European Journal of Management and Marketing Studies
ISSN: 2501 - 9988
ISSN-L: 2501 - 9988
Available on-line at: http://www.oapub.org/soc

DOI: 10.46827/ejmms.v9i2.1844 Volume 9 | Issue 2 | 2024

FROM SERVICE TO SUPERIORITY: UNVEILING THE IMPACT OF ARTIFICIAL INTELLIGENCE ON CUSTOMER EXPERIENCE IN GIANT HYPERMARKETS, KLANG VALLEY, MALAYSIA

Kumaran Kanapathipillai[i],
Ooi Fu Nian,
Chai Pei Yi,
Yang Wan Ping
Faculty of Business,
UNITAR International University,
Tierra Crest, Jalan SS6/3,
Kelana Jaya, 47301 Petaling Jaya,
Selangor, Malaysia

Abstract:
The integration of Artificial Intelligence (AI) in retail has redefined customer experience, offering new opportunities for personalisation, service quality enhancement, and continuous service delivery. This study investigates the impact of AI on customers' experience at Giant Hypermarkets in Klang Valley, Malaysia, focusing on four key areas: personalisation, service quality, hassle-free service, and customer service. Using quantitative methods, data were gathered from 365 respondents to assess the influence of AI-driven services on customer experience. The findings reveal that hassle-free service significantly enhances customer experience, while personalisation, service quality, and customer service show no significant impact. These results suggest that while AI is effective in streamlining operations and reducing customer effort, it may fall short in providing the emotional engagement needed to enhance the overall customer experience. This study highlights the importance of balancing AI efficiency with human interaction, particularly in relational services. This research offers valuable insights for retailers, academics, and small business owners, emphasizing the need to adopt AI technologies that focus on customer convenience and experience while maintaining a personal touch. This study clearly highlights the implications for the retail industry, demonstrating that AI can significantly enhance customer experience, but its strategic integration is crucial to address both operational efficiency and emotional engagement.

Keywords: artificial intelligence, customer experience, personalization, service quality, hassle-free service, customer service, retail industry, hypermarket

[i] Correspondence: email kumar.erapintar@gmail.com

1. Background of the Study

The incorporation of artificial intelligence (AI) in marketing has transformed conventional techniques into sophisticated, data-driven methodologies. This study examines the influence of AI on customer experience, particularly in Giant Hypermarkets situated in Klang Valley, Malaysia. Artificial intelligence technologies, such as machine learning and predictive analytics, empower hypermarkets to deliver personalised services, optimise operations, and improve customer engagement (Şenyapar, 2024). AI enhances communication, service quality, and customer contact, enabling hypermarkets to navigate intricate consumer preferences, resulting in increased satisfaction and brand loyalty (Kumar *et al.,* 2020).

This study is contextualised within Malaysia's diversified market, characterised by changing consumer behaviours and technological progress. Although AI provides substantial advantages, it also presents obstacles, especially with data privacy and ethical issues. The dependence on extensive data for personalisation prompts enquiries over transparency, permission, and security. Businesses must implement measures to effectively manage data and mitigate issues associated with data breaches and regulatory compliance (Ziakis & Vlachopoulou, 2023; Rane, 2023). This paper examines the opportunities and constraints of AI integration in improving customer experience, offering a thorough analysis of its implications for the retail sector in Malaysia.

1.1 Research Problem Statement

This paper identifies a research challenge with the insufficient understanding and empirical evidence of AI integration's impact on consumer experience in Malaysia, namely in hypermarkets located in Klang Valley. Although AI has the capacity to improve multiple facets of customer interaction, including personalisation, service quality, seamless service, and customer support, existing research primarily focuses on Western contexts, potentially overlooking the distinct cultural, economic, and regulatory characteristics of the Malaysian market (Grewal *et al.,* 2020; Aguirre *et al.,* 2015). This gap in the literature requires an investigation into how AI-driven solutions can be tailored to accommodate the varied consumer behaviours and expectations in Malaysia, particularly as AI becomes a vital instrument for personalising marketing strategies and enhancing operational efficiency (Bhuiyan, 2024; Dangi & Malik, 2017).

The incorporation of AI in hypermarkets has demonstrated the ability to optimise operations, elevate customer engagement, and augment happiness (Lan & Tung, 2024; Ghosh, 2024), although the degree to which these advantages are manifested in a Malaysian setting remains ambiguous. Furthermore, although AI may greatly enhance personalisation and service quality, the trust and satisfaction associated with various AI applications may vary according to local customer perceptions (Gao *et al.,* 2022; Ameen *et al.,* 2021). Furthermore, the potential ethical issues concerning data privacy and consumer trust—crucial to the AI ecosystem—necessitate thorough scrutiny within the

Malaysian context, where consumer expectations regarding transparency, consent, and data utilisation may vary (Ziakis & Vlachopoulou, 2023; Rane, 2023).

Methodologically, much of the current research utilises quantitative methodologies, which may inadequately reflect the intricate and diverse character of consumer experiences in the AI-driven retail environment. Researchers, like (Homburg *et al*., 2012), have recommended the adoption of qualitative or mixed-method approaches to thoroughly explore the complexities of customer perceptions and behaviours, especially in the context of emerging technologies such as AI. In the Malaysian environment, where consumer attitudes towards technology adoption may differ markedly, qualitative insights are essential to comprehend how AI may be utilised to effectively fulfil consumer expectations.

The consequences of failing to address these research gaps are substantial. In the absence of a comprehensive understanding of AI's influence on customer experience in Malaysia, hypermarkets may adopt AI tactics that fail to connect with local consumer requirements, resulting in customer discontent and diminished engagement (Sarıcam, 2022). Moreover, neglecting to address ethical issues concerning data privacy may undermine consumer trust, thus impacting brand loyalty and the survival of the firm in the long term (Huang & Rust, 2018). In the competitive retail landscape of Klang Valley, hypermarkets must distinguish themselves to maintain market share; failure to effectively integrate AI may lead to missed opportunities for improving customer experience and operational efficiency (Neha *et al*., 2023).

Hence, this study elucidates the significant deficiencies in comprehending AI's contribution to improving consumer experience in the distinct context of Malaysian hypermarkets. This research seeks to elucidate the interconnections among AI-driven personalisation, service quality, seamless service, and customer service and their cumulative effect on customer experience, thereby offering critical insights to inform AI strategy formulation for sustainable growth in Malaysia's retail sector.

1.2 Research Questions

RQ1: Is there a significant relationship between personalisation and customer experience?
RQ2: Is there a significant relationship between service quality and customer experience?
RQ3: Is there a significant relationship between hassle-free service and customer experience?
RQ4: Is there a significant relationship between customer service and customer experience?

1.3 Research Objectives

RO1: To examine if there is a significant relationship between personalisation and customer experience.
RO2: To analyse if there is a significant relationship between service quality and customer experience.

RO3: To investigate if there is a significant relationship between hassle-free service and customer experience.
RO4: To assess if there is a significant relationship between customer service and customer experience

2. Theoretical Underpinning, Literature Review and Hypothesis Development

This section provides an overview of various literature and examines the impact of artificial intelligence (AI) integration on customer experience. It explores how AI tools influence customer experience by analysing the relationships between the independent variables (personalisation, service quality, hassle-free service, and customer service) and the dependent variable (customer experience). This section also proposes the hypothesis to test the effects of AI on customer experience within the Malaysian retail sector.

2.1 Underpinning Theory: Customer Experience Theory

Customer experience (CX) theory focuses on business-customer interactions. It employs practices like customer journey mapping to visualize touchpoints, identify key moments, and find ways to improve satisfaction and loyalty (Verhoef *et al.,* 2015). Service quality theory, focusing on dimensions like reliability, responsiveness, assurance, empathy, and tangibles, shapes customer perceptions of service excellence. These dimensions influence customer satisfaction and repeat business (Parasuraman *et al.,* 1988). Emotional engagement is also crucial, as positive experiences foster stronger customer relationships and loyalty (Hennig-Thurau *et al.,* 2002).

Personalization strategies enhance CX by tailoring offerings to individual needs, boosting satisfaction and reducing effort (Pine & Gilmore, 1999). AI and big data enable businesses to provide seamless, personalised experiences across multiple channels at scale. For Giant Hypermarkets in Klang Valley, Malaysia, integrating AI into CX strategies enhances these theories. AI technologies allow hypermarkets to analyse vast amounts of customer data in real-time, enabling accurate customer journey mapping and identification of critical touchpoints (Chen & Prentice, 2024). AI-driven insights help hypermarkets proactively address customer needs, optimize service quality, and foster emotional engagement through personalised interactions (Lemon & Verhoef, 2016; Andrade & Tumelero, 2022).

A structured approach, informed by integrated theories and frameworks, enables Giant Hypermarkets to effectively assess, manage, and optimize customer experiences. Through AI-powered CX strategies, the hypermarket can cultivate stronger customer relationships, foster sustained growth, and outpace competitors in the competitive Klang Valley market (Zha *et al.,* 2020).

2.2 Customer Experience

Businesses recognize the critical importance of customer experience (CX), which focuses on providing outstanding value and interactions at every stage of the customer journey

(Maria *et al.,* 2020). This journey encompasses a range of touchpoints before, during, and after a purchase, spanning various channels. The advent of AI technologies has transformed CX practices, introducing automation and leveraging integrated data for predictive analysis (Neha *et al.,* 2023). This allows companies to discern customer preferences, offer tailored suggestions, and foster significant dialogue with their clientele. Customer engagement extends beyond mere transactions, incorporating recommendations shared among consumers and exposure to marketing efforts. The customer experience (CX) is multifaceted, encompassing mental, emotional, physical, sensory, and social reactions. These elements collectively shape a customer's overall perception and sentiment towards a brand. Marketing professionals leverage these various aspects to create distinctive brand identities and foster long-term customer allegiance (Maria *et al.,* 2020).

The shift in consumer behaviour due to technological advancements has led businesses to adopt digitalization and omni-channel strategies to improve CX and satisfaction. AI-powered data analytics allows companies to tailor experiences to individual preferences, boosting revenue and brand loyalty. Recognizing CX's role in market differentiation, brands invest in seamless channel integration and excellent customer support (Daqar & Smoudy, 2019; Neha *et al.,* 2023).

Empirical research highlights AI's transformative impact on business operations and CX. Mixed and virtual realities offer immersive purchasing environments, enhancing consumer cognition and overall CX through machine learning and augmented reality. As businesses innovate with AI-driven technologies, the CX landscape will continue to evolve and improve (Grewal *et al*., 2020; Hoyer *et al*., 2020; Zeng *et al*., 2023).

2.3 The Relationship Between AI Personalization and Customer Experience

Hypermarkets have embraced personalisation as a core approach to boost customer engagement and contentment. Personalisation using AI and machine learning to enhance customer experience by examining extensive customer datasets, yielding valuable insights into consumer behaviour, preferences, and buying trends, has become significant. According to (Dangi & Malik, 2017), by harnessing AI and machine learning, hypermarkets can create highly personalised and timely messaging, streamlining customer engagement and informing data-driven marketing strategies. While automation enhances efficiency, maintaining a human touch is crucial. Striking a balance between technology and personal interaction is essential for cultivating strong customer relationships, which enhances customer experience.

Additionally, this has resulted in the creation of tailored experiences, which in turn nurture deeper customer relationships and allegiance. Earlier research by (Aguirre *et al.,* 2015; Dangi & Malik, 2017) demonstrated the significant impact of utilising customer data to customise marketing tactics and address the varied customer experience levels. This shows that AI-driven personalization allows businesses to analyse vast amounts of customer data to deliver tailored customer experiences. In line with this, a recent research by (Ameen *et al.,* 2021) demonstrated that trust mediates the relationship

between AI-enabled service quality and customer experience. This is supported by (Gao *et al.*, 2022) that personalisation can enhance customer experience, trust and satisfaction. Furthermore, the application of AI in customer relationship management (CRM) has been shown to enhance customer experience significantly. According to (Lan & Tung, 2024), AI can unlock personalized services and drive intelligent decision-making in CRM, ultimately leading to improved customer experiences. This is supported by (Ghosh, 2024; Chen *et al.*, 2021), who discovered that AI chatbots can redefine customer interactions by providing real-time assistance and personalized support, which is crucial for enhancing customer experience in the retail sector. Research by (Ekechi, 2024) signifies the ability of AI systems to learn from customer interactions. This allows them to refine their responses and suggestions over time, creating a more seamless and personalized shopping experience. This continuous learning process is crucial as it aligns with the evolving expectations of consumers who increasingly demand personalized services.

AI personalisation has proven to be very effective in augmenting customer experience in various sectors. According to (Bhuiyan, 2024), AI-powered personalization can significantly enhance customer experiences across various industries by delivering tailored content and recommendations. A study by (Sardesai, 2024) in the hospitality sector found that AI service quality significantly impacts customer satisfaction and loyalty. The study suggests that while human service quality remains significant, AI can complement these interactions by providing personalized recommendations and support, thereby enhancing the overall customer experience. This dual approach indicates that combining human and AI-driven services can lead to a more comprehensive customer experience strategy.

Moreover, in the banking sector, (Olasanmi, 2023) uncovered AI's role in personalizing customer interactions. The study revealed that AI platforms like virtual bankers offer 24/7 availability and personalized interactions, which are highly attractive features for customers and heighten their experience. This aligns with the findings of (Mathur, 2023), who ascertained that AI chatbots significantly improve response times and customer service efficiency, ultimately driving customer experience, retention and satisfaction. These studies show that the ability to anticipate customer needs through predictive analytics enhances personalization of services, leading to better customer experience. The same can also be achieved if hypermarkets use personalisation.

However, according to (Huang & Rust, 2018), the effectiveness of AI personalization depends on the type of service. In relation to specific service settings, they claim that AI should be used for personalization in data-rich and functional services, but human touch would still exert an influence on relational services. This shortcoming is a critical distinction because it suggests that AI personalisation may not be universal across all services. Moreover, (Ranković *et al.*, 2023) state that although robotic advisors are able to provide individualized advice, the human touch is necessary when it comes to trust and relationships with customers. This shows that personalisation is insignificant in certain areas where emotional attachment and relationship dynamics are crucial.

Therefore, AI personalization may not be able to significantly impact customer experience in every situation.

Furthermore, the moderating influence of customer characteristics and AI, together with customers' preparedness for AI personalisation, cannot be overlooked. Based on research by (Li, 2023), some consumer traits, like the extent of contact necessity and novelty-seeking propensity, may influence the perception of AI stimuli, which may impact customer retention. This suggests that personalised AI may vary significantly in effectiveness based on customer segments, hence complicating the omnichannel discourse over its influence on customer experience. In this context, it is evident that AI personalisation has significant potential, although its success is not guaranteed due to various aspects, including customer characteristics and service environment. Additionally, (Wirtz, 2023) emphasises that in the current era of AI, companies must evaluate the advantages of optimal customisation by utilising both internal data and publicly available free-floating data to analyse potential customer behaviour, while also considering ethical implications related to customer privacy and the appropriate use of their personal information. This raise concerns over the long-term viability of AI personalisation efforts, particularly when they may be perceived by customers as intrusive or deceptive. Consumer mistrust about AI personalisation may ultimately undermine its function as a facilitator of customer experience enhancement.

Therefore, while there is evidence to suggest that personalisation can enhance the customer experience, there is also contrasting evidence, which led to the formulation of the following hypothesis:

H1: There is a significant relationship between personalisation and customer experience.

2.4 The Relationship Between AI Service Quality and Customer Experience

Quality of service is crucial, as it may directly impact customer experience, satisfaction and loyalty (Zahra, 2023; Chan & Ling, 2019). A cornerstone of quality service is service efficiency. This is characterized by swift and precise operations, which bolsters both operational performance and customer retention. The integration of an AI-driven predictive algorithms further elevates quality service by foreseeing customer requirements, tailoring interactions, and intensifying customer engagement (Grewal *et al.*, 2020).

Achieving a balance between rapid service and personalised customer experiences is a complex challenge. While automation can enhance efficiency, it risks compromising the human connection essential for building loyalty. Leveraging AI and analytics to identify and manage high-potential customers can optimize resource allocation, but pricing strategies must consider both competitiveness and customer perception to maintain trust (Dash *et al.*, 2019).

Based on research by (El Abed & Castro-Lopez, 2023), smart in-store technologies have the potential to enhance an already seamless integration of the online-offline shopping experience for consumers. With the help of AI applications like augmented

reality customers can watch products in real-time so their shopping experience becomes more enjoyable and engaging (Bonetti *et al.,* 2022). Therefore, the use of technology enhances the quality of service and provides a better shopping experience to customers, making it more interesting. In hypermarkets, this is needed to attract and retain customers, given that the retail landscape has become quite competitive.

Additionally, consumers' evaluations of usefulness and ease of use are crucial for AI to be effective in improving service quality. When consumers view AI technologies in a beneficial, easy-to-use way, it helps elevate their overall satisfaction and willingness to use these technologies (Liang *et al.,* 2019). Thus, the ability to use AI applications must be easy and intuitive, and this affects customers' attitudes toward acceptance and their behaviours (Chen & Chang, 2023). This is something retailers have to focus on because the tools they implement should not just be high-end solutions but ones that are user-friendly to enhance customer experience.

Moreover, research by (Sarıcam, 2022) in the sportswear retail sector demonstrates that although service quality markedly affects consumer happiness, it does not inherently lead to customer loyalty. This discovery prompts enquiries regarding the enduring impact of service quality on customer experiences, especially within the realm of AI-driven services. If AI technologies improve service quality but do not cultivate loyalty, one could contend that their influence on customer experience is constrained. Additionally, (Candra & Juliani, 2018) further substantiate this viewpoint, revealing that e-service quality does not directly influence consumer value, indicating that the correlation between service quality and customer experience may not be as straightforward as previously assumed.

With regard to AI applications, (Hlee *et al.,* 2022) examined the growing trend of AI service robots in the hospitality sector. According to the study, although AI service robots may enhance service quality, the true impact on customer experience and satisfaction still remains unclear. Similar ambiguity is reflected in a study by (Eshiett & Eshiett, 2021), who contend that whilst the retail industry has adapted to meet changing consumer demands with technological advancements, there is no decisive link between these advancements and customer experience. Therefore, this indicates that if AI is indeed going to lend a hand in some areas of service quality, it certainly will not be an overarching contributor towards building the ideal customer experience from a retail perspective.

Furthermore, the intricacy of customer experience in the retail sector is exacerbated by the variety of shopping venues and consumer behaviours. According to (Pei *et al.,* 2020), customer experience considerably changes across diverse buying contexts, indicating that the influence of AI-driven service quality may differ according to the situation. This heterogeneity highlights the necessity for merchants to evaluate the particular contexts in which AI technologies are implemented and their possible impacts on customer experience.

According to (Tho, 2023), the significance of human interaction in influencing client experiences is paramount. Although AI technology can optimise operations and

improve service quality, the absence of human interaction may diminish the overall customer experience. This is especially pertinent in retail environments where human contacts are esteemed. The study by (Tho, 2023) emphasised that although AI can enhance some aspects of service quality, it may not entirely substitute for the lack of human involvement in customer engagement and experience.

Furthermore, research findings by (Andrew *et al.,* 2019) suggest that although AI-driven service quality may improve specific elements of the retail experience, it does not consistently lead to enhanced consumer happiness. Their study discovered that inadequate service quality in South African retail resulted in a "shallow commitment" among customers, emphasising that satisfaction depends on the perceived quality of service. This indicates that despite the presence of powerful AI technology, a deficiency in core service quality may not enhance customer experience.

Consequently, although literature indicates that service quality can improve the customer experience, there is also opposing evidence, which resulted in the development of the following hypothesis:

H2: There is a significant relationship between service quality and customer experience.

2.5 The Relationship Between AI Hassle-Free Service and Customer Experience

Many hypermarkets in Malaysia strive for seamless customer experiences by emphasizing streamlined services, AI adoption, quick response times, user-friendly interfaces, and omnichannel consistency.

AI technologies, especially chatbots, have become key players in providing hassle-free service. Chatbots instantly offer replies regarding customer issues, thus minimising the need to wait and improving service delivery. According to studies by (El-Shihy, 2024; Nguyen *et al*., 2021), chatbots can respond to huge numbers of questions at a time, which is very useful in high-demand sectors like banking and retailing. This can be supported by (Chen *et al.,* 2023), who mention that the capacity of AI to provide instant and relevant information creates hassle-free service, which improves customer experience.

Moreover, the integration of AI in the retail sector has significantly transformed customer experiences, leading to hassle-free service encounters. A study by (Srivastava, 2024) shows that AI-enhanced services allow retailers to tailor their offerings based on individual customer preferences, thereby enhancing the overall shopping experience. This is in line with studies by (Wang, 2024; Calvo, 2023), who discovered that the ability of AI systems to analyse vast amounts of data enables them to predict customer behaviour, which leads to proactive service delivery that become hassle-free to customers and significantly improve customer experience. Additionally, (Srivastava, 2024; Bonetti *et al.,* 2022) revealed that the use of AI, such as self-service kiosks, smart inventory management systems, provides instantaneous hassle-free services, which enhances customer experiences in the retail sector.

Furthermore, research by (Tula, 2024; Tiutiu, 2023; Pillarisetty & Mishra, 2022) indicated that the convenience offered by AI-driven solutions not only enhances retail

efficiency and hassle-free service but also allows for a more seamless shopping experience. This enables customers to receive instant assistance and accurate information without the need for human intervention where customers are increasingly seeking hassle-free services.

Likewise, (Rana *et al.,* 2021) elucidate that the omnichannel customer experience is another area where AI has made a significant impact in creating hassle-free service. Retailers are leveraging AI to create a cohesive shopping experience across various platforms, whether online or in-store. This integration ensures that customers receive hassle-free and consistent service regardless of how they interact with the brand.

Additionally, (Nair & Gautam, 2024; Shah, 2023) in their study revealed that AI can analyse customer interactions across different channels to provide tailored marketing messages and product suggestions. This becomes hassle-free for the customers as they can save time and effort, which enhances their shopping experience. Moreover, (Canhoto *et al.,* 2023) mention that the ability to maintain a unified customer profile across channels allows retailers to offer hassle-free services, which are crucial for retaining customers and amplifying their shopping experience in a competitive market.

Although several research indicates that AI-driven, hassle-free services can improve customer interactions, an increasing amount of evidence suggests that these technologies may not consistently boost customer experience. This complexity stems from multiple aspects, including the characteristics of AI interactions, consumer expectations, and the broader service context. Research indicates that while AI can be hassle-free in terms of service, it often falls short of delivering the empathetic interactions that customers expect from human agents; therefore, customers may encounter negative experiences (Chen *et al.,* 2023; Castillo *et al.,* 2020). Moreover, according to (Adam *et al.,* 2020) this discrepancy can lead to frustration and dissatisfaction among customers, particularly when AI systems fail to understand complex queries or provide inaccurate information.

Furthermore, the study of (Castillo *et al.,* 2020) have unveiled that dependence on AI systems that were deemed hassle-free may unintentionally hinder good communication. Customers may be driven to engage with automated systems lacking sufficient assistance, resulting in feelings of alienation. This phenomenon is especially evident in sectors where emotional intelligence and personal interaction are essential, such as retailing. In line with this, (Pitardi *et al.,* 2021) have indicated that customers often prefer human interaction in emotionally charged situations, as AI may lack the ability to convey empathy effectively. Consequently, while AI can enhance efficiency, it may simultaneously detract from the overall customer experience by failing to address emotional needs.

Additionally, research by (Zahra, 2023) exposed that when customers encounter poorly designed AI systems that do not meet their expectations, the result can be detrimental to their overall experience. This highlights the importance of ensuring that AI hassle-free systems are not only functional but also user-friendly and capable of providing accurate, contextually relevant information.

Therefore, while the literature suggests that hassle-free service can enhance the customer experience, there exists contradictory evidence, leading to the formulation of the following hypothesis:

H3: There is a significant relationship between hassle-free service and customer experience.

2.6 The Relationship Between AI Customer Service and Customer Experience

The incorporation of AI in retail customer service has drastically altered customer experiences, which has resulted in improved engagement, contentment, and loyalty. This shift is chiefly propelled by AI's strengths in personalisation, automation, and data analytics, which together provide a more customised and efficient buying experience. As retailers progressively implement AI technologies, comprehending their effect on customer experience is essential for sustaining competitive advantage in a swiftly changing market.

According to (Huang & Rust, 2018), AI improves the efficacy of customer service operations, which enhances customer experience. The automation of ordinary enquiries via virtual assistants diminishes wait times and operational expenses, enabling human agents to concentrate on more intricate difficulties, necessitating emotional intelligence and better comprehension (Ekechi, 2024). Moreover, (Chen *et al.,* 2021) elucidated that this transition not only optimises service delivery but also improves the overall customer experience by guaranteeing that customers receive prompt and pertinent support. Retailers who successfully integrate AI into their customer service operations should anticipate enhanced customer retention rates and elevated sales, as content consumers are more inclined to return and endorse the company to others (Chen *et al.,* 2023).

Additionally, (El-Shihy, 2024; Masih, 2023; Ioannis *et al.,* 2022) found that AI-driven chatbots can engage customers in real-time, providing instant customer service and personalized product suggestions based on previous interactions and preferences, which creates a positive customer experience. In support of this, research by (Ho & Chow, 2023) discovered that the level of customer service and personalization not only improves the customer experience but also fosters a sense of loyalty, as customers feel understood and valued by the brand.

Nonetheless, whilst several studies indicate that AI customer service can improve customer experience, others emphasise considerable limitations and obstacles that may undermine the entire customer's experience.

One of the main problems with AI customer service is that it cannot mimic the emotional intelligence and relationship that human agents can deliver. According to research by (Davenport *et al.,* 2019; Nguyen *et al.,* 2021), customers frequently perceive AI interactions as lacking empathy and understanding. This can have a detrimental influence on the overall customer experience. According to (Wang *et al.,* 2023; Xu *et al.,* 2020), AI can handle simple questions well, but it struggles with complicated requests that necessitate a deeper knowledge of client emotions and context. Based on the study

by (Wang *et al.,* 2023; Robinson *et al.,* 2020), customer experiences diminish due to this constraint as it can frustrate customers who believe their problems are not being addressed adequately.

Furthermore, the impression of AI as a substitute for human employment can intensify adverse sentiments towards AI-driven customer service. Customers may be sceptical towards AI systems and feel apprehensive that these technologies emphasise efficiency at the expense of service quality (Davenport *et al.,* 2019). This sentiment is especially evident among demographics that prioritise exceptional customer experience. Studies conducted by (Wang *et al.,* 2023; Almuraqab, 2024) find that elderly customers may perceive AI interactions as reduced customer service, which leads to minimised customer experience. Additionally, (Huang & Rust, 2018) mention that the absence of personal engagement in AI encounters may foster a feeling of dehumanisation in customer service, adversely affecting customer experience.

Moreover, the efficacy of AI in improving customer experience is frequently dependent on the intricacy of the jobs executed. Research by (Huang & Rust, 2018; Daqar & Smoudy, 2019) indicates that AI excels in transactional environments but has difficulties in relationship situations where emotional involvement is essential. This duality indicates that although AI can enhance specific elements of customer service, it may unintentionally estrange customers desiring a more personalised and human-centric service experience (Lopez, 2024). The difficulty resides in reconciling AI efficiency with the emotional intelligence necessary for efficient customer experience.

Therefore, despite literature suggesting that customer service can increase the customer experience, there is conflicting evidence that leads to the creation of the following hypothesis:

H4: There is a significant relationship between customer service and customer experience.

2.7 Proposed Conceptual Framework

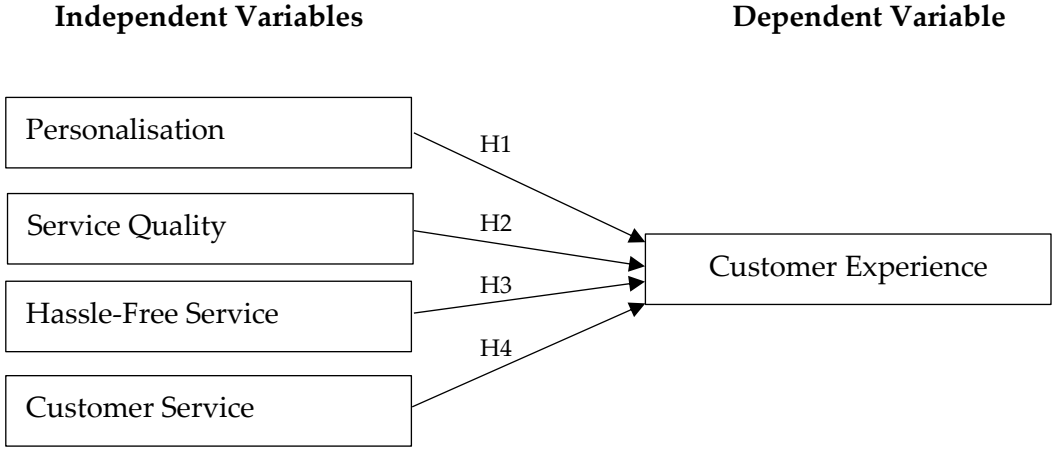

Figure 2.1: Proposed Conceptual Framework

Figure 2.1 Proposed conceptual framework shows the connection between the independent variables (personalization, service quality, hassle-free service, and customer service) and the dependent variable (customer experience). Based on Customer Experience (CX) theory, these variables shape interactions that drive satisfaction and loyalty. Therefore, this proposed conceptual framework guides the hypothesis derived for this study, which is shaped by the integration of these factors, with AI playing a critical role in enhancing customer experience.

3. Research Methodology

The following section provides the population, sampling, measurements, and reliability and normality test.

3.1 Population, Sampling & Measurements

This research focuses on the retail consumer base of the Klang Valley, which totals an estimated 8 million people (DOSM, 2023). The primary data collection involves an online questionnaire available via Google Forms in an effort to make it feasible to gather a sample presenting a variety of age groups, genders, and incomes. The survey mechanism employs Likert scales to allow the participant to express their opinions about AI implemented in Giant hypermarkets and the way it influences their customer experience. The study's data gathering was performed in compliance with all ethical standards, particularly securing the informed consent of the participants before completing the form (Krejcie & Morgan's, 1970). Sampling recommendations suggest that, given the population of 8 million, the sample size should amount to (384) people. This number is sufficient to ensure the results derived from the sample are statistically meaningful and grant the researchers a more definitive image of the population, which would enable the completion of this study.

The research collected data by utilizing a purposive sampling strategy, which targeted and focused on various demographic groupings of the Klang Valley in Malaysia. These subgroups included people of different ages, incomes, educational levels, family structures, and race. The goal of the sample variety was the acquisition of a more comprehensive representation of the customer's experience of AI implementation in hypermarkets. The data gathering took place between May and June 2024 and resulted in (365) valid submissions. Such a result correlates to a (91%) response rate. The survey instrument consists of two parts, with Section A measuring demographic indicators and Section B covering variables of the research, independent and dependent alike, employing a 5-point Likert scale.

3.2 Reliability Test

Table 3.1 Reliability analysis provides Cronbach's Alpha values for the variables in this study to indicate the internal consistency or reliability of the items used to measure each

construct. A Cronbach's Alpha value above 0.7 is generally considered acceptable, with higher values representing greater reliability.

Table 3.1: Reliability Analysis

Variables	Cronbach's Alpha	No. of Items
Personalisation	0.742	5
Service Quality	0.868	5
Hassle-Free Service	0.852	6
Customer Service	0.828	5
Customer Experience	0.888	5

From Table 3.1 Reliability analysis, demonstrates that all variables have acceptable to excellent reliability, with values well above the 0.7 threshold, confirming that the items used to measure each construct are consistent and dependable for further analysis.

3.3 Normality Test

The Q-Q plots provided assess the normality of the data for five variables: Personalisation, Service Quality, Hassle-Free Service, Customer Service, and Customer Experience. Each plot compares the observed values to the expected normal values, and the closer the points align to the diagonal line, the more normally distributed the data, according to (Castillo-Gutiérrez *et al.*, 2021).

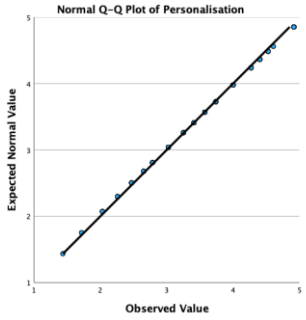

Figure 3.3.1: Personalisation

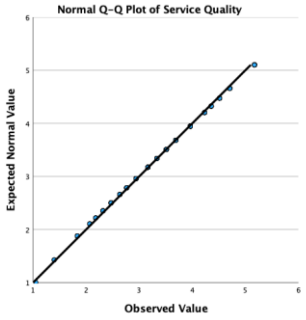

Figure 3.3.2: Service Quality

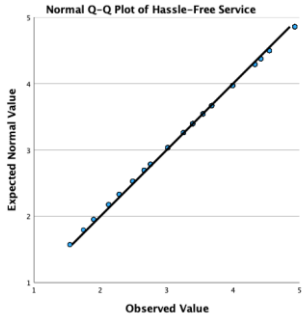

Figure 3.3.3: Hassle-Free Service

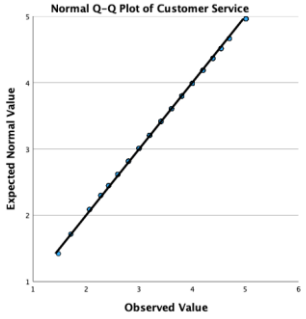

Figure 3.3.4: Customer Service

Figure 3.3.5: Customer Experience

Based on Figures 3.3.1 – 3.3.5, Q-Q plots suggest that the data for all five variables is reasonably normally distributed, supporting the assumption of normality required for further statistical analyses.

4. Data Analysis and Findings

This section presents the study's findings, such as the demographic profiles of participants, descriptives, correlation, and regression analysis.

4.1 Demographic Profile

Table 4.1 presents the demographics of the respondents in this study.

Table 4.1: Demographic Profile of the Respondents (N=365)

Variables	Categories	Frequency	Percentage (%)
Gender	Male	144	39.5
	Female	221	60.5
Age	18 ~ 24	16	4.4
	25 ~ 34	150	41.1
	35 ~ 44	178	48.8
	45 ~ 54	8	2.2
	55 ~ 64	8	2.2
	65 years and above	5	1.4
Ethnicity	Malay	12	3.3
	Chinese	315	86.3
	Indian	25	6.8
	Others	13	3.6
Monthly income level	< RM 3000	33	9.0
	RM 3000 ~ RM 5000	85	23.3
	RM 5001 ~ RM 7000	78	21.4
	RM 7001 ~ RM 9000	68	18.6
	> RM 9000	101	27.7
Occupation	Entrepreneur	41	11.2
	Govt	5	1.4
	Private	307	84.1
	Retired	0	0.0

	Non employed	8	2.2
	Student	4	1.1
State	Selangor	166	45.5
	Kuala Lumpur	100	27.4
	Penang	63	17.3
	Johor	22	6.0
	Kedah	5	1.4
	Perak	9	2.5
How often do you visit hypermarkets in a month	None	73	20.0
	1 ~ 2 times	30	8.2
	3 ~ 5 times	54	14.8
	6 ~ 10 times	30	8.2
	More than 10 times	178	48.8

Table 4.1 shows the demographic profile of the 365 respondents: the majority are females (60.5%) or 221 respondents. The largest age group is 35-44 years (48.8%). Most respondents work in the private sector (84.1%). In terms of ethnicity, the majority of respondents were Chinese (86.3%). Regarding the income level, the majority of the respondents earn more than RM9000 per month (27.7%). Most of the respondents are employed in the private sector (84.1%). Geographically, (45.5%) of the respondents are from Selangor. Nearly half (48.8%) of 178 respondents visit hypermarkets more than ten times monthly.

4.2 Mean and Standard Deviation Analysis

Table 4.2 Descriptive statistics summarizes key variables based on a sample size of 365 respondents.

Table 4.2: Descriptive Statistics (N=365)

Variables	Mean	SD	Min	Max
Personalisation	3.241	0.521	1.80	4.40
Service Quality	3.099	0.601	1.20	4.40
Hassle-Free Service	3.242	0.525	1.83	4.50
Customer Service	3.025	0.602	1.20	4.40
Customer Experience	3.429	0.694	1.80	5.00

Based on Table 4.2 Descriptive statistics, the mean values for the factors of personalisation, service quality, hassle-free service, customer service, and customer experience range from 3.025 to 3.429 and show that the respondents generally lean toward moderate to high levels of agreement across the five factors. The mean for customer experience is (3.429 ± 0.694) the highest, and customer service (3.025 ± 0.602) the lowest. The mean for personalisation, service quality, and hassle-free service are (3.241 ± 0.521), (3.099 ± 0.601), (3.242 ± 0.525) respectively. There is moderate variability in responses, with customer experience having the widest range of opinions. While some respondents strongly disagreed with the statements, others strongly agreed, indicating a diverse range of experiences, though most responses are positive.

4.4 Correlation Analysis

Table 4.3 Pearson's correlation matrix presents the relationships between Personalisation (PS), Service Quality (SQ), Hassle-Free Service (HFS), Customer Service (CS), and Customer Experience (CE). The table shows that all correlations are significant at the 0.01 level (2-tailed), indicating strong, statistically significant relationships between the factors.

Table 4.3: Pearson's Correlation Matrix

Factors	PS	SQ	HFS	CS	CE
Personalisation (PS)	1				
Service Quality (SQ)	0.784**	1			
Hassle-Free Service (HFS)	0.746**	0.853**	1		
Customer Service (CS)	0.724**	0.887**	0.777**	1	
Customer Experience (CE)	0.478**	0.551**	0.670**	0.479**	1
**. Correlation is significant at the 0.01 level (2-tailed).					

Based on Table 4.3, Personalisation (PS) shows a strong positive correlation with Service Quality (SQ) ($r = 0.784$; $p < 0.001$), Hassle-Free Service (HFS) ($r = 0.746$; $p < 0.001$), and Customer Service (CS) ($r = 0.724$; $p < 0.001$). This suggests that higher levels of personalisation are associated with improved service quality, hassle-free service, and customer service. However, its correlation with Customer Experience (CE) ($r = 0.478$; $p < 0.001$) is moderate, indicating that while personalisation contributes to customer experience, the relationship is not as strong as with the other factors.

Service Quality (SQ) has the highest correlation with Customer Service (CS) ($r = 0.887$; $p < 0.001$), indicating that these two factors are very closely related. SQ also shows a strong relationship with Hassle-Free Service (HFS) ($r = 0.853$; $p < 0.001$) and a moderate correlation with Customer Experience (CE) ($r = 0.551$; $p < 0.001$). This suggests that as service quality improves, so do customer service and hassle-free service, and it moderately enhances the overall customer experience.

Hassle-Free Service (HFS) correlates strongly with Service Quality (SQ) ($r = 0.853$; $p < 0.001$) and Customer Service (CS) ($r = 0.777$; $p < 0.001$), indicating that hassle-free service is closely linked with these two factors. It also has a relatively strong positive correlation with Customer Experience (CE) ($r = 0.670$; $p < 0.001$), suggesting that an improved hassle-free service leads to a better customer experience.

Customer Service (CS) is highly correlated with Service Quality (SQ) ($r = 0.887$; $p < 0.001$), indicating a very strong connection. Its correlation with Customer Experience (CE) ($r = 0.479$; $p < 0.001$) is moderate, suggesting that while better customer service enhances the customer experience, the relationship is not as strong as with other factors. Lastly, Customer Experience (CE) shows the highest correlation with Hassle-Free Service (HFS) ($r = 0.670$; $p < 0.001$), followed by Service Quality (SQ) ($r = 0.551$; $p < 0.001$) and moderate correlations with Customer Service (CS) ($r = 0.479$; $p < 0.001$) and Personalisation (PS) ($r = 0.478$; $p < 0.001$). This suggests that while all factors contribute to customer experience, hassle-free service has the strongest impact.

4.5 Regression Analysis

Table 4.4: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.673[a]	0.453	0.447	0.516
a. Predictors: (Constant), Personalisation, Service Quality, Hassle-Free Service, Customer Service b. Dependent Variable: Customer Experience				

The model summary in Table 4.4 indicates that the regression model explains a significant portion of the variance in Customer Experience, with an (R = 0.673), showing a strong positive correlation between the predictors (Personalisation, Service Quality, Hassle-Free Service, and Customer Service) and the dependent variable. The (R^2 = 0.453) reveals that 45.3% of the variance in Customer Experience is explained by these predictors. The (Adjusted R^2 = 0.447) suggests a good fit while accounting for the number of predictors, indicating that the model does not suffer from overfitting.

The (Standard Error of the Estimate = 0.516) indicates that, on average, the observed values deviate from the predicted values by this amount.

Table 4.5: ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	79.366	4	19.842	74.495	< 0.001[b]
	Residual	95.886	360	0.266		
	Total	175.252	364			
a. Dependent Variable: Customer Experience b. Predictors: (Constant), Personalisation, Service Quality, Hassle-Free Service, Customer Service						

Table 4.5 ANOVA provides an analysis of variance, helping to assess whether the regression model, as a whole, significantly predicts the dependent variable, Customer Experience.

The (F = 74.495), which indicates the overall significance of the regression model. A high F-value suggests that the regression model explains a significant portion of the variance in Customer Experience. The ($p < 0.001$), meaning the model is statistically significant. This indicates that the predictors (Personalisation, Service Quality, Hassle-Free Service, and Customer Service) collectively have a statistically significant relationship with Customer Experience.

The (Sum of Squares of Regression = 79.366) represents the variation explained by the model, while the (Residual Sum of Squares = 95.886) reflects the variation not explained by the model. Since the regression sum of squares is relatively large compared to the residual sum of squares, it suggests that the model explains a substantial portion of the variance in Customer Experience. Overall, the model fits well, and the predictors collectively have a significant impact on customer experience.

Table 4.6: Regression Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	0.603	0.186		3.245	0.001
	Personalisation	-0.031	0.086	-0.023	-0.356	0.722
	Service Quality	0.035	0.123	0.031	0.287	0.774
	Hassle-Free Service	0.989	0.102	0.747	9.706	< 0.001
	Customer Service	-0.128	0.098	-0.111	-1.308	0.192
a. Dependent Variable: Customer Experience						

Table 4.6 Regression coefficient highlights the influence of the independent variables (Personalisation, Service Quality, Hassle-Free Service, and Customer Service) on the dependent variable, Customer Experience.

The constant value (B = 0.603, p = 0.001) suggests that when all the independent variables are zero, the baseline level of customer experience is 0.603, which is statistically significant.

Personalisation has a negative unstandardized coefficient (B = - 0.031; p > 0.001), indicating that personalisation does not have a statistically significant effect on customer experience in this model. Similarly, Service Quality has a positive but very small unstandardized coefficient (B = 0.035; p > 0.001), meaning that it also does not significantly impact customer experience.

In contrast, Hassle-Free Service has a large positive unstandardized coefficient (B = 0.989; p < 0.001). This suggests that hassle-free service has a strong, positive, and statistically significant influence on customer experience. The beta = 0.747) further indicates that hassle-free service is the most impactful predictor in the model, with a strong positive effect.

Finally, Customer Service has a negative unstandardized coefficient (B = -0.128; p > 0.001), indicating that it does not have a statistically significant impact on customer experience.

Hence, the regression analysis shows that among the predictors, only Hassle-Free Service has a statistically significant and strong positive effect on Customer Experience, while Personalisation, Service Quality, and Customer Service do not have significant effects in this model.

4.5.1 Regression Equation

The regression equation below illustrates the relationship between Customer Experience (CE) and Hassle-Free Service (HSF).

CE = 0.603 + 0.989 (HSF)

Whereby:
CE = Customer Experience,
HSF = Hassle-Free Service,

0.603 = Constant or the y-intercept.

From the regression equation, the (constant = 0.603) indicates the baseline level of Customer Experience when Hassle-Free Service is zero, suggesting that even without hassle-free service, customer experience is still somewhat positive at 0.603. The coefficient 0.989 for HSF indicates that for every unit increase in Hassle-Free Service, Customer Experience increases by 0.989 units. This demonstrates a significant and strong positive relationship between the two variables, meaning that improvements in hassle-free service are expected to lead to substantial improvements in customer experience. Essentially, the equation highlights that Hassle-Free Service is a key driver of Customer Experience in this model.

4.6 Summary of Hypothesis Results

Table 4.7 Summary of hypothesis results shows the outcomes of the four hypotheses testing the relationships between the independent variables (Personalisation, Service Quality, Hassle-Free Service, Customer Service) and the dependent variable (Customer Experience).

Table 4.7: Summary of Hypothesis Results

Hypothesis	p-value	Results
H1: There is a significant relationship between personalisation and customer experience.	0.722	Not Accepted
H2: There is a significant relationship between service quality and customer experience.	0.774	Not Accepted
H3: There is a significant relationship between hassle-free service and customer experience.	< 0.001	Accepted
H4: There is a significant relationship between customer service and customer experience.	0.192	Not Accepted

H1, which proposed a significant relationship between Personalisation and Customer Experience, was not accepted ($p > 0.001$), indicating no significant relationship. Similarly, H2, suggesting a relationship between Service Quality and Customer Experience, was also not accepted with ($p > 0.001$). However, H3, which proposed a significant relationship between Hassle-Free Service and Customer Experience, was accepted with ($p < 0.001$), demonstrating a strong and significant relationship. Lastly, H4, suggesting a relationship between Customer Service and Customer Experience, was not accepted due to ($p > 0.001$).

Thus, only Hassle-Free Service was found to significantly impact Customer Experience, while Personalisation, Service Quality, and Customer Service did not show statistically significant relationships.

5. Discussion

In this section, this study endeavours to address the four research questions surrounding the relationships between AI-driven personalisation, service quality, hassle-free service, customer service, and customer experience.

Firstly, this study attempted to answer the research question (RQ1): Is there a significant relationship between personalisation and customer experience?

Based on the results, the relationship between personalisation and customer experience is not statistically significant. The unstandardised coefficient ($B = -0.031$; $p > 0.001$), indicates that personalisation has a negligible negative impact on customer experience, and the hypothesis (H1) is not supported by data. These findings contradict existing literature that suggests personalisation generally enhances customer experience by delivering tailored services and content (Ameen *et al.*, 2021; Bhuiyan, 2024). However, as noted by (Huang & Rust, 2018), the effectiveness of AI-based personalisation may vary depending on the service context, with emotional or relational services potentially benefiting less from AI automation. In this study, it appears that personalisation does not significantly influence customer experience in the Giant hypermarket context.

Secondly, this study sought to answer the research question (RQ2): Is there a significant relationship between service quality and customer experience?

Similarly, the results indicate no significant relationship between service quality and customer experience. The unstandardised coefficient of ($B = 0.035$; $p > 0.001$). This suggests that improvements in service quality, as driven by AI, do not substantially affect customer experience, and the hypothesis (H2) is not supported by data. This finding contrasts studies by (Zahra, 2023; Bonetti *et al.*, 2022) that have shown AI's potential to elevate service quality by improving efficiency and responsiveness. However, this result aligns with findings from (Sarıcam, 2022), who noted that service quality, while important for customer satisfaction, does not necessarily translate into increased customer loyalty or enhanced experiences.

Thirdly, this study aimed to answer the research question (RQ3): Is there a significant relationship between hassle-free service and customer experience?

The results indicate a strong and statistically significant relationship between hassle-free service and customer experience ($B = 0.989$, $p < 0.001$). This supports the hypothesis that hassle-free service plays a pivotal role in improving customer experience. Additionally, (Beta = 0.747) suggests that hassle-free service is the most impactful variable in this study. These results are consistent with the literature, where AI has been credited with streamlining processes, reducing customer effort, and providing seamless service experiences (Srivastava, 2024; Rana *et al.*, 2021). The ability of AI to offer instant, relevant information and facilitate smoother customer interactions aligns with this study's findings, reinforcing the importance of hassle-free service in enhancing customer experience.

Finally, this study endeavoured to answer the research question (RQ4): Is there a significant relationship between customer service and customer experience?

The relationship between customer service and customer experience was not found to be significant (B = -0.128; p > 0.001). This result indicates that customer service, as driven by AI, does not have a substantial influence on customer experience, and the hypothesis (H4) is not supported by data. These findings contradict earlier studies by (Ho & Chow, 2023; Masih, 2023) that have highlighted the benefits of AI-driven customer service, particularly in real-time interactions and personalised support. However, this study supports the argument by (Wang *et al.,* 2023), who pointed out that AI customer service may lack the emotional intelligence and empathy required to address more complex or relational customer needs.

Hence, this study highlights the complexity of AI's role in customer experience within the retail sector, particularly in the Giant hypermarket in Malaysia. While hassle-free service is proven to enhance customer experience significantly, other factors like personalisation, service quality, and customer service appear to have limited impact. These findings suggest that Giant hypermarkets should prioritise the implementation of AI technologies that focus on reducing customer effort and improving the efficiency of their services. However, Giant hypermarkets must also be cautious of over-reliance on AI in areas that require emotional engagement and relational interactions, as these may not be adequately addressed by automation alone. Therefore, even if AI offers substantial opportunities to enhance customer experience, its effectiveness may depend on the specific aspect of service, such as hassle-free service.

6. Conclusion

This study aimed to explore four research objectives, assess whether the gaps are addressed, and provide insights into the complex dynamics of AI integration in retail customer experiences at Giant Hypermarkets in Klang Valley, Malaysia. These insights are grounded in Customer Experience theory, which emphasizes the importance of customer interactions at various touchpoints in driving satisfaction and loyalty, as elucidated by (Chen & Prentice, 2024).

This study's first research objective (RO1) is to examine if there is a significant relationship between personalisation and customer experience. This study found no significant impact. According to the Customer Experience theory, personalisation is crucial for enhancing customer satisfaction by tailoring services to individual needs (Chen *et al.,* 2021). However, the findings of this study suggest that AI-driven personalisation may not effectively meet customers' emotional and relational needs in this context (Bhuiyan, 2024). This supports the view that while AI can enhance efficiency, it may not fully address the complexities of customer expectations, particularly in the emotional realm (Huang & Rust, 2018). Therefore, the gap between AI personalisation and customer experience remains, particularly in retail environments where human touch and relational interactions are valued.

The second research objective (RO2) is to analyse whether there is a significant relationship between service quality and customer experience. This study found no

significant relationship. Service quality, as emphasized by Customer Experience theory, is a fundamental element in shaping customer perceptions of service excellence (Dash *et al.*, 2019). However, the findings indicate that AI's contribution to service quality may not directly translate into an enhanced customer experience in this context, reflecting the limitations of AI in handling emotional and relational aspects of service (Hlee *et al.*, 2022). Despite AI's efficiency in operational aspects, it may not fulfill the holistic needs of customers, particularly when it comes to creating lasting emotional connections (Sarıcam, 2022). Thus, the gap between AI-enhanced service quality and customer experience remains partially unaddressed.

The third research objective (RO3) is to investigate if there is a significant relationship between hassle-free service and customer experience. This study revealed a strong and significant positive relationship, consistent with Customer Experience theory. A key element of Customer Experience theory is the reduction of customer effort and the provision of continuous, efficient services, which greatly enhance customer satisfaction, according to (Zha *et al.*, 2020). This study's findings confirm that AI's ability to streamline processes and offer hassle-free services significantly improves customer experience, particularly in retail contexts where convenience is highly valued, as mentioned by (Srivastava, 2024; Wang, 2024). This strongly aligns with the theoretical emphasis on ease and efficiency in fostering positive customer experiences. This effectively bridges the gap in understanding how hassle-free service influences customer experience.

Finally, the fourth research objective (RO4) is to assess if there is a significant relationship between customer service and customer experience. This study yielded no significant relationship. Customer Experience theory emphasizes the importance of emotionally engaging customer service in shaping positive experiences (Lemon & Verhoef, 2016). However, this study revealed that AI-driven customer service lacks the emotional intelligence required to build strong customer relationships (Ioannis *et al.*, 2022). While AI is effective for handling routine customer inquiries, it may not address complex, emotion-driven customer needs, which are essential for creating positive customer experiences (Masih, 2023). Therefore, the gap between AI-enabled customer service and customer experience remains unbridged, indicating that AI might not yet fully replace human interactions in customer service, especially in areas that require empathy and personal engagement.

Thus, this study successfully bridged the gap concerning the influence of hassle-free service on customer experience, but it also revealed that AI-driven personalisation, service quality, and customer service do not have the same significant impact. Customer Experience theory emphasizes that customer experiences are driven by continuous interactions, reduced effort, and emotional engagement. While AI excels in delivering efficiency, its inability to fully engage on an emotional level highlights the continued importance of human interaction, as stated by (Ziakis & Vlachopoulou, 2023). Giant hypermarkets must, therefore, balance AI's efficiency with human touch to fully optimize customer experiences in line with Customer Experience theory. This approach will

ensure that AI's potential is harnessed while addressing the relational dynamics essential to fostering customer satisfaction and loyalty in Giant hypermarkets.

7. Limitations and Further Research

The study possesses multiple limitations, notably the nascent phase of AI integration and discrepancies in AI implementation among stores, which may have influenced the results. The study depended on quantitative data, thus overlooking certain consumer experiences, and its findings may lack generalisability due to geographic and cultural disparities.

Future studies ought to encompass longitudinal studies to monitor the influence of AI breakthroughs on customer experience over time, mixed-methods approach to capture both quantitative and qualitative dimensions, and comparative studies across geographies to evaluate generalisability. Furthermore, analysing certain AI technologies and the significance of employee and customer training may yield pragmatic insights for enhancing service quality. Addressing these aspects can enable merchants to more effectively leverage AI to improve consumer satisfaction.

Acknowledgements

We express our profound appreciation to the survey participants, whose involvement was crucial for the study's success. We express our gratitude to our supervisor, Dr. Kumaran Kanapathipillai, for his important guidance and support. We express our sincere gratitude to our family for their steadfast support and confidence in our education. We express our gratitude to everybody who supported and challenged us throughout our journey.

Conflict of Interest Statement

The authors of this research disclose no conflicts of interest and affirm that external support has not altered the findings. We assert the uniqueness of this research, attest that it has not been previously published, and confirm that it is not presently under review for publication elsewhere.

About the Authors

Kumaran Kanapathipillai, a prominent figure in academia, earned his PhD in management and business from Management and Science University (Malaysia). With an impressive tenure of 23 years in the academic world, he has honed expertise in areas such as Management, Marketing, Supply Chain Management, and Logistics Management. Within academia, he plays a pivotal role in guiding and assessing both Masters and Ph.D. candidates. He also serves as an external examiner for several universities in Europe and Asia. Additionally, he is a peer reviewer for numerous academic journals. Beyond academia, he provides specialised training sessions on entrepreneurship, creative problem-solving, and project management across diverse

industries. His scholarly pursuits predominantly concentrate on contemporary entrepreneurship, management, and marketing.

Ooi Fu Nian possesses a Diploma in Management from the Management and Science University. He is currently pursuing a Master's degree in Business Administration at UNITAR International University. He has been working in the electronic manufacturing industry for 8 years, specializing in supply chain management.

Chai Pei Yi holds a Bachelor's Degree in Science (Hons) in Biotechnology from Universiti Tunku Abdul Rahman. She is currently pursuing a Master's in Business Administration at UNITAR International University. She has been working in the retail industry for 16 years, with experience in purchasing and category shopping.

Yang Wan Ping possesses a Bachelor's Degree, MA (Hons) in International Business with Enterprise, from Heriot-Watt University. She is currently pursuing a Master's degree in Business Administration at UNITAR International University. She is an enthusiastic digital marketer with extensive experience in the fields of technology and hospitality.

References

Adam, M., Wessel, M., & Benlian, A. (2020). Ai-based chatbots in customer service and their effects on user compliance. *Electronic Markets, 31*(2), 427-445. https://doi.org/10.1007/s12525-020-00414-7

Aguirre, E., Mahr, D., Grewal, D., de Ruyter, K., & Wetzels, M. (2015). Unraveling the personalization paradox: The effect of information collection and trust-building strategies on online advertisement effectiveness. *Journal of Retailing, 91*(1), 34-49. https://doi.org/10.1016/j.jretai.2014.09.005

Almuraqab, N. (2024). Exploring determinants that influence the usage intention of ai-based customer services in the UAE. *Journal of Global Information Management, 32*(1), 1-16. https://doi.org/10.4018/jgim.343308

Ameen, N., Tarhini, A., Reppel, A., & Anand, A. (2021). Customer experiences in the age of artificial intelligence. *Computers in Human Behavior, 114*, 106548. https://doi.org/10.1016/j.chb.2020.106548

Andrade, R. & Tumelero, R. (2022). The impact of artificial intelligence on customer experience: The mediating role of digital marketing. *Journal of Business Research, 139*, 112-122.

Andrew, L., Haris, N., Latif, S., & Zakariah, H. (2019). Service quality and customer satisfaction in the retailing industry: evidence from Sarawak, Malaysia. *International Journal of Engineering and Advanced Technology, 8*(5c), 166-169. https://doi.org/10.35940/ijeat.e1024.0585c19

Bhuiyan, M. S. (2024). The role of ai-enhanced personalization in customer experiences. *Journal of Computer Science and Technology Studies, 6*(1), 162-169. https://doi.org/10.32996/jcsts.2024.6.1.17

Bonetti, F., Montecchi, M., Plangger, K., & Schau, H. J. (2022). Practice co-evolution: collaboratively embedding artificial intelligence in retail practices. *Journal of the Academy of Marketing Science, 51*(4), 867-888. https://doi.org/10.1007/s11747-022-00896-1

Calvo, A. (2023). The role of artificial intelligence in improving the omnichannel customer experience. *International Journal of Retail & Distribution Management, 51*(9/10), 1174-1194. https://doi.org/10.1108/ijrdm-12-2022-0493

Candra, S., & Juliani, M. (2018). Impact of e-service quality and customer value on customer satisfaction in local brand. *Binus Business Review, 9*(2), 125-132. https://doi.org/10.21512/bbr.v9i2.4650

Canhoto, A. I., Keegan, B. J., & Ryzhikh, M. (2023). Snakes and ladders: unpacking the personalisation-privacy paradox in the context of ai-enabled personalisation in the physical retail environment. *Information Systems Frontiers, 26*(3), 1005-1024. https://doi.org/10.1007/s10796-023-10369-7

Castillo-Gutiérrez, S., Estudillo, M., & Lozano-Aguilera, E. (2021). Influence of the Fitted Straight Line for Confidence Bands Algorithm in Q-Q Plots. *Open Journal of Statistics. 11*. 925-930. 10.4236/ojs.2021.116054.

Castillo, D., Canhoto, A., & Said, E. (2020). The dark side of AI-powered service interactions: exploring the process of co-destruction from the customer perspective. *Service Industries Journal, 41*(13-14), 900-925. https://doi.org/10.1080/02642069.2020.1787993

Chan, T., & Ling, G. (2019). Determinants of service quality and customer satisfaction of retail clothing company. *Journal of Business and Social Review in Emerging Economies, 5*(2), 295-304. https://doi.org/10.26710/jbsee.v5i2.840

Chen, J., & Chang, Y. (2023). How smart technology empowers consumers in smart retail stores? the perspective of technology readiness and situational factors. *Electronic Markets, 33*(1). https://doi.org/10.1007/s12525-023-00635-6

Chen, J., Le, T., & Florence, D. (2021). Usability and responsiveness of artificial intelligence chatbot on online customer experience in e-retailing. *International Journal of Retail & Distribution Management, 49*(11), 1512-1531. https://doi.org/10.1108/ijrdm-08-2020-0312

Chen, Q., Lu, Y., Gong, Y., & Xiong, J. (2023). Can AI chatbots help retain customers? Impact of ai service quality on customer loyalty. *Internet Research, 33*(6), 2205-2243. https://doi.org/10.1108/intr-09-2021-0686

Chen, Y., & Prentice, C. (2024). Integrating Artificial Intelligence and Customer Experience. *Australasian Marketing Journal, 0*(0). https://doi.org/10.1177/14413582241252904

Dangi, M. R., & Malik, J. (2017). Personalization in marketing: Concepts, benefits, and challenges. *Journal of Marketing Analytics, 5*(1), 10-23.

Daqar, M., & Smoudy, A. (2019). The role of artificial intelligence in enhancing customer experience. *International Review of Management and Marketing, 9*(4), 22-31. https://doi.org/10.32479/irmm.8166

Dash, R., McMurtrey, M., Rebman, C., & Kar, U. K. (2019). Application of Artificial Intelligence in Automation of Supply Chain Management. *Journal of Strategic Innovation and Sustainability, 14*(3) 43-53. Retrieved from http://dx.doi.org/10.33423/jsis.v14i3.2105

Davenport, T., Guha, A., Grewal, D., & Breßgott, T. (2019). How artificial intelligence will change the future of marketing. *Journal of the Academy of Marketing Science, 48*(1), 24-42. https://doi.org/10.1007/s11747-019-00696-0

Department of Statistics Malaysia (DOSM, 2023). Official portal. Retrieved from https://www.dosm.gov.my

Ekechi, C. (2024). Ai-infused chatbots for customer support: a cross-country evaluation of user satisfaction in the USA and the UK. *International Journal of Management & Entrepreneurship Research, 6*(4), 1259-1272. https://doi.org/10.51594/ijmer.v6i4.1057

El Abed, M., & Castro-Lopez, A. (2023). The impact of AI-powered technologies on aesthetic, cognitive and affective experience dimensions: a connected store experiment. *Asia Pacific Journal of Marketing and Logistics, 36*(3), 715-735. https://doi.org/10.1108/apjml-02-2023-0109

El-Shihy, D. (2024). The influence of ai chatbots in fintech services on customer loyalty within the banking industry. *Future of Business Administration, 3*(1), 16-28. https://doi.org/10.33422/fba.v3i1.644

Eshiett, I., & Eshiett, O. (2021). Customer loyalty and retail outlets patronage in Nigeria. *European Business & Management, 7*(6), 168. https://doi.org/10.11648/j.ebm.20210706.12

Gao, L., Li, G., Tsai, F., Gao, C., Zhu, M., & Qu, X. (2022). The impact of artificial intelligence stimuli on customer engagement and value co-creation: the moderating role of customer ability readiness. *Journal of Research in Interactive Marketing, 17*(2), 317-333. https://doi.org/10.1108/jrim-10-2021-0260

Ghosh, S., Ness, S., & Salunkhe, S. (2024). The role of AI-enabled chatbots in omnichannel customer service. *Journal of Engineering Research and Reports, 26*(6), 327-345. https://doi.org/10.9734/jerr/2024/v26i61184

Grewal, D., Hulland, J., Kopalle, P. K., & Karahanna, E. (2020). The future of technology and marketing: A multidisciplinary perspective. *Journal of the Academy of Marketing Science, 48*(1), 1-8. Retrieved from https://link.springer.com/article/10.1007/s11747-019-00711-4

Hennig-Thurau, T., Gwinner, K. P., & Gremler, D. D. (2002). Understanding relationship marketing outcomes: An integration of relational benefits and relationship quality. *Journal of Service Research, 4*(3), 230-247. Retrieved from https://www.repo.uni-hannover.de/bitstream/handle/123456789/3088/109467050200400 3006.pdf?sequence=1

Hlee, S., Park, J., Park, H., Koo, C., & Chang, Y. (2022). Understanding customer's meaningful engagement with AI-powered service robots. *Information Technology and People, 36*(3), 1020-1047. https://doi.org/10.1108/itp-10-2020-0740

Ho, S. P. S., & Chow, M. Y. C. (2023). The role of artificial intelligence in consumers' brand preference for retail banks in Hong Kong. *Journal of Financial Services Marketing, 29*(2), 292-305. https://doi.org/10.1057/s41264-022-00207-3

Homburg, C., Jozić, D., & Kuehnl, C. (2012). Customer experience management: Toward implementing an evolving marketing concept. *Journal of the Academy of Marketing Science, 45*(3), 377-401.

Hoyer, W. D., Kroschke, M., Schmitt, B., Kraume, K., & Shankar, V. (2020). Transforming the customer experience through new technologies. *Journal of Interactive Marketing, 51*, 57-71. https://doi.org/10.1016/j.intmar.2020.04.001

Huang, M. H., & Rust, R. T. (2018). Artificial intelligence in service. *Journal of Service Research, 21*(2), 155-172. https://doi.org/10.1177/1094670517752459

Ioannis, R., Minas, N., Kastanakis, Apostolos, G., Konstantoulaki, K. & Kostopoulos I. (2022). How may I help you today? The use of AI chatbots in small family businesses and the moderating role of customer affective commitment. *Journal of Business Research, 153*. 329-340 https://doi.org/10.1016/j.jbusres.2022.08.035

Krejcie, R. V., & Morgan, D. W. (1970). Determining sample size for research activities. *Educational and Psychological Measurement, 30*(3), 607-610. https://doi.org/10.1177/001316447003000308

Kumar, V., Leone, P., Aaker, D., & Day, G. (2020). *Marketing Research (13th ed.).* Wiley. Retrieved from https://www.wiley.com/en-gb/Marketing+Research%2C+13th+Edition-p-9781119497493

Kumar, V., Rajan, B., Venkatesan, R., & Lecinski, J. (2020). Understanding the role of artificial intelligence in personalized marketing. *California Management Review, 61*(4), 135-155. http://dx.doi.org/10.1177/0008125619859317

Lan, D.H., & Tung, T.M. (2024). Ai-powered customer experience: Personalization, engagement, and intelligent decision-making in CRM. *Journal of Electrical Systems, 20*(5s), 55-71. https://doi.org/10.52783/jes.1832

Lemon, K. N., & Verhoef, P. C. (2016). Understanding customer experience throughout the customer journey. *Journal of Marketing, 80*(6), 69-96. Retrieved from https://pure.rug.nl/ws/portalfiles/portal/81733365/Understanding_Customer_Experience_Throughout_the_Customer_Journey.pdf

Li, G. (2023). The relationship between AI stimuli and customer stickiness, and the roles of social presence and customer traits. *Journal of Research in Interactive Marketing, 18*(1), 38-53. https://doi.org/10.1108/jrim-07-2022-0222

Liang, Y., Lee, S., & Workman, J. (2019). Implementation of artificial intelligence in fashion: are consumers ready?. *Clothing and Textiles Research Journal, 38*(1), 3-18. https://doi.org/10.1177/0887302x19873437

Lopez, G. (2024). Ai chatbots: elevating customer interactions amidst challenges. *International Journal of Latest Technology in Engineering Management & Applied Science, 13*(5), 152-156. https://doi.org/10.51583/ijltemas.2024.130515

Maria, R., Ana, P., & Silva, J. (2020). Enhancing Customer Experience through Omnichannel Management. *International Journal of Marketing Studies, 12*(4), 56-68.

Masih, D. (2023). Enhancing employee efficiency and performance in industry 5.0 organizations through artificial intelligence integration. *EEL, 13*(4), 300-315. https://doi.org/10.52783/eel.v13i4.589

Mathur, A. (2023). The impact of artificial intelligence on customer relationship management in the Indian banking industry. 107-116. https://doi.org/10.48001/978-81-966500-9-4_9

Nair, N., & Gautam, T. (2024). Examining the use of AI-powered social media analytics for target customer segmentation: A systematic review in the retail industry. *Educational Administration: Theory and Practice, 30(4), 1798–1805.*. https://doi.org/10.53555/kuey.v30i4.1753

Neha, S. Mohanty, B. S. Alfurhood, R. Bakhare, S. Poongavanam & R. Khanna (2023). The role and impact of artificial intelligence on retail business and its developments. *International Conference on Artificial Intelligence and Smart Communication (AISC)*, Greater Noida, India, 1098-1101, doi: 10.1109/AISC56616.2023.10085624. Retrieved from https://ieeexplore.ieee.org/document/10085624

Nguyen, D., Chiu, Y., & Le, H. (2021). Determinants of continuance intention towards banks' chatbot services in Vietnam: a necessity for sustainable development. *Sustainability, 13*(14), 7625. https://doi.org/10.3390/su13147625

Nguyen, T., Quach, S., & Thaichon, P. (2021). The effect of ai quality on customer experience and brand relationship. *Journal of Consumer Behaviour, 21*(3), 481-493. https://doi.org/10.1002/cb.1974

Olasanmi, O. (2023). The influence of virtual banking on operational efficiency. The International *Journal of Business & Management. 11*(9) https://doi.org/10.24940/theijbm/2023/v11/i9/bm2309-019

Parasuraman, A., Zeithaml, V. A., & Berry, L. L. (1988). SERVQUAL: A multiple-item scale for measuring consumer perceptions of service quality. *Journal of Retailing, 64*(1), 12-40. Retrieved from https://www.researchgate.net/publication/200827786_SERVQUAL_A_Multiple-item_Scale_for_Measuring_Consumer_Perceptions_of_Service_Quality

Pei, X., Guo, J., Wu, T., Zhou, W., & Yeh, S. (2020). Does the effect of customer experience on customer satisfaction create a sustainable competitive advantage? A comparative study of different shopping situations. *Sustainability, 12*(18), 7436. https://doi.org/10.3390/su12187436

Pillarisetty, R., & Mishra, P. (2022). A review of AI (artificial intelligence) tools and customer experience in online fashion retail. *International Journal of E-Business Research, 18*(2), 1-12. https://doi.org/10.4018/ijebr.294111

Pine, B. J., & Gilmore, J. H. (1999). *The Experience Economy: Work is Theatre & Every Business a Stage*. Harvard Business School Press. Retrieved from https://books.google.ro/books/about/The_Experience_Economy.html?id=5hs-tyRrSXMC&redir_esc=y

Pitardi, V., Wirtz, J., Paluch, S., & Kunz, W. (2021). Service robots, agency and embarrassing service encounters. *Journal of Service Management, 33*(2), 389-414. https://doi.org/10.1108/josm-12-2020-0435

Rana, J., Gaur, L., Singh, G., Awan, U., & Rasheed, M. (2021). Reinforcing customer journey through artificial intelligence: A review and research agenda. *International Journal of Emerging Markets, 17*(7), 1738-1758. https://doi.org/10.1108/ijoem-08-2021-1214

Rane, N., (2023). Enhancing customer loyalty through artificial intelligence (AI), internet of things (IoT), and big data technologies: Improving customer satisfaction, engagement, relationship, and experience. *SSRN*: https://ssrn.com/abstract=4616051 or http://dx.doi.org/10.2139/ssrn.4616051

Ranković, M., Gurgu, E., Martins, O. M., & Vukasović, M. (2023). Artificial intelligence and the evolution of finance: Opportunities, challenges and ethical considerations. *EdTech Journal, 3*(1), 20-23. https://doi.org/10.18485/edtech.2023.3.1.2

Robinson, S., Orsingher, C., Alkire, L., Keyser, A., Giebelhausen, M., Papamichail, K., & Temerak, M. (2020). Frontline encounters of the AI kind: An evolved service encounter framework. *Journal of Business Research, 116*, 366-376. https://doi.org/10.1016/j.jbusres.2019.08.038

Sardesai, S. (2024). Analysing the impacts of artificial intelligence service quality and human service quality on customer satisfaction and customer loyalty in the hospitality sector. *Turizam, 28*(1), 37-48. https://doi.org/10.5937/turizam28-45450

Sarıçam, C. (2022). Analysing service quality and its relation to customer satisfaction and loyalty in sportswear retail market. *Autex Research Journal, 22*(2), 184-193. https://doi.org/10.2478/aut-2021-0014

Şenyapar, H. N. D. (2024). The Future of Marketing: The Transformative Power of Artificial intelligence. *International Journal of Management and Administration, 8*(15), 1–19. http://dx.doi.org/10.29064/ijma.1412272

Shah, T. (2023). Linking technology readiness and customer engagement: an ai-enabled voice assistants investigation. *Foresight, 26*(1), 136-154. https://doi.org/10.1108/fs-10-2021-0195

Srivastava, K. (2024). Importance of AI attributes in Indian retail stores: a conjoint analysis approach. *International Journal of Retail & Distribution Management, 52*(3), 355-371. https://doi.org/10.1108/ijrdm-11-2022-0456

Tho, P. (2023). Assessing customer satisfaction with the retail service quality of Zara Vietnam stores. *Tạp Chí Nghiên Cứu Tài Chính - Marketing, 13*(6) 13-23. https://doi.org/10.52932/jfm.vi72.351

Tiutiu, M. (2023). Improving customer experience using artificial intelligence in online retail. *Proceedings of the International Conference on Business Excellence, 17*(1), 1139-1147. https://doi.org/10.2478/picbe-2023-0102

Tula, S. (2024). Ai-enabled customer experience enhancement in business. *Computer Science & It Research Journal, 5*(2), 365-389. https://doi.org/10.51594/csitrj.v5i2.789

Verhoef, P. C., Kannan, P. K., & Inman, J. J. (2019). From multi-channel retailing to omni-channel retailing: Introduction to the special issue on multi-channel retailing. *Journal of Retailing, 91*(2), 174-181. http://dx.doi.org/10.1016/j.jretai.2015.02.005

Wang, L., Huang, N., Hong, Y., Liu, L., & Guo, X. (2023). Voice-based AI in call center customer service: a natural field experiment. *Production and Operations Management, 32*(4), 1002-1018. https://doi.org/10.1111/poms.13953

Wang, Z. (2024). The influence of artificial intelligence on retail marketing. *Advances in Economics Management and Political Sciences, 71*(1), 106-111. https://doi.org/10.54254/2754-1169/71/20241443

Wirtz, J. (2023). Corporate digital responsibility (cdr) in the age of ai: implications for interactive marketing. *Journal of Research in Interactive Marketing, 18*(1), 31-37. https://doi.org/10.1108/jrim-06-2023-0176

Xu, Y., Shieh, C., Esch, P., & Ling, I. (2020). Ai customer service: task complexity, problem-solving ability, and usage intention. *Australasian Marketing Journal (Amj), 28*(4), 189-199. https://doi.org/10.1016/j.ausmj.2020.03.005

Zahra, A. (2023). Assessing customer satisfaction in AI-powered services: an empirical study with smartPLS. *International Transactions on Artificial Intelligence, 2*(1), 81-89. https://doi.org/10.33050/italic.v2i1.432

Zeng, J., Xing, Y., & Jin, C. (2023). The impact of VR/AR-Based Consumers' brand experience on Consumer–Brand Relationships. *Sustainability, 15*(9), 7278. https://doi.org/10.3390/su15097278

Zha, D., Marvi, R., & Foroudi, P. (2023). Synthesizing the customer experience concept: A multimodularity approach. *Journal of Business Research, 167*. https://doi.org/10.1016/j.jbusres.2023.114185

Ziakis, C., & Vlachopoulou, M. (2023). Artificial Intelligence in Digital Marketing: Insights from a Comprehensive Review. *Information, 14*(12), 664. https://doi.org/10.3390/info14120664