PU4, PU5) were approved based on Appendix B. On the other hand, there are only four out of six items of perceived ease of use (PEOU1, PEOU2, PEOU3, and PEOU5) were accepted, while PEOU4 (It is simple for me to get chatbots to perform what I want them to accomplish) and PEOU6 (I possess the expertise required to employ chatbots) were removed.

At the same time, for satisfaction variables, all items were accepted except for SA4 (The chatbots performed as I anticipated) and SA5 (I like interacting with chatbots). Lastly, four (PE1, PE2, PE3, PE5) out of five items of perceived enjoyment were accepted, PE4 (I like purchasing things that the chatbot suggests over those I chose on my own) were withdrawn. Items that had factor loadings less than 0.4 were removed as unacceptable.

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From Appendix B, initially there were four items for continuance intention, however there were only three items (C1, C2, C4) were accepted while the remaining items (C3) were removed due to having a loading factor below 0.4. As a result, every item except C3, were related to continuance intention.

4.4.2 Reliability Analysis

According to Peng et al. (2024), reliability analysis is a method of statistics used to assess the dependability, consistency, and stability of a measuring instrument or a series of linked questions inside a questionnaire. The fundamental goal of

reliability analysis is to determine how well the measures are free of mistakes or inconsistencies and can be relied on to produce consistent results across time and in varied settings (Zach, 2022). It is a critical component of ensuring the reliability and validity of research findings. Therefore, the Cronbach's Alpha test was employed.

According to Ostic et al. (2021) and Shkeer & Awang (2019), values for Cronbach's alpha that higher than 0.7 are reliable. Table 4.4 displays the results of Cronbach's Alpha following factor analysis for perceived usefulness, perceived ease of use, satisfaction, perceived enjoyment, and continuance intention.

Table 4.4: Reliability Analysis.

Variables	Original number of items	Number of items utilized	Cronbach's Alpha
PU	5	5	0.942
PEOU	6	4	0.923
SA	6	4	0.932
PE	5	4	0.940
C	4	3	0.913

Note: PU = Perceived Usefulness, PEOU = Perceived Ease of Use, SA = Satisfaction, PE = Perceived Enjoyment, C = Continuance Intention

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The coefficients for all variables in this study were above 0.7, as illustrated in Table 4.4, indicating sufficient reliability for all utilized items. As a result, the factor analysis and reliability tests confirm the items' validity and reliability, laying a solid groundwork for subsequent hypothesis evaluation.

4.5 Inferential Analysis

4.5.1 Pearson Correlation Analysis

Pearson correlation analysis is commonly used to investigate and quantify relationships between two continuous variables (Faizi & Alvi, 2023). The Pearson correlation coefficient, called "r," ranges from -1 to 1, with a value near 1 indicating a positive linear link, near -1 showing a negative linear relationship, and near 0 showing a weak or no linear association between the variables (Turney, 2023).

Table 4.5: Pearson Correlation Analysis.

	PU	PEOU	SA	PE	C
PU	1				
PEOU	0.890**	1			
SA	0.926**	0.925**	1		
PE	0.901**	0.870**	0.920**	1	
C	0.889**	0.892**	0.910**	0.901**	1

Note: p<0.01 (one tailed);**
PU = Perceived Usefulness, PEOU = Perceived Ease of Use, SA = Satisfaction, PE = Perceived Enjoyment, C = Continuance Intention

The satisfaction variable (r = 0.910) has the strongest relationship with continuance intention, followed by perceived enjoyment (r = 0.901), perceived ease of use (r = 0.892), and perceived usefulness (r = 0.889). All the independent variables significantly correlated with continuance intention at less than 0.01. According to the study of Sexton et al. (2023), if the interaction p-value for the statistical analysis was less than 0.01, then the result was considered significant.

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4.5.2 Multiple Regression Analysis

According to Mack and Honig (2023), multiple regression analysis is one type of statistical analysis used to examine the relationship between two or more independent and dependent variables. It is also known as just multiple regression and is a derivative of linear regression (Taylor, 2023). The variable that researchers are

attempting to predict is the dependent variable, and they use the independent or explanatory variables to forecast the value of the dependent variable (Ibrahim et al., 2022). At the same time, the hypothesis was also tested using this multiple regression analysis.

4.5.2.1 Chatbot Adoption (Independent Variables) and Continuance Intention (Dependent Variables)

The R2 value indicates that the Chatbot Adoption yield 87 percent variations in continuance intention. Based on the F-value = 283.819 with p value < 0.001, it can be said that the model is suitable for the data.

Table 4.6 depicted all Chatbot Adoption variables are positively related to continuance intention. According to Zanardo et al. (2020), if the p-value is greater than 0.05, the hypothesis is not supported. Therefore, the accepted variables were perceived usefulness (p = 0.031, t value = 1.880, p value < 0.05), perceived ease of use (p = <0.0005, t value = 3.548, p value < 0.05), satisfaction (p = 0.0155, t value = 2.176, p value < 0.05), and perceived enjoyment (p = <0.0005, t value = 4.485, p value < 0.05), showing that there is strong positive relationship with continuance intention of chatbots adoption in sport industry in Kuala Lumpur. Hence, all the four hypotheses of this study are supported.

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Table 4.6: Regression for Continuance Intention.

Hyphothesis	Standardised beta	t value	p value	Decision
H1: PU→ CI	0.149	1.880	0.031	Supported
H2: PEOU→CI	0.266	3.548	<0.0005	Supported
H3: SA→CI	0.217	2.176	0.0155	Supported
H4: PE→CI	0.337	4.485	<0.0005	Supported

Note: p<0.01 (one tailed)**

PU = Perceived Usefulness, PEOU = Perceived Ease of Use, SA = Satisfaction, PE = Perceived Enjoyment, C = Continuance Intention

4.6 Summary

A total of four hypotheses have been tested.

Table 4.7: Summary of Hypothesis.

Hypothesis	Decision
H1 : There is a positive relationship between perceived usefulness and continuance intention.	Supported
H2 : There is a positive relationship between perceived ease of use and continuance intention.	Supported
H3 : There is a positive relationship between satisfaction and continuance intention.	Supported
H4 : There is a positive relationship between perceived enjoyment and continuance intention.	Supported

Table 4.7 summarizes all four hypotheses that were supported. These results proved that there are correlations between independent variables and dependent variables. A total of 26 items revealing 5 distinct components have become 20 items after removing items that factor loading less than 0.4, which is unacceptable. The following chapter will cover the discussion of the findings from this chapter.

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CHAPTER 5

DISCUSSION AND CONCLUSION

5.1 Chapter Overview

This chapter summarizes and examines the previous chapter's findings, including descriptive and inferential analysis. Furthermore, probable reasons and justifications for the hypotheses will be provided. Research implications, research limitations, and future study recommendations will also be discussed in this chapter. The last part of this chapter will consist of the overall conclusion of all the research findings.

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5.2 Discussion

5.2.1 Relationship between Perceived Usefulness and Continuance Intention

H1 : There is a positive relationship between perceived usefulness and continuance intention.

From the hypothesis testing, H1 is supported. It shows that perceived usefulness have a significant impact on continuance intention. According to Ashfaq et al. (2020), Wang et al. (2022), Khlaif et al. (2022), and Nguyen et al. (2021), the result of these studies are in line with this research.

The intention to continue using technology is greatly influenced by perceived usefulness, which is an important variable in the continued use of chatbots (Ashfaq et al., 2020; Wang et al., 2022; Nguyen et al., 2021; Khlaif et al., 2022). This hypothesis proves that continuance intention is affected by the usefulness of chatbots, which

includes a well-organized interface, an understanding of customers' concerns, and problem-solving effectiveness of chatbots (Ashfaq et al., 2020). When the user finds chatbots beneficial in meeting their needs or facilitating their tasks, they are happy to accept and continue using chatbots. Hence, perceived usefulness can boost user adoption of Chatbots (Rese et al., 2020).

5.2.2 Relationship between Perceived Ease of Use and Continuance Intention

H2 : There is a positive relationship between perceived ease of use and continuance intention.

This study shows a positive and significant relationship between perceived ease of use and continuance intention, which means H2 is supported. This outcome is consistent with the findings of previous research (Ashfaq et al., 2020; Cheng et al., 2021).

A technology perceived as easy to use can help enhance user experience, reduce frustration, and contribute to a positive attitude toward the technology. This positive attitude, in turn, influences the user's intention to continue using the technology. Perceived ease of use includes the effort the user requires to learn and use chatbots and the user-friendly degree of chatbots. The supported hypothesis proved that users have a positive attitude toward chatbot continuance intention when it is simple and pleasurable to use (Ashfaq et al., 2019).

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5.2.3 Relationship between Satisfaction and Continuance Intention

H3 : There is a positive relationship between satisfaction and continuance intention.

Based on the hypotheses testing result, H3 is supported, which shows that satisfaction has a significantly positive relationship with continuance intention. The

outcome is compatible with prior studies (Zhao & Bacao, 2020; Ashfaq et al., 2020; Nguyen et al., 2021; Phuong et al., 2020; Akdim et al., 2022).

Users' satisfaction with a technology indicates that it meets or surpasses their expectations. Customers' first-time chatbot testing experiences can be evaluated to create satisfaction standards (Ye et al., 2023; Tam et al., 2022). The degree of user satisfaction and their positive assessment of chatbot experiences indicate that users plan to keep using chatbots in the future. User satisfaction included customer communication, fast response to inquiries, and broad and in-depth information provided (Chung et al., 2018). This hypothesis indicates that, depending on their continued experiences and level of satisfaction, users are willing to stick with using chatbots after the initial adoption phase.

5.2.4 Relationship between Perceived Enjoyment and Continuance Intention

H4 : There is a positive relationship between perceived enjoyment and continuance intention.

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The findings showed that H4 is supported as perceived enjoyment is significantly related to continuance intention. The result is supported by several previous findings (Ashfaq et al., 2020; Akdim et al., 2022).

Enjoyable experiences contribute to a positive attitude toward chatbots. Users will continue using chatbots that provide them with a sense of enjoyment, fun, or satisfaction. Interaction between users and chatbots, which are enjoyable, entertaining and satisfying, increases users' overall experience and continuance intention. Hence, the entertainment effect can increase users' desire to use the technology (Chung et al., 2018). According to this hypothesis, users who find chatbots enjoyable and pleasant are likelier to stick with it (Ashfaq et al., 2020).

5.3 Research Implications

5.3.1 Theoretical Implications

By incorporating variables unique to the sports industry, such as perceived usefulness, ease of use, satisfaction, and enjoyment, this research contributes to the already-existing Expectation Confirmation Model (ECM) and Technology Acceptance Model (TAM). This advances our theoretical understanding of the adoption of chatbots in specific situations.

This study advances the industry's adoption of technology in specific industry settings by focusing on Kuala Lumpur's sports industry. This can help explain how components like perceived usefulness, perceived ease of use, satisfaction, and perceived enjoyment work in the context of sports-related applications.

The results might clarify how different variables affect the intention to continue and their relative significance and interactions. This could improve existing theories and models about how users behave when using chatbots.

The study shows a consistent correlation between perceived usefulness and continuance intention. The outcomes support the well-established theory from technology adoption models that users' intention to stick with technology is heavily influenced by how useful they believe it to be. This demonstrates the ongoing applicability of the Technology Acceptance Model (TAM) and its extensions to the study of user behavior in the sports industry.

TAM's core principles are supported by the evidence that suggests a consistent relationship exists between perceived ease of use and continuance intention. The degree to which users find it easy to interact with the chatbot remains critical in predicting their intentions.

Moreover, the correlation that consistently shows up between user satisfaction and the intention to continue underscores the importance of user satisfaction as a critical component. This aligns with ECM theories, emphasizing how users' expectations and actual experiences consistently impact their intention to continue.

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Lastly, the continuous correlation between continued intention and perceived enjoyment emphasizes the influence of affective and hedonistic elements on user behavior.

5.3.2 Practical Implications

Sports industry practitioners can benefit from the positive effects of perceived usefulness, ease of use, satisfaction, and enjoyment on continuance intention. This means that in addition to being useful and simple to use, chatbot developers should focus on creating enjoyable chatbots for users (Brandtzaeg & Følstad, 2017).

Understanding the significance of perceived enjoyment implies that tactics to enhance user satisfaction and engagement during chatbot interactions may positively influence users' intent to use the chatbot. This process may involve the incorporation of gamification or other engaging elements. In order to increase the efficacy of learning tasks, González-González et al. (2023) suggest adding gamification elements to the chatbot. To improve user experience, organizations or marketers may want to consider gamifying chatbots for sports apps.

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User support and feedback mechanisms should be prioritized by organizations because they have a significant influence on the decision to stick with something. Resolving problems for users, providing useful help, and considering their feedback can all result in higher user satisfaction and a stronger desire to stick with the application.

In terms of marketing initiatives, it is feasible to highlight the positive features of chatbots when interacting with sports-related interactions. Communication strategies should emphasize the chatbot's fun features and ease of use to attract and keep users in the sports industry.

The study indicates that delivering positive user experiences can boost users' intention to continue using and feel satisfied. Organizations can focus on customer

relationship management strategies to foster positive relationships with users to sustain a loyal and steady user base.

5.4 Limitations of the Study

The focus of the study was Kuala Lumpur, which might limit the generalizability of the results to other regions or cultural contexts. Cultural variances and regional disparities in attitudes toward technology adoption may constrain the results' applicability outside the study area.

Furthermore, since the study's focus was the sports industry, industry-specific factors might have an impact on the determinants examined. It is essential to acknowledge that the adoption dynamics of chatbots may vary in other industries, and attention should be paid to drawing the findings to various business domains.

The use of a survey questionnaire increases the risk of self-reporting and standard method bias. The social desirability of participants' answers could affect their feedback accuracy. The findings' dependability could be increased by supplementing survey data with information from other sources, like observations or interviews.

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Moreover, although perceived enjoyment is a crucial variable in the model, measuring it consistently is challenging due to its subjective nature. People might have different definitions of enjoyment, and the survey might not have included all the variables affecting the subjective experiences of chatbot users.

The study presupposes a certain degree of technological stability during the data collection. There is a chance that chatbot technology advanced quickly after the survey, changing user attitudes and actions. The following research ought to consider how technology is evolving.

At last, even though many significant determinants are included in the study, not all possible factors that could influence chatbot adoption are covered. To provide

a more comprehensive view, future research could examine other variables like trust, privacy concerns, and social influence.

5.5 Recommendation for Future Research

Future research could broaden the research scope to include cross-cultural comparisons. Compare and contrast the attitudes and actions of people in and around Malaysia to find out how cultural factors affect the uptake of chatbots.

Further studies might delve into the application of chatbots in areas other than the sports industry. Comparative studies across industries can help identify adoption-specific factors and provide a more comprehensive understanding of chatbot acceptance.

Focus groups and interviews are examples of qualitative methods that can be used in future research to support quantitative data. Comprehensive perspectives, drives, and barriers that may not be fully disclosed by survey data alone can be uncovered through qualitative insights. The examination of participant experiences, preferences, and any challenges they faced when interacting with the chatbot will contribute to a more comprehensive understanding of chatbot adoption in Kuala Lumpur's sports industry.

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Furthermore, research in the future can stay up-to-date with technological advancements in chatbot features and functionalities. It is essential for researchers to consider how new technologies, such as advances in natural language processing or artificial intelligence, may affect user perceptions and adoption.

In the future, the research model might include elements related to privacy and trust issues. A more thorough understanding of adoption determinants can be achieved by addressing potential privacy concerns and comprehending how users perceive chatbots' reliability.

5.6 Concluding Remark

This study aims to examine the factors influencing chatbot adoption and intention to continue in Kuala Lumpur's sports industry. Through an analysis of perceived usefulness, ease of use, satisfaction, and enjoyment, this study offers a critical new understanding of the variables influencing users' intentions to continue with chatbots in the sports industry. All of the four determinants were significantly positive with continuance intention. These research findings allow sport organizations, marketers, and chatbot developers to recognize how to improve customer experience and loyalty by comprehensively understanding chatbot adoption.

The study confirms all hypotheses based on established technology adoption models such as TAM and ECM, highlighting the relevance of these frameworks in explaining user behaviour within the sports industry. The confirmed hypotheses emphasize how crucial it is to design chatbot experiences that are useful, easy to use, enjoyable and satisfying.

However, limitations still exist in this study, which include cultural and regional differences, industry differences, potential self-report bias, the subjective nature of users, the changing nature of technology, and other potential factors. These considerations highlight opportunities for future research to refine methods, explore diverse user experiences, and enhance the generalizability of findings.

Developers, marketers, and industry stakeholders may benefit from the insight provided by this study. This study emphasizes the perceived usefulness, ease of use, satisfaction, and enjoyment aspects of chatbot interactions, which can help foster a positive user experience and encourage continued use.

This research lays the foundation for future research efforts, encouraging a more nuanced exploration of user interaction patterns. Regarding the evolving chatbot field, understanding the complex interplay between user perception and adoption behaviour remains critical to creating meaningful and sustainable technology experiences in the sports industry and beyond.

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APPENDICES

APPENDIX A QUESTIONNAIRE

Section A: Demographic Profile

INSTRUCTION:

This questionnaire consists of three sections. Please read the questions carefully before answering them. Where appropriate, please tick (✓) in the box provided.

Your honest and sincere response is highly appreciated.

1. Gender			
Male		Female	

2. Age			
Below 18 years		40 - 49 years	
18 - 29 years		50 - 59 years	
30 - 39 years		Above 59 years	

3. Highest level of formal education	
Secondary (SPM)	
Pre-university (STPM, A-level, or Matriculation)	
Tertiary (Degree, Master, or PhD)	

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4. Occupational status			
Employed worker		Student	
Self-employed		Retirees	
Housewife		Other	

5. Income			
No Income		RM 5001 - RM 10000	
RM 2500 & Below		RM 10001 - RM 15000	
RM 2501 - RM 5000		Above RM15000	

Section B: Chatbots Adoption

INSTRUCTIONS:
Please choose your answer by circle the numbering.
(1 = Strongly Disagree; 2 = Disagree; 3 = Neutral; 4= Agree; 5 = Strongly Agree)

Perceived usefulness					
1. Chatbots are useful in my daily life.	1	2	3	4	5
2. Using chatbots raises my chances of picking up critical items.	1	2	3	4	5
3. By using chatbots, I can complete the shopping process more quickly.	1	2	3	4	5
4. I feel secure when I use chatbots to make purchases.	1	2	3	4	5
5. In general, chatbots are helpful.	1	2	3	4	5

Perceived ease of use					
1. My interaction with chatbots is simple and easy to comprehend.	1	2	3	4	5
2. Chatbot interaction doesn't need a lot of psychological effort.	1	2	3	4	5
3. I find chatbots to be user-friendly.	1	2	3	4	5
4. It is simple for me to get chatbots to perform what I want them to accomplish.	1	2	3	4	5
5. It is simple for me to figure out the use of chatbots.	1	2	3	4	5
6. I possess the expertise required to employ chatbots.	1	2	3	4	5

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Section B: Chatbots Adoption

INSTRUCTIONS: Please choose your answer by circle the numbering. (1 = Strongly Disagree; 2 = Disagree; 3 = Neutral; 4= Agree; 5 = Strongly Agree)

Satisfaction					
1. I find chatbots to be satisfactory.	1	2	3	4	5
2. I like using chatbots.	1	2	3	4	5
3. The chatbots performed well.	1	2	3	4	5
4. The chatbots performed as I anticipated.	1	2	3	4	5
5. I like interacting with chatbots.	1	2	3	4	5
6. My experience communicating with chatbots was positive.	1	2	3	4	5

Perceived enjoyment					
1. I enjoy chatting with the chatbot.	1	2	3	4	5
2. Having a conversation with the chatbot is enjoyable and fun.	1	2	3	4	5
3. The chatbot dialogue is appealing.	1	2	3	4	5
4. I like purchasing things that the chatbot suggests over those I chose on my own.	1	2	3	4	5
5. I was fully engaged in the chatbot's dialogue.	1	2	3	4	5

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Section C: Continuance Intention

Continuance Intention					
1. I want to keep communicating with the chatbot.	1	2	3	4	5
2. I would like to remain using the chatbot's services.	1	2	3	4	5
3. I will remain to use the chatbot rather than call human customer service.	1	2	3	4	5
4. I will keep utilizing the chatbot in the future.	1	2	3	4	5

APPENDIX B ROTATED FACTORS AND FACTORS LOADING FOR INDEPENDENT AND DEPENDENT VARIABLES.

Items	Questionnaire Items	Components				
		1	2	3	4	5
PU1	Chatbots are useful in my daily life.	**0.685**				
PU2	Using chatbots raises my chances of picking up critical items.	**0.713**				
PU3	By using chatbots, I can complete the shopping process more quickly.	**0.424**	**0.527**		**0.433**	
PU4	I feel secure when I use chatbots to make purchases.	**0.658**				
PU5	In general, chatbots are helpful.	**0.546**	**0.564**			
PEOU1	My interaction with chatbots is simple and easy to comprehend.		**0.673**	**0.453**		
PEOU2	Chatbot interaction doesn't need a lot of psychological effort.			**0.627**		
PEOU3	I find chatbots to be user-friendly.			**0.685**		
PEOU4	It is simple for me to get chatbots to perform what I want them to accomplish.	**0.454**	**0.601**			

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Items	Questionnaire Items	Components				
		1	2	3	4	5
PEOU5	It is simple for me to figure out the use of chatbots.		**0.417**	**0.673**		
PEOU6	I possess the expertise required to employ chatbots.	**0.446**	**0.592**			**0.456**
SA1	I find chatbots to be satisfactory.		**0.571**		**0.435**	
SA2	I like using chatbots.	**0.595**	**0.434**			
SA3	The chatbots performed well.		**0.641**		**0.415**	
SA4	The chatbots performed as I anticipated.	**0.557**		**0.508**	**0.418**	
SA5	I like interacting with chatbots.	**0.593**				
SA6	My experience communicating with chatbots was positive.	**0.423**	**0.526**			**0.413**
PE1	I enjoy chatting with the chatbot.	**0.570**			**0.528**	
PE2	Having a conversation with the chatbot is enjoyable and fun.				**0.624**	
PE3	The chatbot dialogue is appealing.			**0.401**	**0.625**	
PE4	I like purchasing things that the chatbot suggests over those I chose on my own.	**0.647**				**0.474**

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Items	Questionnaire Items	Components				
		1	2	3	4	5
PE5	I was fully engaged in the chatbot's dialogue.	**0.474**			**0.523**	
C1	I want to keep communicating with the chatbot.	**0.468**	**0.445**		**0.517**	
C2	I would like to remain using the chatbot's services.	**0.510**		**0.454**	**0.428**	
C3	I will remain to use the chatbot rather than call human customer service.					**0.694**
C4	I will keep utilizing the chatbot in the future.	**0.412**		**0.445**		
Eigenvalues		**19.357**	**0.709**	**0.521**	**0.489**	**0.432**
Total variances explained		**74.450**	**2.725**	**2.005**	**1.882**	**1.660**
KMO		**0.977**				
Bartlett's Test of Sphericity Test		**5641.734**				

Note: **p < 0.01(one tailed);

PU = Perceived Usefulness, PEOU = Perceived Ease of Use, SA = Satisfaction, PE = Perceived Enjoyment, C = Continuance Intention

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