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The empowerment-loyalty nexus: examining the dynamics of omnichannel customer experiences

Submitted for the Degree of Doctor of Business Administration

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Abstract

Omnichannel strategies have transformed customer engagement by integrating and personalising interactions across diverse touchpoints, yet their influence on brand loyalty remains underexplored. Empowered customers, equipped with greater control and information, may paradoxically exhibit weaker loyalty as they switch between brands.

This study addresses this paradox by examining how omnichannel experiences shape brand loyalty, particularly in the presence of personal traits such as personal innovativeness and product category involvement. The specific research objectives are to explore the relationship between omnichannel experiences and brand loyalty, understand the mediating role of customer empowerment, and examine how personal traits moderate these relationships. Using a mixed-methods approach guided by the Service-Dominant Logic (SDL) framework, which emphasises value co-creation between firms and customers through resource integration across multiple touchpoints, the study is conducted in two phases. Phase I employs qualitative methods to explore how key omnichannel characteristics—integration, flexibility, and personalisation—influence brand loyalty. Phase II further validates these quantitatively through structural equation modelling (SEM).

Key findings include the identification of integration, flexibility, and personalisation as critical drivers of empowerment, which mediates their effect on brand loyalty. Personal innovativeness and product category involvement were found to significantly moderate these dynamics. Specifically, high levels of personal innovativeness amplify the relationship between omnichannel characteristics and both empowerment and brand loyalty. Similarly, high product category involvement enhances the effect of omnichannel features on customer empowerment and loyalty.

This research contributes to the literature by advancing the understanding and application of the SDL framework by developing midrange theoretical frameworks and concepts aligned with its principles. It also offers a nuanced perspective on the interplay between omnichannel experiences, empowerment, personal traits and brand loyalty. Practically, the findings provide actionable insights for businesses to optimise omnichannel strategies, foster customer empowerment, and address diverse customer needs, thereby enhancing long-term brand loyalty.

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Statement of copyright

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1. Introduction

Omnichannel experience represents a significant evolution in how businesses engage with customers across various channels and touchpoints (Gerea, Gonzalez-Lopez, & Herskovic, 2021; Sharma & Fatima, 2024; Xuan, Truong, & Vo Quang, 2023). Unlike multichannel strategies, where each platform operates independently, omnichannel strategies integrate these platforms to create a seamless and cohesive experience for customers, whether they interact online, offline, or via mobile (Liu, Tian, & Huang, 2024; Shi, Wang, Chen, & Zhang, 2020). This approach allows businesses to meet rising customer expectations for fluid transitions between channels, ensuring that no matter where or how customers engage, they receive a consistent and personalised brand experience (Yin, Chiu, Hsieh, & Kuo, 2022).

The emergence of omnichannel strategies has been driven by the advancement of information systems, communication technologies, and mobile applications (Barwitz & Maas, 2018; Zhang, Gong, Song, & Zhang, 2017). These developments have fundamentally transformed the way firms interact with customers (Kang, 2019). New channels and touchpoints—such as e-commerce platforms, social media, in-store experiences, and mobile apps—allow businesses to connect with customers more efficiently, building stronger relationships that extend beyond individual transactions (Lee, Chan, Chong, & Thadani, 2019). With the help of these technologies, businesses now have access to richer customer data, enabling them to create more targeted and personalised marketing strategies that drive customer engagement and loyalty (Tyrväinen & Karjaluo, 2019). As businesses gain better insights into customer preferences and behaviours, the importance of delivering personalised, integrated experiences has grown. Digital technologies, such as AI-driven recommendations, have empowered businesses to anticipate customer needs and tailor interactions at each stage of the customer journey (Shi et al., 2020).

At the same time, customers themselves have become increasingly empowered. Armed with a wealth of information about products and services, they can make more informed decisions, connect with other customers, and hold businesses accountable to high standards of transparency and consistency across channels (Lee et al., 2019). This shift in customer expectations has made the omnichannel experience critical to business success (Tencent, 2019). Customers now demand seamless, personalised experiences across all touchpoints, and they are quick to switch brands if their expectations are not met (Gerea et al., 2021). The increasing fragmentation of customer touchpoints across different channels has created more complex and less predictable customer journeys, making it challenging for businesses to maintain a consistent customer experience (Herhausen, Kleinlercher, Verhoef, Emrich, & Rudolph, 2019).

To thrive in this dynamic landscape, brands must adopt a holistic omnichannel approach that integrates social media, email, mobile apps, and in-store interactions into a unified customer experience (Hossain, Akter, Kattiyapornpong, & Dwivedi, 2019). This means more than just having a presence on different channels; it requires creating a seamless experience where customers can move effortlessly between channels while receiving personalised, consistent messaging that aligns with their preferences (Tyrväinen, Karjaluo, & Saarijärvi, 2020). Moreover, brands must not only focus on integration but also adapt their strategies to the needs and preferences of individual customers.

By understanding where customers are in their purchase journey and tailoring their engagement accordingly, brands can create more meaningful interactions that foster loyalty and long-term relationships (Yin et al., 2022). For example, traditional retailers like Walmart and Suning (China's equivalent to BestBuy) have expanded their online presence, while e-commerce giants such as Amazon and JD.com have ventured into offline channels, recognising the need for a more comprehensive engagement model (Mckinsey, 2022a). Brands like Nike, Apple, Burberry, and BMW have explicitly positioned customer experience management as a major growth enabler in the omnichannel context, investing heavily in customer experience optimisation to outperform in the competitive marketplace (Mckinsey, 2019). Even emerging brands from China, such as Anta and Xiaomi, as well as financial institutions like Ping An, have integrated omnichannel strategies into their customer engagement efforts to drive market success (Caixin, 2022).

This business focus on omnichannel strategies has also spurred academic interest in understanding the omnichannel customer experience. Researchers have increasingly recognised the importance of managing customer experiences across diverse touchpoints and channels, identifying this as one of the most significant research topics in the field of service management (Ostrom, Parasuraman, Bowen, Patrício, & Voss, 2015; Tueanrat, Papagiannidis, & Alamanos, 2021). The Marketing Science Institute has listed "Strategies to Prioritize Customer Value at All Touchpoints During the Omnichannel Customer Journey" as the very first recommended research topic for 2020-2022 (MSI, 2020). It has also explicitly ranked "Customer Experiences" as a top research priority for 2024, considering that "the modern consumer has exhibited a shift in expectations towards more experiential and personalised consumer engagements" (MSI, 2024). Accordingly, researchers from different fields have conducted various studies related to the omnichannel customer experiences, such as the acceptance of new channels and technology applications (Hoyer, Kroschke, Schmitt, Kraume, & Shankar, 2020; Juaneda-Ayensa, Mosquera, & Sierra Murillo, 2016), the impact of channel integration (Gao, Fan, Li, & Wang, 2021; Zhang, Ren, Wang, & He, 2018), the omnichannel customer journey (Barwitz & Maas, 2018; Herhausen et al., 2019), customer behaviours (Kang, 2019; Santos & Gonçalves, 2019; Shi et al., 2020), customer engagement (Frasquet-Deltoro, Molla-Descals, & Miquel-Romero, 2021; Meire, Hewett, Ballings, Kumar, & Van den Poel, 2019), and experience management (Gerea et al., 2021).

However, despite the rapid growth and adoption of omnichannel strategies, this trend has introduced considerable theoretical confusion and fragmentation in understanding the relationships between customers and brands (Becker & Jaakkola, 2020).

On one hand, omnichannel experiences are designed to offer integrated and personalised interactions, which allow brands to get closer to customers (Li, Abbasi, Cheema, & Abraham, 2020). By delivering seamless transitions across various channels, these experiences can enhance satisfaction and trust, drive purchases, and stimulate positive word-of-mouth (Liu & Liu, 2024; Sharma & Fatima, 2024; Xuan, Truong, & Vo Quang, 2023). However, at the same time, omnichannel experiences empower customers to make more informed and better decisions (Ürgüplü & Yumurtacı Hüseyinoğlu, 2021), which imply that customers may not feel compelled to remain loyal to a single brand. They may instead prioritize their needs and preferences, choosing the best options available across multiple platforms (Fernández, Pérez, & Vázquez-Casielles, 2018).

Such dual dynamic introduces a crucial tension in the omnichannel landscape. While the integration and personalisation of touchpoints enhance convenience and satisfaction, empowering customers with more control and information has the potential to reduce brand loyalty (Tyrväinen et al., 2020). Customers can now access vast amounts of information, compare products, and switch between brands effortlessly, raising questions about omnichannel strategies in fostering deep, lasting loyalty. The very tools that make omnichannel experiences more engaging and seamless may simultaneously reduce customers' reliance on any single brand by enabling easier comparisons and switching behaviour (Li et al., 2018).

The above paradoxes present an essential gap in both academic research and business practice. While much has been written about how omnichannel strategies can improve immediate outcomes like customer satisfaction and purchase intention (Kosa & Uysal, 2021), the relationship between omnichannel experiences and brand loyalty remains underexplored (Liu & Liu, 2024). Specifically, there is a need to examine how customers who are empowered by omnichannel experiences navigate their relationships with brands (Gao & Huang, 2021; Liu & Liu, 2024). Given that omnichannel experiences enable customers to make decisions based on convenience, price, or personalised offers, understanding whether these empowered customers remain loyal to the brand, and under what conditions, becomes a critical area for investigation.

At the same time, it is equally important to recognize the role that personal traits play in shaping customer behaviours (Herhausen et al., 2019). At the core of omnichannel strategies lies the principle of customer centricity, which emphasizes tailoring experiences to individual customer preferences (Neslin, 2022). Personal traits, which can be defined as “characteristics that are stable overtime” and “provide the reasons for the person’s behaviours” (Hermes & Riedl, 2021), have been found to influence omnichannel purchasing behaviours (Menidjel, Benhabib, Bilgihan, & Madanoglu, 2020; Zhang, Park, & Park, 2024; Zhou & Huang, 2023) can significantly influence how customers engage with omnichannel platforms. Personal innovativeness, for example, affects how willing customers are to try new technologies and channels (Xuan, Truong, & Vo Quang, 2023), while product category involvement shapes the extent to which customers are engaged in the decision-making process for particular product types (Lee, 2022). These traits can alter the dynamics of customer loyalty, making it imperative for brands to adapt their strategies based on individual characteristics. Understanding these traits offers a deeper view into how customers perceive, adopt, and interact with the technologies and channels available to them (Khan, Hollebeek, Fatma, Islam, & Riiivits-Arkonsuo, 2020).

This focus on customer empowerment and personal traits underscores the need for brands to move beyond traditional models of loyalty. In an omnichannel context, where customers are empowered to make more informed decisions, their loyalty is no longer simply driven by satisfaction or convenience. Instead, it is shaped by a complex interaction of channel experience, individual traits, and the level of empowerment they get in navigating their customer journeys. Brands that succeed in fostering loyalty in this new landscape will be those that not only offer seamless, integrated experiences but also understand and cater to the diverse personal characteristics.

The purpose of this DBA research is, therefore, to contribute to the current knowledge of omnichannel experience and its impact on brand loyalty by addressing the following key questions:

1. How does omnichannel experience affect brand loyalty, particularly through the lens of customer empowerment?
2. What role does empowerment play in the relationship between key omnichannel characteristics and brand loyalty?
3. How do personal traits influence the relationship between omnichannel experience, empowerment and brand loyalty?

To address these research questions, this study has built a theoretical model guided by the Service-Dominant Logic (SDL) framework (Fehrer & Vargo, 2022; Vargo & Lusch, 2004, 2017). SDL is particularly well-suited for exploring omnichannel experiences as it emphasizes value co-creation between firms and customers through the integration of resources across multiple touchpoints (Dalla Pozza, 2022). In the context of omnichannel experiences, SDL provides a robust lens to examine how firms and customers collaboratively create value across various touchpoints (Katsifaraki & Theodosiou, 2024). Key SDL concepts, such as resource integration, customer empowerment, value co-creation, and personalized value propositions, align closely with the dynamics of omnichannel strategies (Ajmal, Jan, Khan, Hussain, & Salameh, 2024; Bhanja & Saxena, 2022; Sheth, Jain, Roy, & Chakraborty, 2022). Under SDL, omnichannel characteristics are viewed as firm-provided resources that customers integrate into their consumption processes to create value. Empowerment, as a psychological state, reflects the extent to which customers feel in control of these interactions, shaping their loyalty outcomes. Additionally, personal traits, such as personal innovativeness and product category involvement, influence the resource integration process, further moderating the relationship between omnichannel experiences and brand loyalty.

A two-phase and mixed-method approach was adopted to empirically investigate the theoretical model. Phase I was an exploratory qualitative investigation aimed at understanding how customers perceive and interact with omnichannel experiences. Through focus group discussions, participants shared insights into the omnichannel characteristics they valued most, such as integration, flexibility, and personalisation. These features were found to significantly enhance their shopping experiences and shape their perceptions of the brand, fostering greater brand loyalty. Additionally, personal traits such as personal innovativeness and product category involvement were identified as influencing how customers engaged with omnichannel features. The findings from Phase I helped inform the development of the theoretical model, providing a foundation for further quantitative examination in Phase II.

The Phase II study employed a quantitative survey to validate the relationships identified in Phase I. Using structural equation modelling (SEM), the study tested the direct and indirect effects of omnichannel characteristics—integration, flexibility, and personalisation—on customer empowerment and brand loyalty. The results confirmed that these omnichannel features positively influenced empowerment, which in turn partially mediated their effect on brand loyalty. Additionally, Phase II examined the moderating roles of personal innovativeness and product category involvement, revealing that

customers with higher levels of personal innovativeness were more responsive to the benefits of omnichannel experiences. Similarly, customers with greater product category involvement showed stronger connections between omnichannel features and brand loyalty.

This present paper, and findings from the empirical studies, makes important theoretical contribution to the growing body of literature on omnichannel customer experience and brand loyalty. First, it enriches the understanding of the omnichannel experience by highlighting empowerment as a mediating factor between key omnichannel characteristics—integration, flexibility, and personalisation—and brand loyalty. This research extends existing models of customer experience and brand loyalty by offering a more nuanced perspective on how to drive long-term customer engagement. In particular, the study deepens the application of the SDL framework, positioning empowerment as a central concept in understanding how value is co-created through customer interactions with brands across multiple touchpoints. Second, this study contributes to the development of omnichannel customer experience theories by addressing gaps related to the influence of personal traits, such as personal innovativeness and product category involvement, on customer behaviour in omnichannel environments. The moderating effect of these traits provide a more comprehensive understanding of how individual differences shape customer engagement and loyalty. Additionally, by conducting empirical research in China, this study offers culturally relevant insights that refine existing theories of customer behaviour. The findings broaden the applicability of omnichannel and customer behaviour theories, extending their relevance beyond Western contexts.

Practically, this study provides valuable insights for businesses looking to enhance customer loyalty in an increasingly omnichannel world. The findings underscore the importance of designing omnichannel strategies that empower customers by giving them control, flexibility, and personalisation across all touchpoints. Brands that excel at seamlessly integrating online and offline channels, while providing flexible and tailored experiences, are more likely to cultivate deeper customer loyalty. Moreover, the study highlights the need for businesses to consider individual customer differences, such as personal innovativeness and product category involvement, when crafting omnichannel strategies. For instance, highly innovative customers or those deeply involved in specific product categories may require more sophisticated, personalised experiences to stay engaged and loyal. By tailoring their strategies to these segments, brands can drive long-term loyalty and improve their competitive advantage in the market. The findings offer actionable guidance on resource allocation, customer journey design, and personalised marketing approaches that can directly enhance business performance in the omnichannel landscape.

The remaining content of this paper is organized as follows (also refer to Figure 1).

- **Chapter 2. Literature review:** This chapter offers a thorough review of the existing literature on omnichannel experiences, customer empowerment, and brand loyalty, etc. It examines key theoretical perspectives and studies that inform this research. Additionally, it identifies gaps in current academic knowledge, particularly regarding the role of empowerment and personal traits in influencing loyalty within omnichannel settings.

- **Chapter 3. Research design:** This chapter outlines the research methodology employed in the study, explaining the rationale for adopting a mixed-method approach. It describes the sampling methods, data collection processes, and analytical techniques used in the research. The chapter demonstrates how the qualitative phase informed the development of the quantitative survey and how both studies are aligned to address the research questions.
 - **Chapter 4. Qualitative exploration (Phase I):** Chapter 4 presents insights from the focus group discussions, examining customer perceptions of omnichannel interactions and the role of empowerment in fostering emotional brand connections. It concludes with reflections and implications for the theoretical model and guiding the next research phase.
 - **Chapter 5. Quantitative examination (Phase II):** This chapter presents the refined theoretical model, hypotheses, and survey findings. Employing structural equation modelling (SEM), it validates the mediating role of empowerment, demonstrating its pivotal influence on the link between omnichannel experiences and customer loyalty. Additionally, the chapter explores the moderating effects of personal traits, highlighting how individual differences shape the strength and direction of these relationships.
 - **Chapter 6. Discussion:** This chapter discusses the implications of the research findings, organized into theoretical contributions and practical implications; it also addresses the limitations of the study and also proposes several avenues for future research.
- Chapter 7. Conclusion:** This this chapter synthesize the main contributions and discusses the broader significance of the study, as well as presenting the author’s final reflection s and closing thoughts.

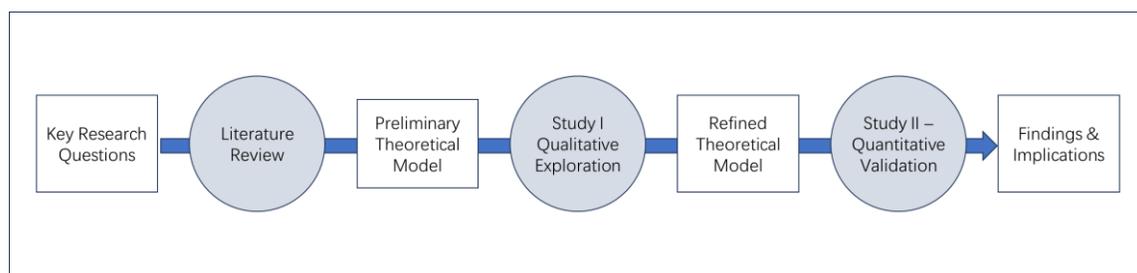


Figure 1. An illustration of the overall content workflow

2. Literature review

The following content offers essential findings from the literature review, organized into six subsections, addressing various academic aspects of the omnichannel customer experience, and then conclude with a summary of the literature review.

2.1 Theoretical perspectives

The concept of omnichannel experience is rooted in the broader study of customer experience but has evolved significantly in response to today's complex channel environment, where various channels coexist and intertwine (Rahman, Carlson, Gudergan, Wetzels, & Grewal, 2022). Traditionally, customer experience was understood as the sum of all interactions a customer has with a brand throughout their journey—from pre-purchase to post-purchase phases (Homburg, Jozić, & Kuehnl, 2017; Lemon & Verhoef, 2016; Verhoef et al., 2009). However, the omnichannel experience reflects a more integrated, fluid, and holistic approach, emphasizing the seamless transition between various channels (both online and offline) that customers encounter while interacting with a brand (Becker & Jaakkola, 2020; Kranzbühler, Kleijnen, Morgan, & Teerling, 2018; Quach, Barari, Moudry, & Quach, 2020).

Acknowledging that customer behaviours and the relationships between firms and customers have been fundamentally changed in today's technologically-enabled and digitally-empowered business world, various studies from different academic fields have dedicated further efforts to examine how customer experience has evolved in the omnichannel context (Thaichon, Phau, & Weaven, 2020; Verhoef, Kannan, & Inman, 2015). Besides customer experience scholars' continuous efforts on investigating the nature of omnichannel experience, scholars from other fields, such as Retail Management (RM), Information System (IS) and Customer Behaviours (CB), have adopted additional lenses to understand the role of technologies, channel integration, and customer heterogeneity on omnichannel experience (Huuhka, Laaksonen, & Laaksonen, 2014; Shi et al., 2020; Tyrväinen & Karjaluoto, 2019). These new perspectives have further enriched the understanding of experience in an omnichannel context.

Arguably, the classic customer experience theories are still valid (Becker & Jaakkola, 2020). What has evolved is the complexity and uncertainties of customer behaviours (Xu & Jackson, 2019). The major difference is that customers can access far more diverse channels and touchpoints (Baxendale, Macdonald, & Wilson, 2015) in each purchase stage and the interactions are not always one way around. The empowered customers demand a more flexible experience that is increasingly on the move (Carroll & Guzmán, 2013). As customers are taking control, free-riding behaviours (Chou, Shen, Chiu, & Chou, 2016) such as showrooming (Fernández et al., 2018; Rapp, Baker, Bachrach, Ogilvie, & Beitelspacher, 2015), webrooming (Fernández et al., 2018), research shopping (Chiou, Wu, & Chou, 2012; Park, 2017) were widely discussed.

Accordingly, literatures related to omnichannel customer experiences can be classified into three perspectives. Firstly, the channel perspective emphasizes the evolution from isolated channels to an integrated, seamless shopping experience, focusing on the interplay between channels to enhance customer experiences. Secondly, the technology perspective underscores the transformative role of mobile and digital technologies in facilitating interactions between businesses and customers, highlighting the adoption and

usage of omnichannel-related technologies. Lastly, the customer perspective stresses the significance of customer centricity and heterogeneity, advocating for personalised strategies to cater to individual customer preferences and behaviours.

Theories related to these perspectives and representative studies are summarized in the table below (Table 1).

Table 1. Summary of the relevant theories and studies

Perspectives	Relevant theories	Select references
The channel perspective	Channel Integration The Anticipated Utility Theory	(Gao, Fan, et al., 2021; Herhausen et al., 2019; Lee et al., 2019; Neslin, 2022)
The technology perspective	The Extended Unified Theory of Acceptance and Use of Technology The Innovation Diffusion Theory The Complex Adaptive Theory	(Juaneda-Ayensa et al., 2016; Saghiri, Wilding, Mena, & Bourlakis, 2017; Shi et al., 2020)
The customer perspective	The Stimulus-Organism-Response Framework The Theory of Planned Behaviours The Service-Dominant Logic	(Lemke, Clark, & Wilson, 2011; Xu & Jackson, 2019; Zhang et al., 2018)

2.1.1 The channel perspective

The channel perspective in omnichannel research examines the evolution of strategies from isolated approaches to integrated systems that enhance customer experiences. Since Rigby (2011) introduced the concept of omnichannel retailing as the "future of shopping," academic focus has shifted towards understanding how the interplay of various channels—online, offline, and mobile—affects customer behaviours and engagement. Unlike multi-channel strategies, where channels operate independently, or cross-channel strategies (Avery, Steenburgh, Deighton, & Caravella, 2012; Kwon & Lennon, 2009; Neslin et al., 2006), which focus on ensuring consistency between touchpoints, omnichannel strategies blur the boundaries between channels to create a unified and flexible customer experience (Brynjolfsson, Hu, & Rahman, 2013; Carroll & Guzmán, 2013).

Early multi-channel strategies prioritised maximising the effectiveness of each channel independently (Neslin et al., 2006). Although this approach offered customers flexibility in selecting their preferred touchpoints, it often led to fragmented interactions due to the lack of integration between channels. Cross-channel strategies partially addressed this by enabling smoother transitions and fostering consistency in the customer journey (Tyrväinen & Karjaluoto, 2019). However, these approaches still fell short of delivering the seamless, interconnected experiences that modern customers increasingly expect (Li et al., 2018).

Omnichannel strategies represent a significant advancement, fully integrating channels to enable fluid, uninterrupted customer experiences. Beck and Rygl (2015) conceptualised

this integration as the seamless fusion of online, offline, and mobile platforms, where customers can move effortlessly between touchpoints. This integration goes beyond merely offering multiple channels—it focuses on creating a unified ecosystem where customers can experience continuity regardless of their chosen touchpoint. Such integration enhances customer satisfaction while allowing brands to deliver personalised and contextually relevant experiences based on customer behaviours across different channels (Quach et al., 2020). For instance, e-commerce platforms can act as both sales and marketing channels, seamlessly complementing physical stores in building brand awareness and increasing conversion rates.

The complexity of managing omnichannel strategies has led scholars to identify specific dimensions of channel integration that underpin effective implementation. Saghiri et al. (2017) emphasised the synchronisation of touchpoints and channel stages to ensure a cohesive customer experience. Lee et al. (2019) introduced dimensions such as channel-service breadth, content consistency, and process transparency, highlighting their critical role in driving customer engagement. Xu and Jackson (2019) added channel convenience as another essential dimension, reflecting the growing importance of accessibility and flexibility in omnichannel interactions.

This shift towards fully integrated strategies has significantly altered the role of channels in the customer journey. For example, traditional distinctions between sales and marketing channels are increasingly blurred (Quach et al., 2020). An e-commerce platform may not only function as a point of purchase but also serve as a key driver of customer engagement through promotional campaigns and personalised recommendations. Similarly, brick-and-mortar stores are evolving into experiential hubs, where customers can interact with products while accessing digital services, such as in-store apps or augmented reality tools.

The omnichannel paradigm has also been enriched by innovations like click-and-collect services, which bridge online and offline interactions. These services, highlighted by (Beck & Rygl, 2015), provide customers with greater convenience while reducing perceived risks associated with online shopping (Quach et al., 2020). Such innovations underscore the importance of ensuring seamless inventory management, real-time updates, and consistent information across platforms.

Despite these advancements, much of the literature remains anchored in a firm-centric perspective. They often focus on how companies can optimise channel integration to improve efficiency and achieve favourable outcomes. Studies frequently overlook how customers perceive and experience along their omnichannel journey (Gasparin et al., 2022; Oh, Teo, & Sambamurthy, 2012). This firm-centric lens limits understanding of the emotional and relational dimensions of omnichannel interactions, particularly the role of empowerment in shaping loyalty.

Another ongoing debate concerns the degree to which channel integration benefits customer experiences. Scholars like Verhoef, Kannan, and Inman (2015) argue that high levels of integration enhance satisfaction by reducing customer effort. In contrast, Shen, Li, Sun, and Wang (2018) caution against potential downsides, such as information overload and cognitive complexity, particularly for less tech-savvy customers. These debates highlight the need for nuanced approaches that balance the advantages of

integration with the simplicity required to meet diverse customer expectations (Gasparin et al., 2022).

Furthermore, while much research focuses on transactional outcomes, such as purchase and customer satisfaction, the experiential aspects of omnichannel interactions remain underexplored. Questions remain about how integration influences customer trust, engagement, and emotional connection to brands. This gap presents opportunities to further explore omnichannel strategies from a truly customer-centric perspective.

2.1.2 The technology perspective

The technology perspective in omnichannel research examines how advancements in digital and mobile technologies shape customer experiences and decision-making processes. As technology has become deeply embedded in customers' lives, it has transformed how customers interact with brands across channels, blurring the lines between traditional and online shopping environments (Kang, Lu, Guo, & Li, 2021). Unlike earlier customer behaviour models, which focused on brick-and-mortar settings, technology-enabled omnichannel experiences reflect a dynamic and interconnected customer journey (Lemon & Verhoef, 2016).

Early studies in this domain focused on the role of mobile and digital technologies as enablers of omnichannel strategies. Rigby (2011) and Brynjolfsson et al. (2013) highlighted how mobile apps, websites, and in-store technologies allow firms to provide consistent interactions across touchpoints. Technology facilitates not only transactional processes, such as purchasing, but also relational ones, such as building trust and enhancing engagement through personalised content and interactive tools. For instance, Lazaris and Vrechopoulos (2014) underscored the transformative role of technological innovations in reshaping customer behaviour, while Shi et al. (2020) identified dimensions such as connectivity, consistency, and personalisation as critical characteristics to technologically enabled omnichannel experiences.

Scholars have also turned to theoretical frameworks to explore the adoption and impact of omnichannel technologies. The Technology Acceptance Model (TAM) and Unified Theory of Acceptance and Use of Technology (UTAUT2) have been particularly influential in examining how perceived usefulness, ease of use, and effort expectancy drive customer engagement with omnichannel platforms (Bilgihan, Kandampully, & Zhang, 2016; Venkatesh, Thong, & Xu, 2012). These models provide valuable insights into the psychological factors underlying customer adoption of new technologies though often overlook the broader relational outcomes.

Relevant studies suggest that technological advancements have empowered customers in multiple ways. Digital tools enable customers to collect detailed information, compare products, and interact with other customers, giving them greater control over their shopping journey (Erdem, Keller, Kuksov, & Pieters, 2016; Grewal, Levy, & Kumar, 2009). Features like real-time inventory visibility, mobile payment systems, and augmented reality applications enhance convenience and satisfaction, aligning with the expectations of digitally savvy customers (McLean, Al-Nabhani, & Wilson, 2018). For example, click-and-collect services and AI-powered recommendation systems allow brands to bridge the gap

between online and offline experiences, creating a seamless and personalised journey (Mckinsey, 2022a; Yadav & Pavlou, 2020)

Although there has been substantial progress, challenges and limitations related to technology in omnichannel experiences remain a topic of discussion. One area of contention concerns the standardisation versus personalisation of technology-enabled interactions. While standardised systems allow for greater operational efficiency and consistency across channels, overly rigid structures may fail to meet individual customer needs or expectations for personalisation (Shi et al., 2020). Conversely, highly personalised technologies may raise concerns about privacy and data security, particularly as customers become increasingly aware of how their data is being used (Tong, Luo, & Xu, 2020).

Another issue relates to digital inclusivity. Although many customers benefit from advanced omnichannel technologies, others—particularly those who are less tech-savvy or lack access to digital tools—may feel excluded. Scholars like (Pantano & Viassone, 2015) highlight that a growing reliance on technology risks alienating certain customer segments, potentially widening the gap between digitally enabled and less connected customers. This raises questions about how firms can balance the adoption of cutting-edge technologies with inclusivity and accessibility for a broader customer base (Mele, Russo Spena, Kaartemo, & Marzullo, 2020; Tseng & Wang, 2016).

In addition, key gaps remain in understanding the role of technology in omnichannel experiences. One prominent gap concerns the temporal dimension of technological interactions. While most studies focus on the immediate impact of technologies, such as convenience and ease of use (Venkatesh et al., 2012), there is limited exploration of how these interactions influence long-term outcomes, including customer loyalty, trust, and emotional attachment to brands. Technologies like AI-driven recommendations and real-time synchronisation often leave customers with varying perceptions—ranging from empowerment to over-reliance—depending on the context and frequency of use (Zhang, Park, & Park, 2024).

Besides, the differentiated effects of technology across customer segments also implies a critical gap. Much of the research assumes a uniform customer base, with limited attention paid to how technological tools are perceived and utilised differently by various demographic or psychographic groups (Herhausen et al., 2019). For instance, while younger, tech-savvy customers may embrace augmented reality features or mobile payment systems, older or less digitally literate customers may perceive these technologies as barriers rather than facilitators. This disparity suggests a need to consider personal preferences and ensure that omnichannel technologies meet diverse customer expectations (Tyrväinen et al., 2020).

2.1.3 The customer perspective

The customer perspective in omnichannel research emphasises the importance of understanding customer centricity and heterogeneity to enhance engagement and loyalty. As customers increasingly demand seamless and personalised interactions, this perspective highlights how their individual preferences and behaviours shape the design and effectiveness of omnichannel strategies. By shifting the focus from a firm-centric to a

customer-oriented approach, making it particularly suitable for studying omnichannel experiences. Unlike the channel and technology perspectives, which primarily examine operational integration or technological enablers, the customer perspective emphasises understanding customer centricity and heterogeneity to enhance engagement and loyalty. This orientation acknowledges that omnichannel strategies are not solely about managing systems or infrastructures but are fundamentally about meeting customers' needs for seamless and personalised interactions. By centring on how customers' individual preferences and behaviours shape the design and effectiveness of omnichannel systems, this perspective captures the relational and experiential dimensions of the customer journey that other perspectives may overlook.

Four representative theoretical frameworks underpin the customer perspective: the Theory of Reasoned Action (TRA), the Theory of Planned Behaviour (TPB), the Stimulus-Organism-Response (SOR) framework, and the Service-Dominant Logic (SDL).

TRA (Ajzen & Fishbein, 1975) serves as a foundational framework for understanding customer decision-making, positing that behaviour is a function of attitudes and subjective norms. In the omnichannel context, TRA provides a useful lens for examining how customers' perceptions of channel integration and consistency influence their behaviours toward a brand (Mishra, Singh, & Paul, 2024). For example, a customer's positive perception of seamless channel integration can lead to stronger brand affinity, while inconsistencies between touchpoints may erode trust. However, TRA assumes that customers act rationally and with complete control over their decisions, which limits its applicability to dynamic and multifaceted omnichannel experiences where behaviours are often influenced by psychological states and external constraints.

TPB (Ajzen, 1991) extends TRA by incorporating perceived behavioural control, offering additional angles into understanding customer decision-making within omnichannel settings. TPB suggests that customer behaviour is guided by three key components: attitudes, subjective norms, and perceived behavioural control. In an omnichannel context, attitudes toward a brand are shaped by the experience across various touchpoints (Xu & Jackson, 2019). For instance, positive attitudes arise from well-integrated and personalised interactions, while negative attitudes may stem from inconsistencies or inconveniences during the journey. Subjective norms—customers' perceptions of social expectations—play a role when social influence factors in, such as recommendations via social media or reviews on e-commerce platforms. Finally, perceived behavioural control, or the customer's belief in their ability to navigate different channels seamlessly, is influenced by the quality of omnichannel integration. Firms that offer clear navigation, seamless transitions, and responsive service enhance customers' perceived control, making them more likely to engage positively with the brand (Xu & Jackson, 2019).

The SOR framework provides a valuable lens to examine how external factors influence customer behaviours (Pantano & Viassone, 2015). SOR posits that external stimuli, such as brand touchpoints or technological interactions, affect internal states—such as emotions or cognitive evaluations—which in turn drive behavioural responses. In an omnichannel context, stimuli might include personalised recommendations via an app, the convenience of transitioning between online and offline shopping, or the ability to access real-time inventory updates (Le & Nguyen-Le, 2020; Rahman et al., 2022). These stimuli evoke emotional and cognitive responses, such as satisfaction or trust, which ultimately

lead to outcomes like brand loyalty or repeat purchases. The integration of physical and digital channels amplifies the impact of these stimuli, as customers expect the same level of convenience and customisation regardless of the channel (Zhang et al., 2018).

Finally, the SDL framework (Lusch & Vargo, 2014; Vargo & Lusch, 2004) offers a more comprehensive approach by positioning customers as active participants in the co-creation of value. Unlike the traditional Goods-Dominant Logic, which focuses on tangible outputs, SDL emphasises service-for-service exchanges and resource integration as the basis of economic activity (Lusch & Vargo, 2014). Earlier studies have applied SDL across various fields, such as healthcare (Joiner & Lusch, 2016), tourism (Rather, Hollebeek, & Islam, 2019), banking (Sheth et al., 2022) and retail (Islam, Hollebeek, Rahman, Khan, & Rasool, 2019), to explore how actors co-create value in complex ecosystems. In omnichannel contexts, SDL's focus on value-in-use rather than value-in-exchange aligns with the shift towards customer-centric models (Dam, Le Dinh, & Menvielle, 2020). By recognising customers as active participants, SDL highlights how firm resources (e.g., channels, technology, and service systems) interact with customer resources (e.g., knowledge, skills, and personal traits) to shape experiences. This dynamic is particularly relevant in omnichannel research, where integration across touchpoints enables seamless and personalised value creation. Studies leveraging SDL in omnichannel settings have demonstrated its utility in analysing the co-creation of value, such as through personalisation and interactive technologies, underscoring its relevance for examining modern customer journeys (Cui et al., 2022).

In comparison with other frameworks, SDL provides a more holistic approach to studying omnichannel experiences. While TRA, TPB, and SOR provide valuable insights into customer behaviour, they fall short in addressing the complexities of omnichannel experiences. TRA and TPB are primarily linear models that assume decision-making is rational and sequential, whereas omnichannel journeys are often dynamic, iterative, and influenced by a mix of cognitive, emotional, and contextual factors (Lemon & Verhoef, 2016). Although TPB's inclusion of perceived behavioural control offers a degree of flexibility, it still overlooks the interconnected nature of customer interactions across touchpoints (Xu & Jackson, 2019). SOR adds depth by recognising the influence of external stimuli on internal states, but it adopts a largely reactive view of customers as recipients of stimuli rather than active participants. This limits its ability to account for the interactive, co-creative nature of omnichannel experiences, where customers shape their own journeys through behaviours like choosing channels, customising touchpoints, or leveraging technological tools (Gao, Fan, et al., 2021).

This suitability extends to addressing the research questions in this study, which explore how omnichannel characteristics influence customer empowerment, brand loyalty, and the effects of personal differences. SDL provides a robust framework for explaining the value co-creation process, where integration facilitates seamless interactions across channels, flexibility enables active participation, and personalisation delivers tailored value propositions (Tregua, Brozovic, & D'Auria, 2021). By emphasising resource integration and value co-creation, SDL shifts the focus from what firms deliver to how customers actively engage with and transform these resources to meet their needs (Dalla Pozza, 2022). SDL also incorporates the psychological dimension of empowerment, which is central to understanding how omnichannel strategies foster long-term loyalty (Cui et al.,

2022). The ability of customers to integrate resources effectively not only shapes their experiences but also establishes loyalty as a key outcome of successful omnichannel strategies. By combining empowerment, co-creation, and resource integration, SDL provides a nuanced and comprehensive framework for understanding how omnichannel strategies influence customer behaviour and brand outcomes.

In conclusion, despite traditional frameworks such as TRA, TPB, and SOR contribute valuable insights into specific aspects of omnichannel customer behaviours, SDL emerges as a more robust and adaptable framework for understanding the complexities of omnichannel experiences (Katsifaraki & Theodosiou, 2024). By focusing on value co-creation, resource integration, and empowerment, SDL provides a holistic perspective that aligns with the dynamic and customer-centric nature of modern omnichannel journeys (Fehrer & Vargo, 2022). Its ability to account for the interplay between firm-provided resources, customer traits, and behavioural outcomes positions SDL as uniquely equipped to address the core research questions, offering both theoretical depth and practical guidance for optimising omnichannel strategies (Dalla Pozza, 2022).

2.2 Omnichannel experience

The conceptualisation of the omnichannel experience construct has evolved significantly as scholars have sought to capture the unique characteristics of this modern retail phenomenon. Initially, researchers applied classical customer experience dimensions to the omnichannel context, attempting to understand how emotions, thoughts, and actions are shaped across multiple channels. For instance, Cao and Li (2015) explored the omnichannel experience through the lens of affective, cognitive, and behavioural dimensions, examining how customers' emotions, cognitive processing, and behaviours interact within omnichannel environments. Similarly, Huré, Picot-Coupey, and Ackermann (2017) investigated the roles of hedonic and utilitarian values, focusing on how pleasure-driven experiences and functional benefits influence customer satisfaction across multiple channels.

As omnichannel retailing gained prominence, research shifted towards channel-centric approaches that focused on how different channels are integrated to create a cohesive customer experience. Lemon and Verhoef (2016), for example, proposed a construct focused on the integration of touchpoints, examining how various channels work together to guide customers seamlessly through their purchasing journey. This perspective reflects the growing recognition that omnichannel experiences are complex, multi-stage processes that require careful coordination of all available channels to deliver a consistent and satisfying experience. Shen et al. (2018) proposed the concept of channel integration quality, which encompasses dimensions such as channel-service configuration, content consistency, and process consistency, highlighting the importance of a well-coordinated approach to managing various retail channels. Similarly, Lee et al. (2019) emphasised seamlessness as a critical component of omnichannel experiences, measuring how smoothly customers can transition between physical and digital touchpoints without disruptions. Other scholars have taken a more customer-oriented approach, focusing on how innovations like interactivity and personalisation shape omnichannel experiences. Juaneda-Ayensa et al. (2016) incorporated these elements into their conceptualisation, recognising that customer-friendly features such as customised recommendations and interactive platforms are integral to creating a more engaging and dynamic customer

journey in omnichannel settings. Hickman, Kharouf, and Sekhon (2020) proposed a conceptual model that identifies four factors for omnichannel experience: brand familiarity; customisation; perceived value, and technology readiness.

While these conceptualisations have advanced the understanding of omnichannel experiences, they have not fully captured the multifaceted and seamless nature of these experiences. A pivotal shift in understanding omnichannel experiences came from the work of Shi et al. (2020), who proposed a conceptualisation that moves beyond emotional or functional values. They identified five key characteristics—connectivity, integration, consistency, flexibility, and personalisation—as the core elements of omnichannel experience. This framework is particularly relevant as it focuses on aspects that are actionable and measurable, making it not only more tangible for researchers but also highly relevant for practitioners seeking to improve omnichannel strategies. According to SDL, these characteristics can be viewed as operant resources that facilitate interactions and enable value co-creation between firms and customers. For example:

- Connectivity ensures seamless linkage across channels, enabling customers to access resources without disruption. It reflects a firm's ability to facilitate interactions by synchronising data and providing smooth transitions across touchpoints. Real-time connectivity enhances customer experiences and drives satisfaction in omnichannel environments.
- Integration aligns touchpoints to create cohesive shopping journeys, blending online and offline experiences like click-and-collect. This involves resource harmonisation, where firm and customer inputs interact to co-create value. Seamless transitions foster trust, convenience, and loyalty, making integration essential to omnichannel success.
- Consistency ensures uniform information, service, and branding across channels, building trust and reducing customer effort. It reflects resource alignment, reinforcing firm reliability and enabling smooth value co-creation. Predictable and cohesive experiences enhance satisfaction and loyalty by reducing confusion and maintaining confidence.
- Flexibility empowers customers with options that adapt to their preferences, such as delivery choices or support channels. This characteristic enhances customer co-creation by providing control and responsiveness. By offering adaptable interactions, flexibility improves satisfaction and strengthens loyalty in competitive omnichannel markets.
- Personalisation tailors resources to individual needs, fostering co-creation and deeper engagement. It involves leveraging customer data and preferences to enhance relevance. Tailored interactions build emotional connections, drive satisfaction, and secure loyalty in omnichannel strategies.

Recent studies have reinforced the practicality of this conceptualisation within the SDL framework. A study by Zhang, Park, Park, and Zhang (2024) referenced the Shi et al. (2020) framework investigated the factors influencing customer experience in omnichannel retail environments, examining it from two main perspectives: objective omnichannel experience characteristics and subjective individual customer characteristics. The study found hedonic and utilitarian perceptions significantly affect customer loyalty, with customer experience mediating the relationship between omnichannel factors and

loyalty, offering valuable insights for retailers to improve customer retention. Yin et al. (2022) examined how omnichannel elements influence brand experiences and retention. The research used online surveys to explore the effects of customer satisfaction on retention, focusing on brand experience and purchase behaviour. These findings resonate with SDL's focus on resource integration and the customer's active role in shaping outcomes. Riaz, Baig, Meidute-Kavaliauskiene, and Ahmed (2021) investigated the influence of omnichannel experience within the fashion industry. The researchers focused on factors such as channel integration, seamlessness, fulfilment, usability, and customer behaviours. The findings highlighted the critical role of seamless omnichannel experiences in enhancing customer satisfaction and loyalty. Key drivers like omnichannel integration and fulfilment were found to significantly improve customer experience, fostering greater trust and encouraging repeat purchases.

These studies underscore the practicality of Shi et al.'s conceptualisation of omnichannel experience, providing empirical evidence of how the different omnichannel experience characteristics can be applied or adapted to understand customer perceptions and behaviours across various industries and retail contexts. Building on this foundation, the present study adopts the conceptualisation proposed by Shi et al. (2020), starting with connectivity, integration, consistency, flexibility, and personalisation as the key constructs of omnichannel experience. These characteristics provide a structured and actionable approach to understanding how customers interact with brands across multiple touchpoints.

2.3 Brand loyalty

Brand loyalty refers to a customer's consistent preference and commitment to a specific product, demonstrated through repeat purchases and favourable attitudes despite competing alternatives (Leckie, Nyadzayo, & Johnson, 2016). It represents more than transactional behaviour; it encompasses emotional connections, trust, and satisfaction, which are critical for long-term customer-brand relationships. According to SDL, brand loyalty is more than a transaction; it results from successful value co-creation. Firms and customers collaboratively integrate resources to create meaningful experiences. Customers leverage firm-provided resources to build lasting loyalty. These include seamless omnichannel experiences, personalised interactions, and consistent service quality. Loyal customers, in turn, generate trust, advocacy, and retention benefits that enhance firm performance (Tyrväinen et al., 2020) and strengthen the overall brand-customer relationship (Pekovic & Rolland, 2020).

Traditionally, brand loyalty was cultivated through consistent product quality and exceptional customer service, which acted as firm resources that customers could integrate into their experiences (Auh, Bell, McLeod, & Shih, 2007). Overtime, it helps brands reduce churn and build a stable customer base, essential for maintaining competitive advantage and driving growth (Morgan & Rego, 2009). In omnichannel environments, brand loyalty becomes even more critical due to the increased control that customers have over their purchasing process (Brun, Rajaobelina, Ricard, & Berthiaume, 2017). Loyalty in this setting emerges not just from satisfaction but as a direct result of the successful integration of operant resources, such as personalised recommendations and seamless channel coordination, with customer resources like preferences and decision-making capabilities.

As omnichannel empowers customers with greater control and access to diverse options, the traditional notion of loyalty is frequently challenged. Customers can now compare brands, products, and services across various channels, often switching to alternatives that offer better convenience, pricing, or personalisation (Cotarelo, Fayos, Calderón, & Mollá, 2021). In this environment, the value of brand loyalty may be questioned, as customers can easily switch between brands that offer the most convenience, best price, or personalised services (Gao, Li, Fan, & Jia, 2021; Hui, Fei, & Jinling, 2018). While SDL posits that resource integration plays a critical role in fostering emotional commitment, the extent to which omnichannel experiences contribute to the development of brand loyalty remains an area requiring further empirical exploration.

Despite its importance, brand loyalty has been less extensively studied as an outcome of omnichannel experiences, indicating a gap in the literature that this present paper aims to address. Much of the existing literature on omnichannel experiences predominantly focuses on immediate or transactional outcomes such as adoption or usage (Juaneda-Ayensa et al., 2016; Pereira, de La Martinière Petroll, Soares, Matos, & Hernani-Merino, 2023; Sharma & Fatima, 2024), customer satisfaction (Kosa & Uysal, 2021; Rahman et al., 2022), perceived value (Kurtaliqi, Lancelot Miltgen, Viglia, & Pantin-Sohier, 2024), and purchase intention (Juaneda-Ayensa et al., 2016; Shi et al., 2020; Tu, Kwon, & Gao, 2022). While these metrics are valuable in understanding customer responses to omnichannel initiatives, they may not fully capture the depth and durability of the customer-brand relationship that brand loyalty represents.

Meanwhile, brand loyalty is a more profound indicator, reflecting a customer's long-term commitment and preference towards a brand despite the availability of alternatives (Li et al., 2018). In the omnichannel context, where customers have unparalleled access to information and competing offerings across multiple channels, fostering brand loyalty becomes increasingly challenging yet crucial (Xuan, Truong, & Quang, 2023). It signifies not just repeated transactions but an emotional connection and trust built over time, which is essential for sustained growth and competitive advantage. Some scholars, however, have begun to study this relationship, though the literature remains scattered.

Brakus, Schmitt, and Zarantonello (2009) were among the first to empirically investigate the outcomes of brand experience, validating a positive relationship between customer experience and satisfaction and loyalty. Their work laid the groundwork for understanding how the overall brand experience impacts loyalty in multi-channel contexts. Lemke et al. (2011) expanded on this by identifying four major outcomes of customer experience, including commitment, purchase, retention, and word of mouth. They demonstrated that experience directly influences not only satisfaction but also brand loyalty and related behaviours. Based on a comprehensive literature view on customer experience management, Fatma (2014) proposed that customer loyalty—rather than commitment—is the most important customer experience outcome, suggesting that increased loyalty leads to business growth and improved financial performance. This is particularly relevant for omnichannel settings, where customers are not bound to a single channel and can easily switch brands unless strong loyalty is established.

Tyrväinen et al. (2020) explored the relationships between personalisation, hedonic motivation, and customer loyalty in omnichannel retail. They found that customer experience positively influenced loyalty outcomes, including repeat purchase intentions

and word-of-mouth. In their 2021 study, Gao, Li, et al. (2021) explored the effects of customer experience incongruence on customer retention within the omnichannel retail environment. They found that inconsistencies between online and offline customer experiences negatively impacted customer retention, but that key channel characteristics—such as transparency, convenience, and seamlessness—could mitigate these negative effects. Yin et al. (2022) studied how omnichannel integration, individualisation, and interaction influence customer behaviour and demonstrated that these omnichannel elements contribute positively to brand experiences, which in turn enhance customer retention. Na et al. (2023) conducted a study on the mediating role of brand trust and brand love between brand experience and brand loyalty within the context of the smartphone industry in China, which empirically tested the relationships between brand experience, brand trust, brand love, and their impact on both attitudinal and behavioural loyalty. In addition, Zhang, Park, Park, et al. (2024) explored how omnichannel retailing influences customer loyalty by examining both omnichannel characteristics and individual customer traits, with customer experience serving as a mediator between omnichannel characteristics and loyalty.

Exploring brand loyalty within the omnichannel context offers a more comprehensive view of customer behaviour, capturing not only their immediate responses but also their enduring relationship with the brand (Yin et al., 2022). The implications of understanding the relationship between brand loyalty and omnichannel experiences are substantial. From a theoretical standpoint, it addresses whether brands can continue to build and maintain loyalty in an era of empowered, informed customers who are not confined to a single purchasing channel. For practitioners, this insight is essential for deciding where to invest resources, especially regarding whether brands should focus more on customer engagement, technology integration, or personalisation to foster loyalty in this highly competitive, fragmented environment.

2.4 Empowerment

Empowerment is the transfer of control and decision-making to customers (Pranic & Roehl, 2012), which allows them to shape their experiences and make informed choices when interacting with a brand. In the retail landscape, particularly in omnichannel environments, empowerment reflects the degree to which customers perceive autonomy and control over their shopping journeys (Ali Acar & Puntoni, 2016; Mohammad, 2020; Wathieu et al., 2002). By granting customers the ability to influence their experiences, empowerment enhances personalisation, facilitates better decision-making, and fosters deeper engagement.

From the perspective of SDL, empowerment is a psychological enabler that drives value co-creation (Putra, 2023). SDL positions customers as active participants in the value creation process, where they integrate firm-provided resources—such as seamless omnichannel systems, personalised services, and flexibility—with their own resources, including preferences, knowledge, and decision-making capabilities. This integration process enables customers to derive meaningful and satisfying outcomes from their interactions. Empowerment is not only central to the customer's role in value co-creation but also instrumental in transforming firm-provided resources into long-term loyalty and trust (Heinonen & Strandvik, 2015; Lusch & Vargo, 2014; Voima, Heinonen, & Strandvik, 2010). Customers who feel empowered often exhibit a greater sense of ownership,

contributing to deeper emotional connections and lasting relationships with the brand (Lusch & Vargo, 2014).

The omnichannel retail environment amplifies the importance of empowerment. With access to a wide array of touchpoints, including websites, mobile apps, social media, and physical stores, customers can navigate their shopping journeys with unprecedented flexibility and autonomy (Zhang et al., 2018). This interconnected network of channels allows customers to interact with brands seamlessly across platforms, creating opportunities for brands to empower customers through tailored options, consistent messaging, and integrated services. Empowerment in omnichannel settings enables customers to take control of their shopping processes, such as selecting delivery options, comparing prices across platforms, or customising products to meet individual preferences (Ürgüplü & Yumurtacı Hüseyinoğlu, 2021). By granting customers the freedom to shape their experiences, omnichannel retailers align with SDL's emphasis on customer-centric value creation, fostering trust and satisfaction.

Despite its relevance, empowerment remains an underexplored construct in omnichannel studies. Much of the existing research has focused on the immediate benefits of channel integration, often neglecting the broader role of empowerment as a mediator between omnichannel experience characteristics and customer outcomes. For instance, Ürgüplü and Yumurtacı Hüseyinoğlu (2021) examined how channel integration fosters customer empowerment, leading to improved satisfaction and trust. Similarly, Mishra, Malhotra, Arora, and Mukhopadhyay (2022) highlighted that flexible options, such as customised delivery schedules, empower customers by aligning shopping processes with individual preferences. However, these studies primarily address transactional outcomes like satisfaction and trust, rather than examining how empowerment drives brand loyalty—a more profound, long-term commitment to a focal brand.

This gap is particularly significant in the context of omnichannel experiences, where the traditional boundaries between channels blur, and customer expectations evolve rapidly (Shankar & Kushwaha, 2020). While research has established that channel integration enhances customer empowerment, most studies have not addressed the full spectrum of omnichannel experience characteristics, such as flexibility and personalisation (Shi et al., 2020), in relation to empowerment. Additionally, the link between empowerment and brand loyalty remains inadequately examined. Most studies, including those by Yin et al. (2022) and Mishra et al. (2022), focus on satisfaction or purchase with the retailer channels, overlooking the customer's enduring commitment to the brand—the true supplier of products and services.

Recent empirical research has begun to bridge this gap, albeit in fragmented ways. For example, Tyrväinen et al. (2020) explored how personalisation and hedonic motivation in omnichannel settings influence customer loyalty but did not explicitly consider the role of empowerment. Yin et al. (2022) examined how omnichannel integration contributes to brand experiences, which in turn enhance customer retention. Their findings suggest a potential link between integration and empowerment, but the study stops short of exploring how empowerment directly affects loyalty. Na et al. (2023) investigated the mediating roles of trust and love between brand experience and loyalty but did not explicitly address empowerment as a factor. Similarly, Zhang et al. (2024) highlighted the importance of

individual traits in shaping omnichannel experiences but did not delve into how these traits interact with empowerment to influence loyalty.

While these studies have focused on positive contributions, some scholars suggest that empowerment may not always lead to favourable outcomes, particularly in scenarios where decision-making complexity undermines its benefits. For example, Hu and Krishen (2019) highlight how customer empowerment, particularly in online shopping scenarios, can lead to information overload and decision difficulty. This paradox arises when the autonomy granted to customers allows them to access an abundance of information, such as product reviews, which may overwhelm their cognitive capacity (Gourville & Soman, 2005). For instance, while self-determined review quantities enhance the perception of control and autonomy, excessive information often creates confusion and hampers decision satisfaction due to the mental effort required to process it. In omnichannel environments, the abundance of data across various touchpoints further intensifies this challenge. Decision-making becomes burdensome, especially when the information presented is ambiguous or inconsistent (Schweitzer & Simon, 2021). Such cognitive strain undermines the benefits of empowerment, detracting from the overall customer experience and potentially reducing brand loyalty.

These gaps and contradicting findings highlight the need for a more comprehensive understanding of empowerment's role in omnichannel studies. The relationship between omnichannel experience characteristics—beyond integration—and empowerment deserves greater attention, as does the influence of empowerment on brand loyalty. Theoretical advancements in this area could provide valuable insights into how empowerment mediates the connection between omnichannel experiences and long-term customer commitment to brands. Moreover, empirical research that explicitly examines empowerment as a central construct in omnichannel retailing would enhance our understanding of how value co-creation processes shape customer behaviour.

Exploring empowerment in greater depth is critical for both theoretical and practical reasons. Theoretically, it aligns with SDL's paradigm shift toward customer primacy, where customers, rather than firms, drive value creation. Practically, understanding empowerment provides a roadmap for designing omnichannel strategies that enhance autonomy, trust, and satisfaction, ultimately fostering brand loyalty. By positioning empowerment as a central enabler of value co-creation, this study aims to address the identified gaps and contribute to the ongoing dialogue on how omnichannel experiences can be optimised to drive long-term customer engagement and loyalty.

2.5 Personal traits

Personal traits play a critical role in shaping how customers interact with retail channels and brands, shaping their capacity to integrate and transform resources into meaningful outcomes (Hermes & Riedl, 2021). These individual characteristics encompass variations in emotional responses, attitudes, and behaviours influenced by factors such as personal background, unique needs, attitudes, and external environmental aspects like culture, family, and education (Zhang, Park, Park, et al., 2024). Based on the perspectives from the SDL framework, personal traits are pivotal in determining how customers engage in the co-creation process, as individual differences affect their ability to integrate firm-provided resources effectively (Sheth et al., 2022). For instance, traits such as personal

innovativeness and self-efficacy influence how customers perceive and utilise omnichannel features like connectivity, integration, and consistency, ultimately shaping their overall experience and satisfaction (Huang, Silalahi, Eunike, & Riantama, 2024). These traits not only affect how customers respond to experiences but also determine the quality and outcomes of the co-creation process, highlighting their important roles in customer behaviour and decision-making within omnichannel environments.

A few frequently-discussed personal traits in the reviewed literature include personal innovativeness, product category involvement, self-efficacy, and need for cognition. For customers with high personal innovativeness, the integration of technology across channels is not just a convenience but a necessary component of their shopping journey. Meanwhile, customers with lower innovativeness may be slower to adopt new technologies and may prefer traditional, well-established channels that offer a sense of familiarity (Zhang, Park, & Park, 2024). product category involvement is such a trait that profoundly shapes customer behaviour (Hsia et al., 2020) . In an omnichannel context, customers with high product category involvement may actively move between online research, social media reviews, and physical store visits, expecting the brand to provide a consistent and seamless experience throughout (McClure & Seock, 2020). Conversely, customers with low involvement may prefer a more straightforward, streamlined shopping process, and they are less likely appreciating the benefits of omnichannel shopping (Menidjel et al., 2020). In addition, need for cognition is another frequently-discussed personal trait that plays a role in the omnichannel context. According to Park and Kim (2021), customers with high need for cognition seek detailed information and thorough comparisons, expecting in-depth consistency across all touchpoints, from online descriptions to in-store support. As for self-efficacy, customers who score high on this trait are more likely to view omnichannel as empowering, using it to streamline their shopping experience and make more informed decisions (Holkkola, Nyrhinen, Makkonen, & Frank, 2023).

Among these different personal traits, personal innovativeness (Krey, Chuah, Ramayah, & Rauschnabel, 2019; Xuan, Truong, & Vo Quang, 2023; Zhang, Park, & Park, 2024) and Product Category Involvement (Hsia et al., 2020; McClure & Seock, 2020; Menidjel et al., 2020; Zhou & Huang, 2023) stand out as particularly relevant for understanding omnichannel experience. Personal innovativeness highlights the role of omnichannel adoption and customers' openness to new innovations, which is increasingly important in an era where omnichannel strategies rely heavily on the application of technology across various platforms. product category involvement, on the other hand, captures the depth of engagement a customer has with a specific product category, which influences how they interact with the omnichannel environment. Both traits influence how customers navigate the omnichannel environment, impacting their expectations, perceptions, engagement levels, and ultimately, their brand loyalty. Together, these two traits provide a more holistic understanding of how customers navigate complex omnichannel journeys.

Personal innovativeness. As a psychological trait, personal innovativeness refers to the degree to which an individual is open to trying new technologies and innovative services (Cheng, 2014). It is especially relevant in the context of omnichannel retail, where customers must navigate multiple channels, often involving new and emerging technologies (Krey et al., 2019). High personal innovativeness can drive customers to

explore and adopt novel omnichannel features, such as augmented reality, AI-driven recommendations, and integrated mobile and in-store shopping experiences (Huang & Liao, 2015). On the contrary, customers with low personal innovativeness may be slower to adapt to these new technologies and may prefer more traditional, familiar channels (Jang & Lee, 2018).

The importance of personal innovativeness in omnichannel research stems from the rapidly evolving digital landscape, where customer engagement across various touchpoints relies heavily on their willingness to adopt and experiment with these innovative technologies. This trait not only affects how customers interact with omnichannel touchpoints but also influences their trust and engagement with the brand. High personal innovativeness can enhance a customer's ability to fluidly move across channels, thereby enriching the overall customer experience and potentially leading to stronger brand loyalty (Xuan, Truong, & Vo Quang, 2023). As technology continues to evolve, understanding the role of personal innovativeness becomes critical for retailers to design omnichannel strategies that cater to varying levels of customer openness.

In their earlier study, Juaneda-Ayensa et al. (2016) examined the role of personal innovativeness as a critical factor influencing omnichannel customer behaviour. They highlighted that personal innovativeness—the degree to which individuals are open to trying new technologies—plays a pivotal role in driving omnichannel purchase intention. Customers who score high in personal innovativeness tend to explore and use new technological features across multiple channels during their shopping journey, which leads to greater engagement and satisfaction. The study confirmed that personal innovativeness significantly influences the willingness of customers to adopt omnichannel systems, with the integration of technology being a crucial aspect of their experience. This trait directly impacts how customers perceive the value and convenience offered by omnichannel platforms, making it a key predictor of both purchase intention and customer loyalty.

In a more recent study, Xuan, Truong, and Vo Quang (2023) conducted a comprehensive investigation into the moderating role of personal innovativeness within the omnichannel retail experience. By employing a quantitative analysis of customer behaviour, they found that customers with high personal innovativeness are more likely to actively engage with complex omnichannel systems, deriving greater satisfaction from technologically advanced features such as augmented reality, AI-driven recommendations, and multi-platform integration. Their findings suggest that personal innovativeness enhances not only customer engagement but also significantly boosts perceived value in omnichannel retail environments. Highly innovative customers are more adept at navigating multiple touchpoints, from online to in-store experiences, which translates into higher levels of brand trust, brand loyalty, and repurchase intentions. These customers appreciate the seamless technological integration across channels, viewing it as a key driver of their overall satisfaction with the shopping journey. The study emphasizes the pivotal role that personal innovativeness plays in fostering a deep connection between customers and brands in omnichannel settings, particularly by enhancing engagement and loyalty through technology-driven experiences.

Similarly, Zhang, Park, and Park (2024) explored the effect of personal innovativeness on different stages of the customer journey in the omnichannel context. Their research focused on how personal innovativeness influences the customer's pre-purchase,

purchase, and post-purchase experiences, as well as its impact on reuse intention. Their findings revealed innovative customers are more likely to engage with omnichannel for information gathering, product comparison, and after-sales engagement. Interestingly, the study found that the purchase phase itself was less influenced by personal innovativeness, suggesting that these customers prioritize access to detailed product information and seamless post-purchase interactions over the transactional aspects of their journey. Furthermore, the study confirmed that personal innovativeness is a strong predictor of customer loyalty, especially when the omnichannel experience is well-integrated and personalised. For highly innovative customers, the ability to switch between channels effortlessly and interact with technology-enhanced features fosters a stronger connection with the brand, ultimately leading to increased customer loyalty and reuse intention. This research highlights the critical role that personal innovativeness plays in shaping customer perceptions and behaviours throughout the omnichannel experience. The findings from this study suggest that personal innovativeness plays a crucial moderating role in the omnichannel experience.

These studies underscore the importance of recognizing personal innovativeness as a key factor in understanding how customers interact with omnichannel systems. They demonstrate that brands aiming to enhance customer loyalty must consider the varying levels of personal innovativeness among their customer base, leveraging technological integration and personalisation to cater to those more inclined to embrace new and advanced retail formats.

Product category involvement. Product category involvement (PCI), also known as category involvement, refers to the degree of personal relevance or interest a customer has in a particular category of products (Charters & Pettigrew, 2006). This personal relevance often drives customers to engage more deeply with product information and the purchasing process, influencing how much time, effort, and cognitive resources they are willing to invest in decision-making (Laroche, Vinhal Nepomuceno, & Richard, 2010). PCI is multidimensional, encompassing cognitive involvement (the interest in acquiring more knowledge about the product) and affective involvement (the emotional significance of the product) (Dens & De Pelsmacker, 2010). Customers with high PCI tend to view product-related activities, such as researching or comparing alternatives, as more critical and engaging. On the other hand, customers with low PCI may exhibit more passive and simplistic shopping behaviours (Xue, 2008).

In an omnichannel environment, where customers can access information across a variety of online and offline touchpoints, PCI becomes particularly significant. Customers with high PCI are more likely to seek out comprehensive information from different channels, compare alternatives, and use multiple platforms (e.g., mobile apps, websites, in-store visits) to ensure they make well-informed decisions (Dens & De Pelsmacker, 2010; Xue, 2008). This desire for thorough information gathering and comparison drives their interaction with various omnichannel retail touchpoints, such as websites, social media, and physical stores, in a consistent and integrated manner (Hsia et al., 2020). However, as omnichannel systems become more technologically sophisticated, customers with low PCI may not appreciate the complexities of these systems in the same way, preferring simpler, more streamlined shopping experiences (Dens & De Pelsmacker, 2010). Therefore, PCI influences not only the shopping behaviours of customers but also their

expectations of omnichannel systems' performance, as it determines how much time and effort they are willing to invest in navigating multiple channels.

Research on PCI and omnichannel experiences is relatively scarce, though a few recent studies have briefly highlighted PCI as an influential factor in shaping customer behaviours. A study by Hsia et al. (2020) provided further evidence of PCI's role in facilitating omnichannel experiences. Focusing on situational involvement, the study highlighted how specific product categories, such as high-value or complex items, evoke higher levels of involvement, driving customers to use more channels and demand greater consistency in information across platforms. The study confirmed that customers with high PCI in specific categories, such as electronics and fashion, show greater interest in product comparison and validation across various channels. This group of customers tends to use omnichannel systems not only for purchasing but also for researching, cross-referencing, and seeking personalised services that align with their specific needs and preferences.

Similarly, Menidjel et al. (2020) explored the role of PCI in enhancing customer satisfaction and brand loyalty in omnichannel retail environments. Their research indicated that high-involvement customers not only seek more information from various channels but are also more likely to engage deeply with omnichannel features, such as click-and-collect services, personalised recommendations, and seamless cross-channel integration. These customers are more inclined to move between online research, social media interactions, and in-store visits, expecting that their omnichannel experience be both seamless and personalised. The study concluded that PCI significantly influences how customers perceive the effectiveness and utility of omnichannel systems.

Furthermore, a study by Zhou and Huang (2023) emphasized how PCI moderates customer behaviours during live-stream marketing events. The researchers found that customers with high involvement in certain product categories exhibited stronger perceptions of value during live-stream marketing sessions, which positively influenced their purchase intentions. The study underscores the importance of PCI in an omnichannel context, where live-streaming has emerged as a key touchpoint for customer engagement. Highly involved customers are more likely to benefit from the immersive and interactive nature of live-stream events, making omnichannel experiences more appealing to them.

Despite its relevance, PCI remains a relatively under-explored factor in the context of omnichannel retailing. While studies have highlighted its importance, much of the research has focused on more general variables like customer satisfaction or loyalty, leaving significant gaps in understanding how PCI specifically influences the omnichannel experience. Most existing studies also focus on single-channel retail environments or the impact of technology without delving into the interaction between PCI and multiple, integrated retail channels.

Given the growing prominence of omnichannel strategies, the present study sees a valuable opportunity to contribute to the academic conversation by examining the role of PCI in a more comprehensive and omnichannel-specific manner. By investigating how customers with different levels of product category involvement interact with various omnichannel touchpoints, this study aims to provide new insights to future omnichannel studies and how practitioners can better cater to different customers' traits.

2.6 Summary

In summary, the review uncovered three key perspectives on omnichannel experience: the channel, technology, and customer perspectives. These collectively provide a robust foundation for understanding how omnichannel strategies integrate multiple channels, leverage technological innovations, and centre on customer behaviours. The review highlighted the evolution from siloed, multi-channel strategies to fully integrated omnichannel systems, the transformative role of technology in enabling personalisation and seamless interactions, and the critical influence of customer empowerment and personal traits in shaping engagement and long-term brand relationships.

Based on the review of different theoretical perspective related to omnichannel experience, the service-dominant logic (SDL) framework was identified as the most appropriate theoretical lens for this present study. SDL reframes the traditional firm-centric perspective by positioning value as co-created through the interaction and integration of firm-provided and customer resources. Within this framework, omnichannel experience function as operant firm resources. Empowerment represents the psychological mechanism through which customers actively integrate and transform these resources, supported by their personal traits, into co-created value outcomes. Brand loyalty, as a manifestation of enduring trust, satisfaction, and emotional connection, emerges as a key customer resource, reflecting the success of this co-creation process. By focusing on these interdependencies, SDL provides a nuanced and comprehensive lens to explore the interconnected dynamics of omnichannel experiences, empowerment, and brand loyalty.

Regarding the concept of omnichannel experience, this paper adopts the omnichannel experience dimensions conceptualised by Shi et al. (2020)—connectivity, integration, consistency, flexibility, and personalisation—as the foundational constructs for understanding the firm-side resources in omnichannel systems. These dimensions encapsulate the operational attributes required to deliver seamless and dynamic experiences, aligning with SDL's emphasis on enabling value co-creation. However, as the retail landscape evolves and customer expectations shift rapidly, these constructs need to be reassessed to ensure their relevance and applicability. This study seeks to address this gap by re-examining these dimensions to capture the complexities of modern omnichannel environments.

Brand loyalty is positioned as the central outcome of successful omnichannel strategies and resource integration. Unlike transactional metrics such as customer satisfaction or purchase intention, brand loyalty reflects a deeper, more enduring relationship between customers and brands. It signifies not just repeated purchases but also emotional commitment, trust, and advocacy—key elements that are particularly critical in the competitive and fragmented omnichannel landscape. By examining how omnichannel experiences foster brand loyalty, this study aims to advance the understanding of long-term customer-brand relationships in the SDL context, where loyalty serves as a resource co-created through meaningful engagement.

Empowerment emerged from the review as a pivotal mediator in the relationship between omnichannel experiences and brand loyalty. Customers who feel empowered—by having control over their purchasing journey, accessing tailored information, and experiencing flexibility across channels—are better positioned to integrate firm-provided resources into

their decision-making processes. Empowerment aligns closely with SDL principles, as it emphasises the customer's active role in shaping value through resource integration and interaction. While existing studies have explored the link between empowerment and customer satisfaction or trust, its impact on brand loyalty—a more durable and meaningful outcome—remains under-examined, representing a significant gap in the literature.

The review also identified personal traits, such as personal innovativeness and product category involvement, as critical moderators in the value co-creation process. Personal innovativeness influences a customer's willingness to engage with novel technologies and omnichannel features, while product category involvement determines the intensity of their engagement based on the relevance of a product category to their interests. These traits shape how customers integrate resources and transform them into meaningful outcomes, highlighting the SDL principle that individual differences significantly impact the co-creation process. Despite their importance, these traits remain underexplored in omnichannel research, presenting opportunities for deeper investigation.

3. Research design

Central to the research design is how data is collected and analysed to address the key research questions, and there exist many different methods for scholarly inquiry. While each method has its advantages and disadvantages, the overall decision on which method to choose should be informed by the philosophical assumptions that the study holds and key methodological considerations (Creswell & Creswell, 2017; Saunders, Lewis, & Thornhill, 2019). Therefore, this section discusses the research philosophies before presenting the specific research method, followed by key research considerations including the role of the researcher and ethical considerations.

3.1 Research philosophy

Research philosophy refers to the beliefs and assumptions that guide the development of knowledge and influence how research is designed, conducted, and interpreted (Saunders et al., 2019). It plays a crucial role in shaping the framing of research questions, determining methodological choices, and interpreting findings. Five major philosophical perspectives—positivism, critical realism, interpretivism, postmodernism, and pragmatism—offer distinct approaches to understanding and investigating social phenomena. While each provides valuable insights, their suitability often depends on the nature of the research problem and the desired outcomes.

Positivism is rooted in natural sciences, which emphasizes objectivity and aims to uncover universal laws through empirical evidence. By using highly structured, quantitative methods to test hypotheses, it generates precise and replicable findings (Creswell & Creswell, 2017). Critical realism acknowledges an objective reality but suggests it can only be understood indirectly through representations, encouraging exploration of deeper mechanisms and systemic influences (Reed, 2005). Interpretivism highlights the subjective meanings individuals create, advocating qualitative methods to capture rich, context-specific insights. However, its emphasis on complexity may limit the generalizability required for broader applications in this study (Draper, 2004). Postmodernism critiques dominant narratives, offering alternative perspectives by examining anomalies and silences. While insightful for challenging norms, its focus on

critique rather than actionable solutions makes it less relevant for studies aimed at generating practical business insights (Saunders et al., 2019).

In contrast, pragmatism emphasizes practical problem-solving and flexibility in method selection, making it particularly well-suited to addressing complex research questions that involve multiple interrelated constructs, such as omnichannel experiences, empowerment, and brand loyalty. Pragmatism rejects rigid adherence to a single philosophical stance, instead advocating for the use of methods that best serve the research objectives. It values both subjective and objective knowledge, allowing for the integration of qualitative and quantitative methods to capture the richness of human experiences while ensuring generalizability (Creswell & Creswell, 2017; Saunders et al., 2019).

Pragmatism is particularly appropriate for this study. Positivism's rigid reliance on quantitative methods may fail to capture the nuanced, context-specific factors that influence customer behaviours, while interpretivism's subjectivity risks limiting the broader applicability of findings. Similarly, critical realism's preference for exploring deeper structures over time does not align with the study's cross-sectional design, and postmodernism's deconstructionist approach offers limited relevance for deriving actionable business insights. Pragmatism balances actionable outcomes with methodological flexibility. It offers an ideal framework for exploring omnichannel experiences, empowerment, and brand loyalty.

By adopting a pragmatic stance, this study leverages the strengths of both qualitative and quantitative methods. Qualitative methods are employed to explore nuanced, context-specific insights, while quantitative methods ensure broader generalizability and empirical validation. This dual approach aligns with the principles of pragmatism, enabling a comprehensive understanding of the research problem and facilitating the development of actionable insights. The flexibility inherent in pragmatism ensures that the research design is responsive to the complexities of the omnichannel environment, addressing both theoretical exploration and practical application.

3.2 Research methods

3.2.1 Qualitative methods

Qualitative research represents an essential approach to exploring complex social phenomena by emphasizing non-numerical data collection and analysis techniques. It diverges from quantitative methods by seeking to understand meanings and behaviours within their natural contexts (Draper, 2004; Saunders et al., 2019). Qualitative methods are particularly suited to studies that aim to explore subjective human experiences, especially when addressing intricate constructs such as empowerment, personal traits, and brand loyalty in the omnichannel environment.

The philosophical underpinnings of qualitative research are strongly aligned with interpretivism, which holds that humans, unlike physical objects, create meanings that drive their behaviours and interactions (Denzin & Lincoln, 2011). Interpretivism emphasizes the subjective nature of social realities, asserting that understanding human behaviour requires interpreting the meanings individuals attach to their experiences (Green & Thorogood, 2018). This makes qualitative research an invaluable tool for

capturing rich, contextual insights into phenomena where complexity and subjectivity are key.

Qualitative research is often more flexible, allowing researchers to adapt their methods to emerging themes and patterns during data collection. This stands in contrast to quantitative methods, which typically adhere to standardized protocols. The flexibility inherent in qualitative approaches enables the study of multifaceted constructs like omnichannel experiences, where the interplay of factors such as integration, personalisation, and flexibility must be explored in depth (Fraser, 2004; Sofaer, 1999). Furthermore, qualitative methods are especially useful for uncovering multiple truths and developing new theoretical insights rather than merely validating pre-existing hypotheses. These strengths align well with the objectives of this study, which seeks to explore and refine key constructs and theoretical frameworks derived from the literature review.

Qualitative research offers a wide array of data collection methods, including interviews, observations, and document reviews (Tesch, 2013; Wolcott, 2009). These methods can be broadly categorized based on their approach to engaging with participants and collecting information. For instance, interviews can be structured, unstructured, or semi-structured, each serving distinct research purposes (Saunders et al., 2019).

- Structured interviews are characterized by pre-defined questions and standardized responses, making them suitable for collecting comparable data across large samples. However, they often lack the depth and flexibility needed to explore nuanced constructs such as empowerment in the omnichannel context.
- Unstructured interviews are exploratory and allow participants to guide the conversation, offering the potential to uncover unexpected insights. While this approach is highly flexible, it can lack focus and may not always address the research objectives effectively.
- Semi-structured interviews combine the strengths of both approaches. They follow a guided format with predefined questions while allowing for open-ended responses, enabling researchers to capture both targeted and emergent insights. This balance makes semi-structured interviews particularly suitable for exploring complex, multi-dimensional constructs like omnichannel experiences, where both predefined theoretical frameworks and participant-driven perspectives are critical.

Among qualitative methods, focus groups stand out as an effective means of collecting rich and diverse data. A focus group is defined as “a carefully planned series of discussions designed to obtain perceptions on a defined area of interest in a permissive, nonthreatening environment” (Krueger, 2014). This method leverages group dynamics to generate a broader range of perspectives and uncover collective insights. By facilitating interaction among participants, focus groups allow researchers to explore differences and commonalities in opinions, generating data that is both deep and diverse (Rabiee, 2004).

Given the study’s objectives, semi-structured focus groups is selected as the qualitative method. The choice is well-suited to this study’s objectives of exploring the intricate relationships between omnichannel experiences, empowerment, and brand loyalty. This method offers several key advantages that make it particularly suitable for addressing the research questions.

- First, the semi-structured format ensures that discussions remain focused on the study's objectives while retaining the flexibility to uncover unanticipated insights. Predefined questions serve as a framework for guiding conversations, but the open-ended nature of focus groups allows participants to share diverse perspectives and explore emergent themes (Saunders et al., 2019). This balance between structure and flexibility is essential for examining constructs such as empowerment, which may manifest differently across individuals and contexts.
- Second, the interactive nature of focus groups fosters rich discussions by encouraging participants to reflect on and respond to each other's experiences. This dynamic interaction not only enhances the depth of insights but also reveals collective perspectives that might not emerge in one-on-one interviews. For instance, participants may highlight shared challenges or opportunities in their omnichannel experiences, providing a more holistic understanding of customer behaviours.
- Third, focus groups are efficient in collecting diverse data within a relatively short time frame. By engaging multiple participants simultaneously, this method generates a wealth of information that can be analysed to identify patterns, themes, and relationships. This efficiency is particularly valuable in the exploratory phase of the study, where the goal is to refine constructs and inform the subsequent quantitative phase.
- Finally, advancements in technology, such as online focus groups, have expanded the reach and feasibility of this method. Virtual platforms enable researchers to include participants from diverse geographic and demographic backgrounds, ensuring that the findings are both inclusive and broadly applicable (Moriarty, 2011). This is particularly relevant in the context of omnichannel retailing, where customer experiences often vary across different markets and regions.

Despite their strengths, there are certain challenges when conducting focus groups. Issues such as groupthink, dominant participants, or hesitancy to share personal views can arise. To mitigate these concerns, careful facilitation is critical to maintaining balanced participation and fostering open, honest discussions. Additionally, triangulating focus group findings with quantitative methods enhances the reliability and robustness of the overall research design.

3.2.2 Quantitative methods

The term 'quantitative method' is often used to refer to either data collection technique or data analysis procedure that generates or uses numerical data (Saunders et al., 2019). As a research tradition that has been dominating scientific studies since the 17th century (Draper, 2004), quantitative methods emphasize on "explaining phenomena by collecting numerical data that are analysed using mathematically based methods" (Creswell & Creswell, 2017). As the aim is often related to examine the relationships among different variables, quantitative research is frequently associated with positivism, which typically emphasizes on "scientific empiricist method designed to yield pure data and facts uninfluenced by human interpretation or bias" (Saunders et al., 2019).

Traditionally, quantitative researchers tend to adopt a deductive approach to test existing theories or hypotheses, and the research design is often highly structured to address the needs of statistical analysis. However, this is increasingly recognized as a narrow view to associate quantitative research with on positivism or deduction (Bryman, 2006; Goertz & Mahoney, 2012). Many studies, though primarily conducted quantitatively, at least fit partially with interpretivism, and certain quantitative analysis techniques, such as path analysis or structured equation modelling, are proved to be quite promising for exploratory research (Kumar, 2012; Muijs, 2010; Sukamolson, 2007).

Nonetheless, comparing to 'pure' qualitative studies, quantitative methods possess a few unique advantages.

- First, as the contemporary world runs on numbers and hardly a single issue is not dependent on critically reasoning with numbers (Payne & Williams, 2011), quantitative research can provide more rigorous explanations on the studied phenomena.
- Second, the research questions are presented in a structured and standardized manner, and the research procedure and data analysis require less personal interference and interpretation. In other words, findings from quantitative studies are generally perceived as more objective and precise.
- Finally, because relevant approaches usually apply probability sampling techniques and the research is conducted with a much bigger sample size, generalizability of the study is often better ensured (Saunders et al., 2019). These qualities suggest that quantitative methods are especially useful when there is a readily available research framework and relevant hypotheses have been clearly defined.

Among quantitative methods, experiments and surveys are the two most prominent approaches. Experiments focus on establishing causal relationships by manipulating independent variables and measuring their effects on dependent variables. Conducted in controlled settings, experiments are ideal for identifying cause-and-effect mechanisms, especially in natural or physical sciences (Saunders et al., 2019). They often involve participants grouped into control and experimental cohorts, enabling the study of specific interventions or conditions. However, experiments come with notable limitations. Their controlled environments, while beneficial for internal validity, often fail to capture the contextual nuances of complex, real-world behaviours. Furthermore, their design is typically narrow in scope, limiting the ability to explore dynamic and multifaceted phenomena like omnichannel experiences. Given this study's focus on customer behaviours and interactions across diverse contexts, experiments are not the primary methodological choice.

In contrast, surveys are particularly well-suited to this research. Surveys are versatile tools that facilitate data collection on a wide range of variables, allowing researchers to analyse relationships between constructs across diverse populations. By utilizing both descriptive and inferential statistical techniques, surveys enable the validation of theoretical frameworks and the testing of hypotheses. This versatility makes surveys a preferred method for investigating complex constructs such as customer empowerment, personal

traits, and brand loyalty, particularly within the multifaceted omnichannel environment (Muijs, 2010; Sukamolson, 2007).

Surveys also align with the cross-sectional nature of this study, which aims to provide a snapshot of customer behaviours and perceptions across different tiers of cities and product categories in China. Their ability to reach large and diverse populations ensures that the findings are both comprehensive and generalizable, addressing the broader implications of customer empowerment and omnichannel strategies. Furthermore, the scalability and cost-effectiveness of surveys, supported by digital tools and platforms, make them particularly efficient for studies requiring extensive data collection (Saunders et al., 2019).

The relevance of surveys to this study extends beyond their versatility and scalability. Their structured approach provides clarity and focus, enabling researchers to align the survey design with specific research objectives. Surveys also allow for the exploration of diverse perspectives and patterns, which is crucial when studying dynamic constructs like omnichannel integration, personalisation, and customer empowerment. The ability to combine established theoretical models with the exploration of emergent patterns further reinforces the utility of surveys in addressing both theoretical and practical questions within this study.

Additionally, advancements in digital technologies have revolutionized survey methodologies, enhancing their efficiency and reach. Online survey platforms and respondent panels, such as MTurk, enable researchers to engage with a diverse range of participants economically and inclusively. These tools facilitate the collection of high-quality data across multiple demographic and geographic contexts, which is particularly valuable in the omnichannel retailing context, where customer behaviours and experiences vary significantly across different regions and categories.

Despite its advantages, a survey faces several challenges (Payne & Williams, 2011; Saunders et al., 2019; Sukamolson, 2007). Ensuring sample representativeness requires careful identification of appropriate sampling techniques and pilot testing to validate the questionnaire's design. The number of questions must be balanced to gather sufficient information while minimising the risk of participant dropout, which calls for careful consideration of delivery methods, such as mobile or in-person formats. Additionally, surveys typically provide only one opportunity for data collection, making meticulous planning critical to ensure all necessary information is captured effectively.

3.2.3 The research design

Considering all the above-mentioned rationales, this paper proposes a two-step and mixed-method approach for the research. Both studies are cross-sectional to reflect the most current reality of the respondents and participants. A summary of the two studies and relevant research methods is presented in the following table (Table 2). As is widely accepted by researchers, the adoption of multiple methods is likely to provide richer approach to data collection and analysis, and to overcome the weaknesses of using only one method (Bryman, 2006; Creswell & Creswell, 2017; Kurtaliqi et al., 2024). This comprehensive design not only ensures methodological rigor but also delivers actionable insights into how omnichannel strategies can foster brand loyalty across varied contexts.

Through its sequential, mixed-method approach, the study offers a robust framework for understanding and optimizing customer experiences in the increasingly interconnected retail landscape.

Table 2. Summary of the research method

Phase	Purpose	Method	Research context
Phase I	To explore the key drivers and influences of brand loyalty within the omnichannel context, as well as to refine the various constructs and the preliminary theoretical model derived from the literature review	Focus groups	Mobile phone category in Shanghai, China
Phase II	To quantitatively examine the refined proposed research framework and associated findings from literatures review and Phase I, within a broader context	Questionnaire survey	Multiple categories, across three tiers of cities in China

Phase I – Qualitative exploration

The first phase of this research involves a series of focus group studies conducted in Shanghai, China. The primary objectives of this qualitative study are to identify key drivers influencing brand loyalty within the omnichannel context and to refine theoretical constructs derived from the literature review. These findings serve as a foundation for the subsequent quantitative examination phase. The study focuses on the mobile phone category in China, leveraging a semi-structured discussion guide to facilitate the focus group sessions.

The mobile phone category is particularly relevant to omnichannel research for two key reasons. First, mobile phone brands such as Apple, Huawei, and Xiaomi are recognized leaders in omnichannel integration. These brands enable customers to seamlessly gather comprehensive product and service information while connecting with other users to make informed decisions (Lee et al., 2019). For these brands, the boundaries between online and offline channels are increasingly blurred, with typical branding and marketing activities spanning multiple touchpoints simultaneously. This empowers customers to navigate diverse channels based on their unique needs, preferences, and behaviours (Shi et al., 2020). As mobile phone users are among the most sophisticated omnichannel customers, insights from this category are likely to provide meaningful implications for other sectors (Tencent, 2019). Second, mobile phones play a pivotal role in facilitating omnichannel experiences. Features such as QR code recognition, location-based services, and mobile wallets are central to the functioning of omnichannel ecosystems (Santos & Gonçalves, 2019). Without these functionalities, key aspects of omnichannel purchasing would be significantly hindered. Thus, customers who lack mobile phone experience are less likely to qualify as omnichannel customers, making this category indispensable for studying omnichannel behaviours.

China's advanced omnichannel ecosystem and widespread mobile adoption make it an ideal setting for this study. By 2018, over 80% of traditional offline retailers in China had established an online presence, with more than half operating in at least four online channels (Nandu, 2018). McKinsey (2019) reported that nearly 90% of Chinese customers

engage with omnichannel platforms for their purchases. The COVID-19 pandemic further accelerated this trend, introducing innovations like community group buying, which has strengthened China's leadership in omnichannel retailing (Caixin, 2022). The country's high mobile penetration underscores its suitability for this research. As of 2021, 83% of China's population were unique mobile subscribers, and smartphone usage was at 73%, with projections indicating an increase to 89% by 2025 (GSMA, 2021). This high penetration rate ensures that a significant portion of the population engages with mobile-driven omnichannel experiences, providing a robust foundation for the study.

Shanghai is chosen as the research location for its economic significance, advanced retail ecosystem, and demographic diversity. As China's financial hub and a leading commercial centre, Shanghai mirrors broader national consumption patterns while driving trends in retail innovation. Its highly educated population is more digitally literate, facilitating nuanced explorations of omnichannel behaviours, including interactions across digital and physical touchpoints (Mckinsey, 2022a, 2022b). Shanghai's demographic diversity further strengthens its relevance. The city is home to both younger, tech-forward customers and more traditional shoppers, offering a balanced representation of customer behaviours. This diversity allows the study to capture a wide range of perspectives, enhancing the generalizability of the findings. By selecting Shanghai, the research ensures a well-rounded understanding of omnichannel experiences in China, laying a strong foundation for the subsequent quantitative phase.

To ensure comprehensive insights into omnichannel behaviours, the qualitative exploration includes three distinct participant groups (approximately two hours for each group), stratified based on demographics, consumption behaviours, and omnichannel preferences. The decision to include three groups reflects the need to capture a range of perspectives while maintaining manageability. While no fixed standard exists for the number of focus groups—since it depends upon “the nature of the participants, the topic matter, and the skill of the interviewer” (Saunders et al., 2019)—this multi-group approach enhances the reliability and generalizability of findings, ensuring the results account for the complexities of customer behaviour across diverse demographic and behavioural segments in the omnichannel retail environment. For instance, younger, tech-savvy customers may prioritize features like personalization and mobile integration, while older participants may value simplicity and offline trust.

Saunders et al. (2019) recommend that focus groups typically consist of four to twelve participants, with a narrower range of six to eight being particularly effective. Factors such as the study's purpose, the complexity of the research topic, and participants' relevant experiences should be carefully considered when determining group size. Larger groups may limit individual contributions, while smaller groups may lack the dynamic interactions necessary for rich discussions. This approach also aligns with Krueger (2014) recommendation of “five to eight participants,” providing a robust framework for productive discussions.

With the assistance of a local research agency, this Phase I study recruited three participant groups, each consisting of six individuals (totalling 18 customers). The groups were primarily categorized by age (Table 3) to balance homogeneity and variation, as suggested by Krueger (2014). Homogeneity within each group ensures participants share relevant characteristics, promoting focused and meaningful discussions. Meanwhile, the

variation between groups introduces diverse perspectives, enriching the dialogue (Saunders et al., 2019). Participants are aged between 18 and 45, reflecting the mainstream omnichannel customer demographic in China (Tencent, 2019), and genders are evenly distributed within each group to avoid biases (Marshall & Rossman, 2014). All participants had purchased a smartphone in the recent six months to ensure feedback reflects recent and relevant experiences (Shi et al., 2020).

The findings from the qualitative exploration phase are analysed using thematic analysis, a widely recognised method for identifying, analysing, and interpreting patterns or themes within qualitative data (Braun & Clarke, 2006). This approach is particularly suitable for focus group discussions, as it allows for the systematic examination of participants' perspectives while maintaining flexibility to uncover unexpected insights. By applying this method, the study aims to uncover key drivers of brand loyalty and refine constructs such as omnichannel experience and empowerment, as identified in the literature review. This process not only ensures a rigorous and transparent analysis of the qualitative data but also provides a robust foundation for developing the quantitative survey in the subsequent phase.

Phase II – Quantitative examination

The second phase of the research involves conducting a quantitative survey with a larger sample size (300 to 400 samples), extending across different tiers of cities in China and expanding the research context beyond mobile phone users. Participant selection follows specific criteria, such as demographic factors, omnichannel usage experiences, and city tiers. The primary objective of this phase is to quantitatively validate the refined research framework and associated hypothesis within a broader context. This broader scope is motivated by considerations of generalization; theoretically, it allows for the validation of findings across various cities and product categories, enhancing the robustness of the results. Practically, this approach ensures that the findings are relevant to a wider range of audiences and applicable across different industries.

The reason to move beyond the mobile phone category in this phase is rooted in the fact that while Phase I specifically focused on the mobile industry due to its advanced omnichannel integration (as exemplified by brands such as Apple, Huawei, and Xiaomi), while the omnichannel approach is not exclusive to this sector. Omnichannel experiences are highly relevant across multiple categories, such as groceries, apparel, digital devices, and financial services (Tencent, 2019). Expanding the quantitative study to cover different categories allows the research to capture the nuances of omnichannel customer experiences in a more diverse array of industries. By doing so, the findings can offer broader insights that go beyond mobile phone usage and provide practical recommendations applicable to a wide variety of markets and customer behaviours.

The decision to extend the quantitative survey to cover multiple cities in China, rather than limiting the research to a single representative city as in Phase I, is also driven by several key considerations related to both the generalization and comprehensiveness of the findings. Firstly, China's vast geographical size and the diversity across its cities present significant variations in customer behaviour, economic development, and access to omnichannel resources. While a single representative city might offer valuable insights, it cannot fully capture the complexity of customer behaviours and market conditions in other

regions. By including cities across different tiers—such as first-tier cities like Beijing and Shanghai, as well as second- and third-tier cities—the study can account for regional differences in omnichannel adoption, brand loyalty, and purchasing behaviour.

For example, customers in first-tier cities typically have higher access to advanced omnichannel infrastructures, while those in lower-tier cities may experience different touchpoints and have varied levels of digital integration in their shopping journeys. Secondly, selecting a broader range of cities enhances the external validity of the research. The insights gained from multiple cities can more accurately reflect the realities of omnichannel customer behaviour across different urban environments. This is critical for ensuring that the findings can be generalized to a wider population, both within China and potentially in markets with similar characteristics. By diversifying the geographic scope, the study can provide evidence that the proposed research framework holds across different urban contexts, making the findings more robust and less prone to biases that might arise from focusing on a single location.

A sample size of 300 to 400 participants was selected as it strikes an effective balance between ensuring robust statistical power and managing practical constraints such as time and resources. This range is widely supported in academic literature, particularly for structural equation modelling (SEM), where a minimum sample size of 200 is generally recommended for reliable parameter estimation and model validation (Hair, Sarstedt, Ringle, & Mena, 2012). Sample sizes within this range provide adequate power to detect significant relationships among variables and ensure the stability of results, even in complex models with multiple constructs (Kline, 2023). Additionally, a sample size of 300 to 400 allows for subgroup analyses, enabling the study to explore potential moderating effects without compromising statistical reliability. This size is statistically sufficient to reflect the diversity of customer behaviours within the omnichannel context, offering a solid foundation for validating the theoretical framework and associated hypotheses. By adhering to these guidelines, the study ensures methodological rigour and the credibility of its findings.

Structural Equation Modelling (SEM) is employed as the primary analytical technique for the quantitative examination in Phase II. SEM is particularly suited to this study because it allows for the simultaneous analysis of multiple relationships between observed and latent variables, making it ideal to address the key research questions (Kurtaliqi et al., 2024). This method integrates factor analysis and multiple regression, enabling a comprehensive examination of both measurement and structural models within a single analysis (Kline, 2023). SEM is highly effective for investigating complex, multidimensional constructs such as omnichannel experiences, empowerment, and brand loyalty, as it can assess direct, indirect, and moderating effects in a unified framework (Hair, Gabriel, & Patel, 2014). Moreover, SEM's ability to handle measurement error enhances the precision and reliability of the findings, which is crucial for validating theoretical constructs derived from the literature review and the qualitative phase.

3.3 Research quality

Underpinning the discussion of research quality is the concern of getting the right answers to the research questions; or put it into other words, how to reduce the likelihood of getting the wrong answers (Saunders et al., 2019). While research quality may mean different

things to different scholars and the way of evaluation may vary in different contexts, it is less controversy to suggest that a quality research is one that properly aligns research methods and the research questions (Cooper, Hedges, & Valentine, 2019). Specifically, the most commonly-used criteria to examine research quality include validity and reliability (Creswell & Creswell, 2017; Kumar, 2012; Saunders et al., 2019).

3.3.1 Validity of research

Validity measures how well the research design fits the study, which ensures accurate analysis and findings that directly address key research questions (Winter, 2000). The concept of validity is applicable to any aspect of the research design, though how it is applied may vary in different stage of the research. Throughout the whole research process, a valid research design ensures proper means and steps are taken to find the correct answers for the research questions (Creswell & Creswell, 2017; Saunders et al., 2019).

Maxwell (1992) suggested five typologies of validity in qualitative research: Descriptive Validity, Interpretive Validity, Theoretical Validity, Generalizability, and Evaluative Validity. Central to Descriptive Validity is the “factual accuracy of their account”; that is, the information or data gathered in the research are not made up or distorted, which is fundamental to all the other four types of validities. Interpretive Validity refers to how research objects, events, or behaviours are comprehended. These seem to be a major concern in qualitative studies; however, it also associates with how quantitative researchers categorize and select data. Theoretical Validity is defined as “an account’s validity as a theory of some phenomenon”. Generalizability is suggested as the degree to which the research findings can be generalized to a broader contexts or circumstances, and Evaluative Validity involves “the application of an evaluative framework” (Maxwell, 1992). Though some other scholars suggest that such conceptualization is complex, unnecessary, and misleading (Winter, 2000), these different categories lay a proper foundation to understand the various aspects of validities.

Saunders et al. (2019) presented three different types of validity: measurement validity, internal validity, and external validity. Measurement validity is often associated with quantitative research and questionnaire design. A valid measurement scheme enables the researcher accurately collected data that serve the purpose of the study. It is crucial to ensure respondents understand research instructions and act on the research questions in the way that is intended by the researcher. A research design that meets the requirements of measurement validity shall avoid various different forms of misinterpretation, such as instructional, sentinel, and lexical miscomprehensions. Internal validity frequently refers to the extent that certain research findings can be attributed to the research treatment rather than to other factors such as a flaw research design. For example, if a research is not internally valid, it suggests that the observed outcomes are not caused by the designed interventions (Jimenez-Buedo & Miller, 2010). According to Saunders et al. (2019), typical threats to internal validity include past or recent events, testing, instrumentation, mortality, maturation, and ambiguity about causal direction. External validity goes beyond the current research context and concerns with if the same research findings still hold true in other relevant research settings, such as different categories, persons, and times (Jimenez-Buedo & Miller, 2010; Saunders et al., 2019).

Research with high external validity means that it is more likely that the findings can be translated into practice (Steckler & McLeroy, 2008).

3.3.2 Reliability of research

As one of the key research quality characteristics, reliability relates to whether the research can be replicated and if the findings are consistent (Saunders et al., 2019), which often involves repeated measurement and analysis of a certain phenomenon in different contexts and by different researchers (Merriam, 1995). If the research and its findings cannot be replicated from time to time, they are generally considered as lacking of reliability. This is not only critical from the aspects of being academically rigorous, but also highly important for practitioners who expect to generate consistent business impacts. An example of unreliable research is that while one survey suggested that domestic violence is prevalent in 5% of households, another survey that was administered with the same questionnaire discovered that it is 15%. As the findings of the two studies are not comparable, it implies that the original research design may be unreliable (Kumar, 2012).

As Saunders et al. (2019) suggested, “research that is unreliable will also prove to be invalid since any error or bias will affect the results and subsequent interpretations, and possibly cast doubt on the means to measure the phenomenon being studied”. They further identified four major threats to research reliability, including participant error, participant bias, research error and research bias. For example, the participant error may happen if the researcher asks a participant to finish a survey in a sensitive time when they are in a rush for other important things. At the same time, a research bias can exist when the researcher’s personal view significantly impacts the collections and analysis of survey data (Kumar, 2012; Saunders et al., 2019). To address these issues, Drost (2011) proposes a few methods to assess reliability in the context of social sciences, such as test-retest reliability, alternative forms, and the split-half approach. In terms of the satisfactory level of reliability, a typical standard can track back to what Nunnally and Bernstein (1978) suggested as predictor tests of a construct. Specifically, a reliability score (internal consistency coefficient) of .70 or higher is considered as sufficient, though it is more desirable to achieve a score of .90 for research that may lead to important decisions, such as placing children in different classes based on their IQ test.

Despite it is widely agreed that reliability is a critical to assess research quality, some scholars argues that this is more the case for natural sciences and quantitative studies in social sciences, where researchers can use “objective measures” and detach themselves from the investigation objects (Merriam, 1995). While for qualitative studies in social sciences, it can be inappropriate and problematic if the concept of reliability is applied in a rigid way (Marshall & Rossman, 2014; Merriam, 1995; Moriarty, 2011; Saunders et al., 2019). As Merriam (1995) pointed out, “studying people and human behaviour is not the same as studying inanimate matter”. A strict application of reliability as an indicator may undermine the value or quality of the research. What qualitative researchers aim to establish are not law-like understanding of the world; rather, they strive to understand the phenomenon “from the perspectives of those in it” (Merriam, 1995). In other words, for qualitative research, scholars tend to develop the so-called “causes of effects models” rather than the “effects of causes models” in quantitative studies (Goertz & Mahoney, 2012). The underlying assumption is that human behaviours in different research settings can be very different; for example, an extreme case is that a person may respond to the

same question differently from day to day. Moreover, getting the same response from many people does not necessarily provide more reliable insights than an in-depth conversation with a single individual that holds an “insider view”.

3.3.3 Alternative criteria

To address the above-mentioned quality issues, scholars normally take two typical approaches in qualitative research. The first is to adapt the concept of reliability and validity, which is undertaken under the belief that validity and reliability are imperatives for all types of research. If a study does not meet such criteria, its very existence can be questioned, which is especially important for DBA studies that aim to take theories into practice. Even if the intention of qualitative research is not to be completely replicated, it is essential to use comparable terms to demonstrate the quality of the research (Saunders et al., 2019). Despite using statistical indicators is not what qualitative research is designed for, the validity and reliability can certainly be achieved by rigorous design of the whole research, extensive recording of the research process, and thorough analysis of data. With software such as NVivo, these can be done in a more effective manner. Specifically, Merriam (1995) proposed three strategies to ensure greater consistencies in qualitative research: triangulation, peer examination, and audit trail. Triangulation refers to the use of multiple methods to collect qualitative data, which can lead to higher dependability or internal validity. Peer examination can effectively increase the plausibility of data interpretation. If the peer examiners are from other academic fields, this strategy is helpful to ensure both internal and external validity. The third strategy, audit trail, reply on detailed description on the entire research process so that other scholars can take the learnings for other studies. To a certain extent, this points to another form of generalizability and well addresses the concerns regarding the research quality and value.

The second approach is to replace validity and reliability with alternative versions of quality indicators. Lincoln and Guba (1985) have developed a few such indicators, including credibility, transferability, and dependability. Credibility is the qualitative version of “internal validity”, which takes the participants’ perspectives to assess whether the research findings reflect their “socially constructed realities” (Saunders et al., 2019). It is evaluated based on the extent to which research participants agrees or approves the researcher’s interpretations match their realities. The higher the outcome of the evaluation, the more valid the study is. A few techniques to increase credibility include collecting sufficient data by building trust, testing out findings by using another person’s reflection, and developing thorough analysis for both positive and negative cases (Kumar, 2012; Saunders et al., 2019). Transferability is the parallel version of “external validity”. The idea of this criteria anchors on the extent of generalizability of the qualitative study; in other words, how much of the learning can be transferred to other research settings. This normally requires the researcher thoroughly present the research details to other scholars, so they can have the opportunities to judge if any or all aspects of the research can be transferred to another context. Dependability is quite similar to the typical reliability criteria used in quantitative research. The intention is to ensure the research and its findings are as reliable as possible, while still maintaining flexibility and freedom during the process. A common technique to increase dependability involves detailed and extensive recording of all of the changes throughout the research process, so other people can understand, evaluate, and even replicate the study (Drost, 2011; Kumar, 2012; Saunders et al., 2019).

3.4 Research ethics

Ethical issues may concern any type of research, regardless of whether there is direct contact between the researcher and the participants or respondents. It is essential to consider relevant issues before conducting the research and seek special approval if such issues do exist in the proposed study.

According to Saunders et al. (2019), research ethics refer to the standards of behaviour that guide the researchers' conduct that concerns the rights of either research subjects or who will be affected by the research. Despite there exist different philosophical positions regarding research ethics, for example, the deontological view and the teleological view, ethical issues shall be considered all through the different stages of the research process. For example, when selecting the research topic and designing the research, the researcher needs to think through the ethical implications of the research questions, how data is collected, and how the research findings will be used. During the data collection stage, it is imperative to anticipate if the methods may cause harm to the research subjects or intrude on their privacy. At the same time, the researcher shall also maintain an objective position to avoid distortion, misrepresentation, or even re-invention of the research data. As for analysis and reporting, it is critical to keep away from subjective selection of which data to report to, or any other false behaviours.

By following the ethical codes from Durham University, the research ethics checklist and process flowchart have been completed before conducting the research. As the present research is an independent study on general customer behaviours, there are no high-risk factors related to the studies proposed above, such as accessing data from a private domain, collecting sensitive personal data, involving vulnerable participants, inducing psychological stress or anxiety, or any issues related to deception or cultural matters. Therefore, no ethical issues were anticipated and hence the research does not require any special approvals.

During the data collection stage, all the focus group participants and survey respondents were well informed with the purpose of the study and how data will be analysed and presented by following the university's ethical guidelines. Across all the three studies, the anonymity of the research participants or survey respondents were strictly kept. No personal identification information were collected and all data were anonymized throughout the entire research process. Moreover, if any participant or respondent feels uncomfortable continuing the study, they can withdraw at any time. Besides analysing and reporting the data in an ethical way, all the raw data were properly maintained in the way they were before being imported into the data analysis software. In this way, other researchers can always track back to the original file to cross-examine the validity and reliability of the study, or replicate the research in other contexts.

4. Phase I: Qualitative exploration

The qualitative exploration phase aims to generate rich, context-specific insights into how omnichannel experiences influence brand loyalty, with a particular focus on the role of customer empowerment. It seeks to uncover what and how key omnichannel characteristics contribute to feelings of empowerment and, in turn, foster brand loyalty. Additionally, this phase explores the nuanced ways personal traits shape these relationships. By delving into these complex dynamics, the qualitative phase refines theoretical constructs and develops a deeper understanding of the interplay between omnichannel experiences, empowerment, personal traits and brand loyalty, providing a strong foundation for the subsequent quantitative validation. The research context selected was mobile category in China and a semi-structured discussion guide was developed to facilitate the study. The data was collected with the help of a local research agency in China. The data was analysed based on the thematic analysis procedure proposed by Saunders et al. (2019), and NVivo 12 was used to conduct the thematic analysis to ensure quality and efficiency (Huré et al., 2017).

4.1 Data collection

4.1.1 The participants

As presented in Section 3.2.3, the Phase I study employs focus group discussions in Shanghai, China, to explore key drivers of brand loyalty in the omnichannel context and refine theoretical constructs derived from the literature review. This qualitative research focuses on the mobile phone category, a critical sector in omnichannel retail due to its role in enabling seamless integration through features like QR codes, location-based services, and mobile wallets. The study is designed with three participant groups, stratified based on demographics, consumption behaviours, and omnichannel preferences, to capture diverse customer insights while maintaining manageability. Participants, aged 18–45, represent mainstream omnichannel customers in China (Tencent, 2019), with genders evenly distributed to avoid biases and all having purchased a smartphone in the past six months to ensure feedback reflects recent and relevant experiences. Each focus group consists of six participants, following best practices to balance dynamic interactions with adequate individual contributions. This approach facilitates comprehensive discussions, balancing shared traits for focused conversations with variation to uncover contrasting perspectives and enrich the findings.

A summary of the participants' profiles is presented in *Table 3*, and a full list of individual profiles in different groups is presented in the Appendix A.

Table 3. Summary of participants' profiles for Phase I study

	Category	Frequency	Percentage
Age	18-24	5	27.8%
	25-34	7	38.9%
	35-44	6	33.3%
Gender	Male	9	50.0%
	Female	9	50.0%

Phone Price (in RMB)	<2,000	6	33.3%
	2,000~4,000	7	38.9%
	>4,000	5	27.8%
Monthly income (Disposable, in RMB)	<5,000	2	11.1%
	5,000~7,999	2	11.1%
	8,000~9,999	2	11.1%
	10,000~19,999	7	38.9%
	20,000~30,000	4	22.2%
	>30000	1	5.6%

4.1.2 The discussion guide

The focus group discussion guide (Appendix B) was developed by following the principles and guidelines from Saunders et al. (2019) and Krueger (2014). In general, a good discussion guide should spark dialogue and discussion: good questions should generate conversation and encourage participants to share their thoughts and ideas. The goal is to create an interactive and engaging environment where everyone can participate and contribute. The discussion guide shall also employ terminology familiar to the participants discussing the matter: effective questions use language that is easily understood by the participants. This ensures that everyone can follow the discussion and avoid any misunderstandings that could hinder the conversation. Meanwhile, it is imperative to ensure the questions are easy to comprehend and straightforward to articulate. Good questions shall not require a lot of effort to ask, which makes it more likely that participants feel comfortable and confident in responding to the question. In addition, a good discussion guide generally encourages open-end responses so that participants can provide detailed and thoughtful responses, which can lead to new insights and perspectives. Last but not least, a good discussion guide shall include clear and precise guidelines that helps to guide the conversation.

In terms of the flow of the discussion guide, Phase I follows an “hourglass” design by referencing Hennink (2014), which is a semi-structured approach that facilitates a comprehensive discussion of relevant topics while promoting natural conversation. The approach involves several steps, starting with the moderator introducing themselves and the purpose of the discussion, as well as providing guidelines for the discussion. The next step involves the moderator asking broad, open-ended questions to encourage participants to express their thoughts and experiences freely. The discussion then proceeds to more focused, probing questions that clarify and expand on the initial ideas. After the probing questions, the moderator summarizes the key points made during the discussion to ensure that all important ideas have been considered. Finally, the guide concludes with a summary of key points and a final opportunity for participants to share any additional thoughts, ensuring that all relevant perspectives are captured before the session concludes. The flow of the discussion guide was designed to maintain balance between structure and flexibility, ensuring that the conversation remains on track while still allowing room for spontaneous responses.

Specifically for Phase I, the focus group discussion commenced with a brief introduction by the moderator, outlining the purpose of the discussion and setting the tone for an open and constructive conversation. The participants were then invited to introduce themselves, sharing personal details such as hobbies and preferred mobile brands. This initial section was designed to create a comfortable environment and ensure that all participants felt encouraged to contribute. The discussion then transitioned to focus on the participants' most recent omnichannel purchase experiences, specifically in relation to mobile phones. Participants were invited to share the channels they utilised throughout their purchase journey—covering pre-purchase, purchase, and post-purchase phases—and to describe the aspects of the experience they found most valuable. To encourage reflection, participants were introduced to key omnichannel experience features, such as connectivity, integration, consistency, flexibility, and personalisation. These dimensions were drawn from the literature to aid in understanding participants' experiences within a structured yet flexible framework (Lemon & Verhoef, 2016; Shi et al., 2020).

In the subsequent section, the focus shifted to how omnichannel experience influenced brand loyalty and the role of empowerment. Participants were asked to reflect on the impact of specific omnichannel characteristics on their relationship with the brand. To deepen the discussion, participants were encouraged to compare their experiences across different mobile phone brands, providing insight into how varying approaches to omnichannel strategies might influence customer loyalty. In terms of the role of empowerment, the participants were invited to discuss their perception of the level of empowerment through the omnichannel experience, and how it affects their brand loyalty in either positive or negative terms. The intention is to explore if and how empowerment plays a role between omnichannel experiences and brand loyalty.

The discussion then explored the role of key personal traits, especially how they affect the perception of omnichannel and brand loyalty. Take personal innovativeness (Zhang, Park, & Park, 2024) as an example, participants were asked to self-assess their level of personal innovativeness, and to reflect on how this trait influenced their shopping behaviour. Additionally, the discussion touched upon how participants perceived the role of mobile phones in their lives (Hsia et al., 2020), and how this perception influenced their engagement with different brands and in the omnichannel context. Moreover, participants were invited to consider whether any additional personal characteristics played a significant role in shaping their omnichannel shopping experience and subsequent brand loyalty. This allowed for an exploration of other individual traits or attitudes, such as self-efficacy and need for cognition, that could contribute to differences in customer behaviour, potentially providing insights into the broader relationship between personal attributes and brand-related outcomes.

Following Saunders et al. (2019), two professional consultants who were not part of the study were chosen to pilot test the discussion guide. During the pilot test, the consultants were asked about their comprehension of the questions, the suitable use of language, and the logical sequencing of the questions. The results of the pilot test indicated that the questions were clear and comprehended as planned. The pilot participants also gave feedback to the moderator, who identified one of the primary challenges as maintaining focus on the research topic and proper time control during the focus group discussion.

4.1.3 Moderator training and preparation

The author, serving as the moderator for all focus group discussions, undertook extensive training and preparation to ensure consistency in data collection and alignment with the study's research objectives. This preparation involved a comprehensive review of the theoretical framework and key constructs underpinning the study, particularly the Service-Dominant Logic (SDL) framework, which forms the foundation of the research model. A deep understanding of the semi-structured discussion guide was also prioritised, with particular focus on its hourglass design (Hennink, 2014), which balances structured questioning with flexibility for emergent insights. Emphasis was placed on developing open-ended and probing questions to encourage participants to provide detailed, context-rich responses, while maintaining the discussion's alignment with the study's aims.

Practical training included rehearsing facilitation techniques to manage diverse group dynamics and foster inclusive discussions. The author engaged in exercises to ensure effective handling of quieter participants, manage dominant voices, and redirect discussions when they deviated from the intended focus. Mock focus group sessions conducted with peers and experienced researchers were utilised to practice these techniques, refine moderation skills, and incorporate feedback. These sessions also enabled the author to develop the ability to probe responses for deeper insights while maintaining a neutral and unbiased stance.

Before each focus group, the author reviewed participant profiles in detail to tailor the facilitation approach and foster an inclusive, engaging environment. This review ensured a deeper understanding of participants' demographic and behavioural characteristics, enhancing the moderator's ability to build rapport and facilitate open dialogue. The discussion guide underwent pilot testing with three individuals resembling the target audience to evaluate the clarity and flow of the questions. Feedback from these pilot sessions informed refinements to question phrasing and pacing, ensuring a smooth and effective discussion process. Additionally, pre-session preparations included rehearsing introductory remarks designed to establish a neutral and welcoming atmosphere, encouraging participants to share freely. These steps ensured the author was thoroughly prepared to conduct dynamic and insightful discussions, producing high-quality data for the qualitative exploration.

4.1.4 Data recording and transcription

With the help of a third-party research agency, all the three focus groups were conducted on-site in Shanghai, China. Comparing to remote discussion via teleconference software (such as Zoom or Tencent Meeting), a face-to-face discussion with the focus groups participants offers several benefits. First, Face-to-face focus groups allow participants to communicate nonverbally through their facial expressions, gestures, and body language. This can provide valuable insights into their opinions and attitudes, which may not be fully captured through online or telephone focus groups. Second, Face-to-face focus groups encourage group discussions and interactions, which can lead to more in-depth and diverse perspectives. Participants can bounce ideas off each other, challenge each other's viewpoints, and build upon each other's comments, creating a more dynamic conversation. Third, with face-to-face focus groups, moderators can observe participants' reactions in real-time, enabling them to adapt and adjust their questioning to further explore specific

ideas or areas of interest. In addition, being physically present in a focus group can make participants feel more engaged in the discussion, leading to richer and more detailed responses.

The process of transcribing recorded interviews is an essential part of qualitative research, as it allows researchers to analyse and make sense of the data collected during the interviews (Marshall & Rossman, 2014). In the past, transcribing interviews was a time-consuming and laborious process that required researchers to listen to the recording carefully and type out the conversation word-for-word. However, recent advances in voice recognition technology have made the process much more efficient and less time-consuming. Voice recognition software by iFLYTECH uses AI algorithms to analyse the sound waves of spoken language and convert them into text. This software is trained on vast amounts of data, allowing it to recognize and transcribe spoken language accurately. By using voice recognition technology to transcribe interviews, the researcher can significantly reduce the manual effort required to transcribe the discussions, and spend more time on analysis and interpretation of the data. However, it's important to note that voice recognition technology is not perfect and can sometimes make mistakes. Therefore, the researcher cross-checked the AI-aided transcription with the original recording to ensure that the conversation is correctly captured and there are no errors or omissions. This process ensures that the data collected during the interviews is accurate and reliable, providing a solid foundation for subsequent analysis and interpretation.

As suggested by Saunders et al. (2019), the record of each interview was saved as a separate MS Word file, with a distinct identifier name given to each file. Whenever needed, the researcher can always go back to the original file to double check the findings or generate new themes. Within each document, the transcripts between the moderator and the participants were clearly distinguished; for example, M is used to identify the interviewer and 1 is used to refer participant No. 1 in the relevant group.

4.2 Data analysis

4.2.1 Thematic analysis

The qualitative data collected for this study were assessed by thematic analysis, which is a commonly-adopted approach to analyse qualitative data (Saunders et al., 2019). The key purpose of conducting such analysis is to explore themes or patterns across a data set, such as documents, interviews, or diaries. As Saunders et al. (2019) points out, "Thematic analysis involves a researcher coding her or his qualitative data to identify themes or patterns for further analysis, related to his or her research question".

According to Braun and Clarke (2006), there are two major advantages of doing thematic analysis. First, it offers a systematic way to organize and explore qualitative data, which is suitable to examine both large and small qualitative data sets. The specific use cases include data comprehension, data integration, pattern identification, description production, theory development, and conclusion verification, etc. The other advantage lies in its compatibility with different research philosophies. A positivist may use Thematic analysis to identify the common factors underlying different human behaviours, while an interpretivist may explore different implications of a phenomenon. Comparing to other analysis techniques, Thematic analysis is fairly straightforward to use, which saves the researchers energy for more rigorous thinking.

4.2.2 The analysis procedure

The analysis procedure for this study follows the four elements proposed by Saunders et al. (2019), including: getting familiar with the data, code the data, recognize relationships and identify themes, and refine and examine propositions. It is noteworthy to emphasize that these four elements are not necessarily four linear work steps of the analysis procedure. Instead, when performing the analysis, a more common case is that they occur and recur at the same time. Saunders et al. (2019) described this as “analysing data as you collect them and going back over earlier data and analysis as you refine the way in which you code and categorise newly collected data and search for analytical themes”.

Getting familiar with the data. Familiarity with the data is an essential first step for other analysis elements. Without being familiar with the data, it is barely possible to perform any meaningful exploration or assessment work. For qualitative work that involves interviews, the starting point of getting familiar to the data is often related to transcript production. While it can be very time-consuming to transcribe the verbal data produced during the interviews, the effort provides an opportunity to immerse into the interview context again. As for the present study, though the first draft of the transcripts was produced with the aids from a voice-to-text conversion software, the researcher needed to read through all the draft transcripts to ensure all the interview notes are properly captured. The efforts of reading and re-reading transcripts enabled the researcher properly organize and code the data.

Code the data. In qualitative studies, coding refers to the act of grouping data with similar meanings, which involves labelling each unit of data with a code that summarizes its meaning (Saunders et al., 2019), which serves as a crucial step before conducting the actual analysis. A proper coding marks the different pieces of data that the researcher is interested in, and makes these pieces accessible for further on analysis. As qualitative data sets are often large, scattered, and complex, coding is an effective technique to arrange the data with similar meanings and to compare with other data sets. While there is no standard way of coding in qualitative studies, for example, codes can take the form of simple descriptions or complex metaphors (Miles & Huberman, 1994), the rule of thumb is to always link the codes back to the main purpose of the study (Saunders et al., 2019). In addition, coding is an iterative process. During the process of analysis, new codes may emerge and existing codes may be refined, which means that the researcher shall constantly re-read and compare with the earlier transcripts whenever necessary. There are no commonly-agreed requirements regarding the number of codes. While some scholars propose there should be as many codes as possible, others suggest that the maximum number shall be 30. According to Saunders et al. (2019), the actual quantity depends on the meanings in the data set, the nature of the research, and of course, the questions that the research aim to answer. However, if a very large number of codes were created, the researcher may need to reevaluate if the coding is too detailed.

Specifically for Phase I, the coding process consists of three key steps. The first step involved carefully reading and organizing all transcripts of the focus group discussions. The researcher saved each focus group transcript as a separate Microsoft Word file and clearly labelled the transcripts between the moderator and participants in each file. All these files were then uploaded to NVivo 12 for coding. Comparing to traditional ways of

manual coding, using NVivo offers many benefits for qualitative analysis, especially related to more efficient ways of coding and analysing the data (Huré et al., 2017).

The following step involved conducting two rounds of coding. The first round follows the initial findings from literature review and key discussion questions for Phase I (Appendix B). The transcripts related to the characteristics of omnichannel experiences (*Question 3*), how brand loyalty is impacted (*Question 4*), and the role of personal traits (*Question 5*), were given special attention. The second round of coding involved further interpretation and examination, which allows certain patterns and themes to emerge, as recommended by Saunders et al. (2019). This helped to identify and analyse the underlying patterns and themes in the data. Afterwards, the researcher reviewed the codes and compared them with the original transcripts to ensure the validity of the codes.

Third, to ensure the reliability and consistency of the qualitative analysis, inter-coder reliability measures are employed during the thematic analysis of the focus group data. This involves having two additional coders (one from academia and one practitioner) independently review and code the data using a predefined coding framework derived from the research objectives and emergent themes. The level of agreement between coders are assessed using Cohen's Kappa, which account for the possibility of agreement occurring by chance. Regular calibration sessions were also conducted to address discrepancies in coding and ensure alignment in the interpretation of data. The involvement of additional experts helped to enhance the validity and reliability of the research.

Overall, the research process was thorough and comprehensive, ensuring that the results were accurate and reliable. The final codes generated from Phase I were presented in Appendix C, which contains three prioritised axial codes that relates to the characteristics of omnichannel experiences, including "integration", "flexibility", and "personalisation"; and three additional axial codes that may affect how these omnichannel characteristics relate to loyalty, including "empowerment", "personal innovativeness", and "product category involvement".

Recognize relationships and identify themes. Though the identification of themes fully starts after all data have been properly coded, in practice, this element may begin with the data collection efforts. As suggested by Saunders et al. (2019), summarizing progresses along the process of data collection helps record "ideas about possible themes, patterns and relationships" along the way. At the same time, Kumar (2012) argued that identifying the main themes shall be the very first step of processing qualitative data analysis, and all other elements, such as coding, shall be organized around the identified themes. While one may agree or disagree with either approach, it is clear that theme identification and code creation can happen at the same time. This leads to a common confusion regarding the fact that sometimes codes and themes may be used interchangeably by some scholars. To this point, Saunders et al. (2019) proposed simple way to avoid confusion: themes are drawn by synthesizing the codes, which are created from the data set collected from relevant studies. In other words, a theme can be considered as a high-level term that integrating a few related codes, which is directly linked with the key research question of the study. In some cases, a theme can also be elevated from one single code if that code represents an idea that directly addresses the research question.

Similar to the creation of codes, identification of themes is also an iterative process, which involves constant investigation or refinement of the related code. If necessary, the researcher may even need to go back to the original data set to further investigate the original transcripts, documents, or diaries (Marshall & Rossman, 2014). It is very important that the researchers continuously go back to the purpose of the study and challenge the identified themes with questions around the essence of each theme and the relationship between different themes. With clear answers to these questions, some themes may be removed, revised, or combined with other themes. At the same time, an overarching theme may be identified to become the main theme, while others turn into lower-level themes. The themes for this present study are further discussed in the following section (Section 4.3).

Refine and examine propositions. An important part of the thematic analysis process is to refine the theme to the level that an analytical framework is well structured for further analysis (Saunders et al., 2019), specific in paper, Phase II. When refining the themes, a key action is re-evaluating the relationships of the originally-assigned codes and assess if it is still meaningful to group them together. If not, certain codes may need to be removed to other themes or generate new themes. As discussed earlier, themes may also be grouped into a bigger theme if it demonstrates more meaningful connections to the research question; at the same time, a theme may also be divided into several themes if the supporting data are too dissimilar or if the data set does not support the continuation of the theme (Moriarty, 2011). Ideally, with the crystallization of the relationship between different themes, the researcher shall be able to develop testable propositions (Kumar, 2012; Saunders et al., 2019). This is not necessarily the same as the statistical hypothesis related to quantitative research, though it is important to offer an opportunity to find alternative explanations or further analysis, so as to “move forwards formulating valid conclusions and an explanatory theory” (Saunders et al., 2019).

4.3 Key findings

The following figure (Figure 2) illustrates key findings from the thematic analysis based on the qualitative focus groups in Phase I, with more detailed content presented through Section 4.3.1 to Section 4.3.5.

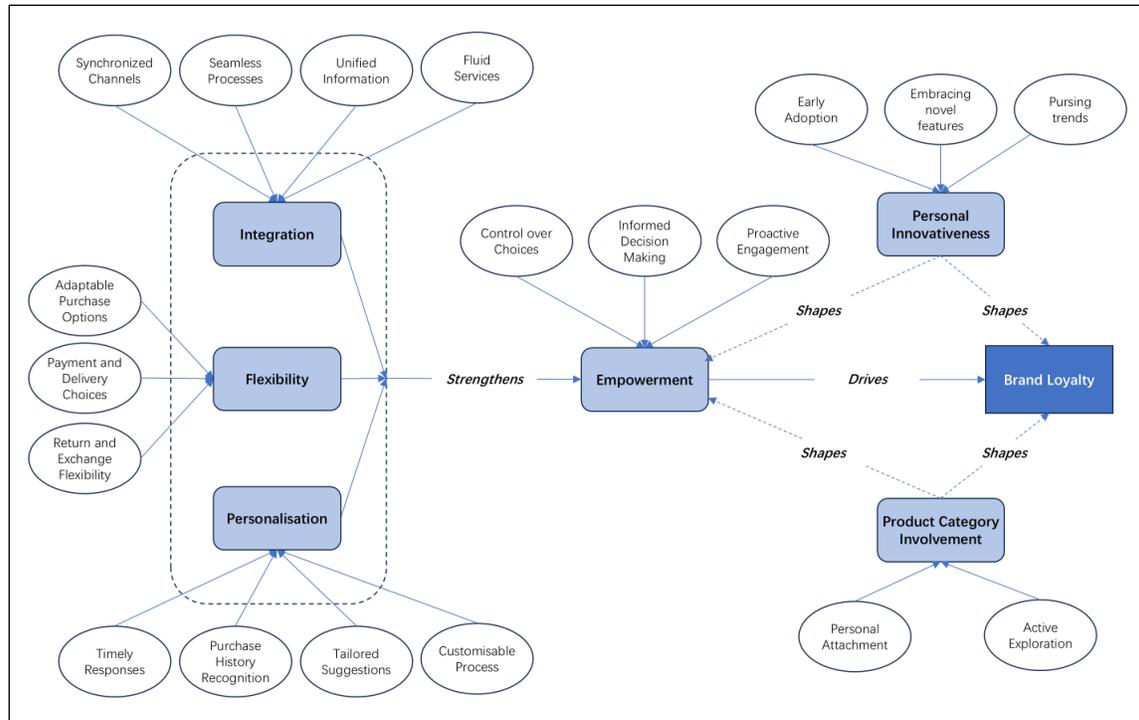


Figure 2. Key findings from the thematic analysis

4.3.1 Three prioritized omnichannel experience characteristics

Findings from Phase I of this study resonate with the existing academic discourse on omnichannel experiences while enriching SDL’s emphasis on resource integration and dynamic interactions (Fehrer & Vargo, 2022). Several characteristic themes emerged from participant discussions, highlighting critical factors such as the availability of different channels, platform consistency, seamless transitions between online and offline environments, and ease of use. For instance, participants emphasised the importance of “being able to start shopping on my phone and finish it in-store without any issues,” illustrating the centrality of seamless integration in fostering value co-creation. Others noted the need for “a consistent look and feel” across platforms, underscoring the significance of reducing cognitive effort and ensuring familiarity within the omnichannel ecosystem.

Ultimately, participants prioritised integration, flexibility, and personalisation as the most influential characteristics of their experience with omnichannel services. These attributes align with SDL’s focus on tailoring service offerings to individual needs, co-creating value through dynamic, adaptable, and resource-integrated experiences. Integration enables cohesive and efficient journeys across channels; flexibility empowers customers to adapt their shopping behaviours to personal circumstances; and personalisation enhances relevance and emotional resonance, all of which significantly impact customer decision-making and brand loyalty.

Integration. As a key attribute of the omnichannel experience, integration refers to the seamless connection of various channels—online, offline, mobile, and in-store—to create a unified and coherent shopping journey (Neslin, 2022). This characteristic was highlighted as indispensable during the focus group discussions, with participants consistently underlining its role in ensuring smooth transitions, reducing redundancies, and providing a cohesive customer experience. Particularly in complex decision-making scenarios like purchasing mobile phones, integration streamlines the process by ensuring consistency and synchronization across touchpoints, making the customer journey both efficient and satisfying.

Participants frequently underscored the importance of integration for enhancing convenience and simplifying their shopping journeys. For instance, one participant explained how a seamless connection between channels significantly improves their experience:

"Being able to start shopping online, then head to the store to pick up exactly what I saw online without repeating the whole process—that's when the experience really works for me."

When integration was lacking, participants expressed frustration, particularly when discrepancies arose between channels. One participant recounted their disappointment:

"It's annoying when I find something online, but the store doesn't have it, or worse, they don't know what I'm talking about when I go there. Integration should mean what I see online reflects what's happening in-store."

Integration was especially valued for purchases requiring extensive research, such as mobile phones, where customers rely on both digital and physical touchpoints to make informed decisions. One respondent shared how synchronized systems facilitated their journey:

"I always check specs online first, but I like to see the product in person. Knowing I can look up the details online and then walk into the store to test it out without repeating my search makes it much easier."

Overall, integration is critical to the omnichannel experience because it eliminates friction in the shopping journey, ensuring customers can transition effortlessly between channels. By offering real-time synchronization of information such as product availability and pricing, integration reduces redundancies, saves time, and enhances the overall efficiency of the experience. It ensures consistency, which not only supports decision-making but also minimizes potential frustrations, such as encountering mismatched information across platforms.

In high-involvement purchases like mobile phones, where customers often juggle detailed research and physical evaluation, integration is particularly vital. It allows customers to seamlessly combine online exploration with in-store validation, ensuring that their journey is as straightforward and effective as possible. This capability reflects a modern customer expectation where convenience and connectivity are no longer additional perks but essential components of a satisfactory shopping experience.

Flexibility. Flexibility emerged as another essential characteristic of the omnichannel experience, reflecting customers' desire for adaptable shopping journeys that cater to their individual needs. This characteristic enables customers to seamlessly switch between channels, adjust their shopping process, and select the most convenient options based on their needs, preferences, and circumstances. Focus group participants consistently underscored flexibility as critical to their satisfaction and engagement, emphasizing how it accommodates their dynamic lifestyles and diverse shopping preferences.

Participants highlighted the value of having multiple options when engaging with a brand's shopping channels. The ability to choose how, when, and where to shop contributed significantly to their satisfaction. One participant shared:

"I love being able to choose how I shop. Sometimes I want to browse online in my mobile phones, and other times I want to visit the store and see products in person. Flexibility makes that possible. It feels like I have the freedom to decide what works best for me at that moment."

This adaptability simplifies decision-making and aligns with the realities of customers' lives, particularly in today's fast-paced retail environment. As one respondent explained:

"If I have a busy day ahead, I might just want to order online and pick up in-store. But if I have time, I enjoy browsing the aisles and discovering new products. The ability to switch between these options is what keeps me engaged as a shopper. It feels less like a chore and more like an experience tailored to my day."

Flexibility also empowers customers to respond to external factors, such as promotions or changes in availability, ensuring that shopping remains convenient and satisfying. One participant explained:

"Sometimes I'll plan to buy something online, but if I see a special deal in-store while I'm out, I can quickly adjust my plans. That kind of flexibility is what keeps me coming back to brands that offer it. It feels like they understand my needs and are willing to accommodate them."

These reveal that flexibility enhances customer satisfaction by aligning with dynamic lifestyles and providing a sense of control. It enables customers to adapt their shopping journey to their preferences, whether based on time constraints, mood, or external opportunities. This responsiveness not only simplifies the shopping process but also reflects a brand's attentiveness to its customers' needs, reinforcing perceptions of customer-centricity and fostering loyalty. By prioritizing flexibility, brands can distinguish themselves in an increasingly competitive marketplace, offering personalized and responsive shopping solutions that resonate with modern customers.

Personalisation. Personalisation emerged as a key characteristic of the omnichannel experience, emphasizing the importance of customised interactions that align with individual customer preferences and behaviours. This feature allows brands to tailor shopping experiences based on prior interactions, preferences, and purchasing histories, making customers feel valued and understood. Personalisation is especially crucial in today's customer-centred world, where customers expect brands to understand their unique needs and preferences.

In an environment flooded with choices, personalisation stands out as a way to connect with customers on a deeper level. It not only makes shopping more enjoyable but also reflects a brand's commitment to recognising and responding to individual customer journeys. Participants consistently highlighted personalisation as a significant factor in enhancing their connection to brands, transforming transactions into meaningful relationships. One participant stated:

"When I receive recommendations that align with my taste, it feels like the brand knows me. It's more than just shopping; it becomes a relationship."

This sense of connection arises from brands demonstrating an understanding of their customers' unique preferences, which not only simplifies decision-making but also strengthens emotional bonds. Many participants appreciated how personalisation helps them discover products they might not have initially considered. For example:

"I appreciate when an online store suggests items based on my past purchases. It makes shopping easier and often introduces me to things I end up loving. It feels like a friend is helping me find the right stuff."

This highlights the dual benefit of personalisation: enriching the customer journey while simultaneously increasing the likelihood of purchase. Targeted promotions were also recognized as a critical aspect of personalisation. As one participant shared:

"When I receive targeted promotions that reflect my preferences, I feel valued as a customer. It shows that the brand is paying attention to me, and I'm more likely to engage with those promotions."

These personalised communications demonstrate attentiveness, which resonates strongly with customers in today's customer-driven landscape.

Participants further noted that personalisation plays a critical role in reducing decision fatigue in an oversaturated marketplace. By filtering options to align with individual tastes, personalisation simplifies the shopping process and instils confidence. One focus group member explained:

"There are so many mobile phones out there; sometimes I don't know where to start. When brands personalise my shopping experience, it makes it easier for me to navigate and feel confident about my choices."

The focus group findings underscore the transformative power of personalisation in omnichannel shopping. By addressing individual needs and preferences, brands can enhance engagement, reduce decision fatigue, and create memorable shopping experiences that encourage repeat interactions. Personalisation stands out in its ability to transform overwhelming choices into meaningful options, positioning brands as customer-centric and attentive. This approach shifts the role of the brand from a mere provider of goods to a collaborative partner in the customer's experience, reinforcing SDL's perspective that value is uniquely and phenomenologically determined by the beneficiary. Personalisation thus not only elevates the customer experience but also solidifies the brand's role as an enabler of customer empowerment and satisfaction within an omnichannel context.

Deprioritised characteristics. While integration, flexibility, and personalisation were prioritised by participants, other themes also emerged during the discussions but were deprioritised. For instance, connectivity was frequently mentioned; however, many participants viewed it more as a table-stake in today's digitally-enabled world. One participant stated:

"Connectivity is essential, but it's expected. We assume that if we're shopping across different channels, everything should just work together. It's not something that stands out anymore; it's simply what we expect from any brand."

This sentiment was echoed by others, who acknowledged that while connectivity is necessary for an effective omnichannel experience, it lacks the level of significance of the three prioritised characteristics.

Similarly, consistency was acknowledged as an important factor but was often regarded as foundational rather than exceptional. Participants expressed that while consistency across channels is important, it does not evoke the same level of emotional engagement as Integration. Integration was seen as a more dynamic experience that allows for a seamless transition between online and offline channels. As one participant noted:

"Integration feels more engaging. It's about how the channels come together to support me. Consistency just means that the brand looks the same everywhere; it doesn't make me feel anything."

This perception highlights that while both connectivity and consistency are required for a successful omnichannel strategy, they do not evoke the same level of engagement or loyalty as integration, flexibility, and personalisation.

In summary, the above findings underscore the paramount importance of integration, flexibility, and personalisation in shaping a superior omnichannel experience that bolsters brand loyalty. These three characteristics stand out as the cornerstones of a modern, customer-centric retail environment. Integration ensures a seamless and efficient shopping journey, flexibility accommodates the diverse and changing needs of customers, and personalisation creates deep emotional connections by tailoring experiences to individual preferences. While other characteristics like connectivity and consistency are acknowledged as essential, they do not resonate with customers to the same extent in terms of driving loyalty and emotional engagement

4.3.2 Omnichannel experience characteristics and brand loyalty

The focus group discussions revealed apparent evidence that the three prioritized characteristics of the omnichannel experience—integration, flexibility, and personalisation—serve as critical loyalty enablers. These characteristics were consistently highlighted by participants as instrumental in shaping positive customer experiences, creating seamless, adaptable, and tailored shopping journeys that foster deeper emotional connections with brands. This aligns with the Service-Dominant Logic (SDL) framework, which emphasizes co-creation of value through interactive and customer-centric experiences. By excelling in these key areas, brands not only enhance the functional aspects of shopping but also cultivate trust, appreciation, and loyalty. Participants described how effective integration across channels reduced friction, flexibility allowed for

personalized decision-making, and personalisation added relevance and emotional resonance, underscoring the pivotal role of these characteristics in reinforcing their commitment to specific brands.

Integration and brand loyalty. Integration emerged as a cornerstone of omnichannel experiences that significantly influence brand loyalty. Seamless integration between online and offline channels ensures that customers can transition effortlessly across platforms, creating a cohesive and satisfying shopping experience. This characteristic aligns with the principles of the SDL, which underscores the importance of co-creating value through interconnected and customer-centric systems.

Participants in the focus groups frequently emphasized the value of integration in their shopping experiences. One participant succinctly captured this sentiment, stating:

"When I can easily check stock online and then walk into the store to pick it up without any hassle, it makes me trust that brand. I know they've got their act together, and I'm more likely to return."

This comment highlights how effective integration not only simplifies the customer journey but also strengthens trust in the brand's operational capabilities. Similarly, synchronized information across channels reinforces brand credibility by ensuring consistency in pricing and promotions. Another participant noted:

"If I see the same prices and offers online as I do in-store, it gives me confidence that I'm getting a fair deal. That consistency makes me stick with a brand."

The importance of integration is further underscored by its ability to prevent negative experiences that damage brand perception. A lack of synchronization between channels can lead to frustration and erode customer trust. As one participant shared a negative experience:

"I once ordered something online and went to pick it up, but when I got there, they told me it was out of stock. It was embarrassing, and it made me question whether I would shop the brand again."

This example illustrates how poor integration disrupts the customer journey, creating dissatisfaction and reducing the likelihood of repeat purchases. The frustration arising from such experiences emphasizes the critical role of integration in maintaining consistent and synchronized interactions across all touchpoints.

In summary, integration plays a dual role in omnichannel retailing: it enhances functional efficiency and fosters emotional connections. On a functional level, integration simplifies complex shopping journeys, reducing the cognitive and logistical burdens on customers. On an emotional level, it reinforces trust and reliability, key factors in brand loyalty. These findings reflect SDL's focus on co-creating value through seamless and interconnected systems, where brands act as facilitators enabling customers to achieve their desired outcomes efficiently and satisfactorily. Thus, integration is not merely a technical necessity but a strategic imperative that aligns with the evolving expectations of omnichannel customers.

Flexibility and brand loyalty. Flexibility also plays a crucial role in nurturing brand loyalty. It reflects the ability of brands to offer adaptable shopping journeys that cater to customers' individual needs and circumstances. This adaptability not only enhances the overall shopping experience but also fosters deeper emotional connections, encouraging customers to remain loyal. In alignment with the Service-Dominant Logic (SDL), flexibility enables co-creation of value by empowering customers to shape their shopping experiences according to their unique preferences, thereby reinforcing their engagement with the brand.

Participants consistently emphasized the importance of flexibility in their shopping journeys. One participant explained how the ability to choose among various channels strengthens their loyalty:

"The ability to shop how I want—whether online, in-store, or a mix of both—makes me loyal to brands. I feel like they understand my lifestyle and cater to it."

This comment illustrates how flexibility supports customers' dynamic lifestyles by offering tailored shopping options, fostering a sense of appreciation and value. Flexibility not only accommodates individual preferences but also empowers customers to take control of their shopping experiences. Another participant shared:

"Sometimes I just want to grab things quickly online because I'm busy, but on weekends, I love to go to stores and browse. Brands that offer me both options make me feel like I'm in control."

By providing customers with the freedom to switch between channels, flexibility meets their evolving needs, enhancing their overall satisfaction and emotional connection with the brand.

The ability to adapt shopping journeys also allows customers to take advantage of promotions and respond to situational changes, further solidifying their loyalty. One participant highlighted how flexibility fosters a sense of being valued:

"I love when I can shift my plans based on a sale I see in-store while I'm out. It makes me feel valued as a customer, and I remember those brands that give me that kind of freedom."

Additionally, the flexibility to manage post-purchase activities, such as returning products through multiple channels, further reinforces loyalty. A focus group member described their positive experience with a brand that offered convenient return options:

"I bought a phone online but realised it wasn't my thing when it arrived. The fact that I could return it at the local store made a huge difference. It felt convenient and hassle-free, so I ended up buying a set of earphones from the brand. That's the kind of experience that keeps me coming back."

Overall, flexibility is more than a convenience feature—it represents a fundamental shift toward customer-centric retailing, where brands empower customers to design their own shopping journeys. By enabling customers to seamlessly adapt their experiences to changing circumstances, flexibility aligns with SDL's emphasis on co-created value. This characteristic not only enhances the shopping process but also positions brands as

responsive and customer-focused, which are critical to fostering long-term loyalty in the omnichannel environment.

Personalisation and brand loyalty. Personalisation emerged as a powerful driver of brand loyalty, as it enables brands to create tailored shopping experiences that resonate deeply with individual customer preferences. By leveraging customer data to offer relevant recommendations and targeted promotions, brands can establish a stronger emotional connection with their customers. This characteristic reflects a co-creative process where customers perceive added value through personalised interactions. Personalisation transforms generic retail interactions into meaningful exchanges that foster loyalty by demonstrating the brand's attentiveness to individual needs. .

Personalisation enhances customers' connection to brands by fostering a sense of engagement and loyalty through tailored interactions. By aligning recommendations with individual preferences, brands demonstrate attentiveness to their customers' unique tastes and needs, transforming shopping from a transactional activity into a relational experience. One participant captured this sentiment, stating:

"When I get suggestions that fit my style, it feels like the brand gets me. That makes me want to keep shopping with them."

The focus group findings also highlighted that brands remembering customers' preferences and past purchases fosters a sense of belonging and recognition. This acknowledgment reinforces customers' loyalty by making them feel valued as individuals rather than mere purchasers. One participant illustrated this point, stating:

"I like when I see that a brand remembers what I bought before. It shows that they care about me, not just my money."

Personalised communications and targeted promotions emerged as pivotal aspects of the omnichannel experience, further enhancing customer engagement. Participants shared that tailored messages make them feel valued, as one explained:

"When brands reach out to me with promotions that match my interests, I feel valued as a customer. It shows that the brand is paying attention to me, and I'm more likely to engage with those promotions."

Personalised communication strategies strengthen the customer-brand relationship by addressing individual interests and needs, fostering deeper engagement and repeat business. Customised updates make customers feel understood and valued, enhancing their sense of connection with the brand. This was emphasised by one participant, who shared:

"I appreciate when brands send me updates about new products that align with my interests. It makes me feel like they're thinking of me, not just blasting ads to everyone."

Personalisation extends beyond building emotional connections by addressing practical customer challenges, such as reducing decision fatigue in an oversaturated marketplace. By filtering options and guiding customers toward suitable choices, personalisation empowers shoppers to make confident purchasing decisions. This dual benefit not only

improves the shopping experience but also fosters ongoing engagement and loyalty. As one focus group member remarked:

"There are so many products out there; sometimes I don't know where to start. When brands personalise my shopping experience, it makes it easier for me to navigate and feel confident about my choices."

Overall, personalisation goes beyond convenience; it serves as a powerful mechanism for fostering customer trust and appreciation by addressing individual needs in a meaningful way. Within the framework of SDL, personalisation exemplifies value co-creation, empowering customers to engage in tailored interactions that enhance their satisfaction and loyalty. By recognising and responding to unique customer preferences, brands not only meet immediate needs but also demonstrate a commitment to building long-term relationships, positioning personalisation as a cornerstone of effective omnichannel strategies.

In summary, the findings from the focus group discussions indicate that Integration, Flexibility, and Personalisation are pivotal characteristics that positively impact brand loyalty. By enhancing the overall customer experience, these attributes foster trust, appreciation, and emotional connections that encourage customers to remain committed to brands. Customers not only expect seamless integration and flexibility in their shopping experiences but also seek personalisation that resonates with their unique preferences and behaviours.

4.3.3 Empowerment and brand loyalty

Empowerment is the process through which customers gain the confidence and ability to make informed decisions, actively engage with brands, and take control of their shopping experiences (Pranic & Roehl, 2012). From the perspective of SDL, empowerment serves as a psychological enabler that drives value co-creation (Putra, 2023). SDL positions customers as active participants in the value creation process, integrating firm-provided resources—such as seamless omnichannel systems, personalised services, and flexibility—with their own preferences, knowledge, and decision-making capabilities. By engaging in this integration process, customers derive meaningful and satisfying outcomes from their interactions. Empowerment is therefore not only central to the customer's role in value co-creation but also instrumental in transforming these interactions into long-term loyalty and trust (Heinonen & Strandvik, 2015; Lusch & Vargo, 2014)

The focus group discussions revealed that empowerment plays a pivotal mediating role in linking key omnichannel experience characteristics—Integration, Flexibility, and Personalisation—with brand loyalty. This finding underscores the significance of empowerment as a psychological bridge that translates functional features of omnichannel systems into emotional and relational outcomes. Participants consistently highlighted how empowerment enhanced their confidence, satisfaction, and trust in brands that excel in providing seamless and adaptive experiences. For instance, seamless Integration allows customers to access consistent and synchronised information, Flexibility provides the freedom to customise their shopping journeys, and Personalisation offers tailored solutions that resonate with individual needs. Collectively, these attributes foster a sense

of control and autonomy, key dimensions of empowerment. Empowered customers feel more valued and engaged, which in turn deepens their emotional connection with the brand. This relational bond goes beyond transactional loyalty, cultivating a sustained commitment that aligns with contemporary customer expectations for meaningful and participative experiences.

The discussions highlighted empowerment as a critical component of the shopping experience, with customers associating it with enhanced satisfaction and a stronger sense of agency. This sense of control and autonomy is instrumental in fostering brand loyalty, as it enables customers to make choices that align with their individual needs and preferences. Additionally, empowerment was closely tied to the accessibility of information, which supports informed decision-making. As one participant expressed:

"I want to feel like I have control over my shopping. When I can make choices that suit my needs and preferences, it makes me more loyal to a brand."

Channel integration play a pivotal role in empowering customers by enabling them to access relevant data and make informed decisions. This accessibility fosters confidence in their choices, as it provides the necessary tools to navigate the complexities of modern shopping seamlessly. Such empowerment not only enhances the shopping experience but also strengthens loyalty to brands that prioritise integrated systems. As one participant shared:

"When purchasing through omnichannel, I can see all the options available online and read reviews before I go to the store; this makes me feel like I'm making an informed choice. That knowledge empowers me."

Empowerment also manifests through flexibility, allowing customers to adapt their shopping experiences according to their individual needs. As such, flexibility enhances customer empowerment by offering options that resonate with individual lifestyles, reinforcing their commitment to brands that understand and accommodate their needs. One focus group member explained:

"I appreciate brands that let me decide how I want to shop—whether it's online or in-store. It makes me feel like my preferences matter, and that encourages me to stay loyal to the brand."

Moreover, personalisation plays an important role in fostering empowerment, as tailored experiences enable customers to feel valued and understood by brands. This personalised attention not only enhances the shopping experience but also reinforces customers' sense of belonging, which in turn strengthens their loyalty. As one customer remarked:

"When a brand remembers my previous purchases and suggests things I might like, it makes me feel special. It's like they're saying, 'We care about you.' This kind of attention empowers me to trust them more."

The focus group findings indicated that empowered customers are more likely to engage with brands on a deeper level, as they shift from being passive shoppers to active participants in their shopping journey. This sense of empowerment not only increases their likelihood to share experiences with friends but also encourages them to recommend

brands they feel positively about, enhancing loyalty and engagement. As one participant noted:

“When I feel empowered, I’m not just a passive shopper; I’m an active participant in my shopping journey. I’m more likely to share my experiences with friends and recommend brands that I feel good about.”

Furthermore, participants articulated that empowerment contributes to a greater willingness to provide feedback to brands, as it fosters a sense of being heard and valued. This two-way dialogue not only strengthens customer loyalty but also builds a sense of community and connection between brands and customers. As one focus group member shared:

“I appreciate it when brands ask for my opinion. It makes me feel like they’re listening to me. I’m more inclined to stay loyal to a brand that values my input.”

Empowerment is also linked to the ability to navigate challenges and obstacles in the shopping journey, as customers value having options to resolve issues they encounter. Brands that provide different ways to address problems help customers feel more in control, reinforcing their loyalty. As one participant expressed:

“When I encounter issues, like a product not being available, I want to feel like I have options to solve it. Brands that offer me different ways to address problems make me feel more in control.”

In addition, the discussions revealed that the absence of empowerment can lead to dissatisfaction and disengagement, as customers may feel their needs are undervalued. This lack of empowerment can negatively impact brand loyalty, underscoring the importance of fostering an empowered customer base. One focus group member shared a negative experience, stating:

“I once felt trapped when a brand didn’t offer any alternatives for a product I wanted. It made me feel like my needs weren’t important. I ended up switching to another brand that respected my preferences.”

In conclusion, the focus group discussions highlighted the role of empowerment in connecting the core characteristics of the omnichannel experience—integration, flexibility, and personalisation—with brand loyalty. Integration empowers customers by seamlessly connecting online and offline channels, ensuring consistency and transparency across touchpoints. This seamless access to information allows customers to make informed decisions and transition effortlessly between platforms. Flexibility further enhances this empowerment by offering adaptable shopping options tailored to dynamic lifestyles, making customers feel understood and valued. Personalisation deepens this dynamic by recognising individual preferences and behaviours, creating tailored experiences that resonate on a personal level while alleviating decision fatigue.

Collectively, these characteristics support the Service-Dominant Logic (SDL) principle of value co-creation by positioning customers as active participants in shaping their shopping journeys and outcomes. Empowered customers experience higher satisfaction, stronger emotional connections, and increased trust, which naturally lead to greater loyalty. Brands that strategically enhance empowerment through integration, flexibility, and

personalisation not only align with SDL's emphasis on collaborative value creation but also turn omnichannel strategies into mechanisms for fostering enduring loyalty and trust. Empowerment thus serves as both a mediator and a critical enabler, bridging omnichannel strategies with long-term brand-customer relationships.

4.3.4 The role of personal innovativeness

Personal innovativeness, defined as an individual's tendency to embrace new ideas, technologies, and shopping methods (Cheng, 2014), is increasingly relevant in today's dynamic and customer-centric market. This trait significantly shapes customer behaviours, particularly within omnichannel environments, where the seamless integration of diverse touchpoints requires a willingness to explore and adopt novel approaches. Within the focus group discussions, participants demonstrated a distinct divide between individuals with high levels of personal innovativeness and those exhibiting lower levels. This divide highlighted how personal innovativeness influences customer engagement, their sense of empowerment, and subsequent brand loyalty.

From the perspective of SDL, personal innovativeness reflects a customer's capacity to actively integrate resources offered by brands—such as advanced omnichannel systems, personalised services, and flexible options—into their shopping journey. Those with high personal innovativeness exemplify value co-creation by leveraging firm-provided innovations to enhance their experiences and outcomes. Conversely, customers with lower personal innovativeness may struggle to fully utilise these resources, limiting their role as co-creators in the value exchange. This disparity underscores the importance of tailoring omnichannel strategies to accommodate varying levels of customer readiness, ensuring inclusivity while fostering empowerment and loyalty.

Customers with high personal innovativeness showed a strong inclination to engage with brands that offer innovative shopping experiences, as they are drawn to new technologies and novel approaches. This enthusiasm for brands that push boundaries fosters deeper emotional connections and enhances brand loyalty. As one participant noted:

"I love trying out new shopping apps and technologies. When a brand is ahead of the curve, it really grabs my attention; this is especially the case when purchasing mobile phones."

Conversely, participants with low personal innovativeness often expressed discomfort with new shopping methods and technologies, preferring familiar experiences over novel ones. This aversion to change suggests that lower personal innovativeness may limit engagement with brands that prioritise innovation, potentially affecting brand loyalty for these customers. As one such customer remarked:

"I prefer to stick to what I know. The latest apps and online features can feel overwhelming. I just want to walk into a store and buy what I need."

Additionally, personal innovativeness appears to influence how customers perceive their empowerment in shopping scenarios, with those exhibiting higher levels of personal innovativeness often feeling more in control of their experiences. This connection between personal innovativeness and empowerment underscores the importance of providing customers with options, which can, in turn, foster brand loyalty. As one participant shared:

“I feel empowered when I can choose how I shop, whether it’s online or in-store. It’s like I have the power to shape my own experience.”

On the other hand, participants with lower levels of personal innovativeness often reported feelings of disempowerment when faced with multiple shopping channels, finding the variety overwhelming rather than empowering. This sentiment illustrates how lower personal innovativeness can hinder the sense of empowerment, potentially reducing loyalty towards brands that offer diverse omnichannel experiences. As one customer mentioned:

“I may feel lost when trying to figure out which shopping method to use, especially where there are too many options. To a certain extent, it can be more stressful than enjoyable.”

Moreover, the discussions indicated that personal innovativeness can moderate the relationship between empowerment and brand loyalty, with innovative customers forming stronger emotional connections with brands that provide empowering shopping experiences. This influence of personal innovativeness enhances the positive impact of empowerment on brand loyalty, as these customers are more likely to appreciate brands that recognise and respond to their needs. Conversely, less innovative customers are less inclined to feel empowered by brands, which affects their depth of engagement. As one participant noted:

“As I’m always on the curve to try out new things, if a brand listens to my feedback and tailors their services accordingly, it makes me feel valued. That’s why I keep coming back to them.”

In contrast, another participant remarked:

“I don’t feel like my opinions matter much. I go where it’s easiest, but I don’t have a real connection with those brands.”

The focus group findings revealed that personal innovativeness influences customer reactions to the integration of technology in shopping experiences. Innovative participants actively sought out brands that embraced the latest advancements, demonstrating how personal innovativeness can foster brand loyalty through positive experiences with innovation. In contrast, participants with lower personal innovativeness showed reluctance to explore new features in omnichannel experiences, prioritising convenience over novelty. As one customer expressed:

“I get excited when brands use AI to improve my shopping experience. It makes me feel like I’m part of something cutting-edge.”

Conversely, another participant stated:

“You don’t have to always serve me with new innovations; being novel or not is not that significant to me, convenience is what I care about the most.” This resistance suggests that lower personal innovativeness may limit engagement with omnichannel, thus affecting brand loyalty.

In summary, the focus group discussions revealed the role of personal innovativeness in the relationships among omnichannel characteristics, empowerment, and brand loyalty. Focus group discussions highlighted a clear divide between customers with high and low

levels of personal innovativeness, influencing their engagement, empowerment, and loyalty to brands. High personal innovativeness enables customers to actively co-create value by integrating advanced resources provided by brands, such as innovative systems and personalised services, into their shopping experiences. These customers are drawn to novel approaches and technological advancements, fostering stronger emotional connections and brand loyalty. Conversely, customers with lower personal innovativeness often gravitate towards familiar methods, finding diverse options overwhelming and less empowering, which can hinder engagement and loyalty. The findings emphasise the need for brands to accommodate varying levels of innovativeness by offering adaptable and inclusive omnichannel strategies. By aligning with the principles of SDL, personal innovativeness emerges as a moderating factor that enhances or limits the impact of omnichannel experiences on customer empowerment and loyalty.

4.3.5 The role of product category involvement

Product category involvement is the level of interest and personal relevance a customer assigns to a product category, which plays a key role in shopping behaviour and decision-making (Charters & Pettigrew, 2006). Within the omnichannel context, where customers interact across integrated touchpoints, product category involvement significantly shapes the depth and nature of customer engagement (Laroche et al., 2010). From the perspective of SDL, product category involvement reflects a customer's active role in integrating resources—such as omnichannel systems, tailored services, and relevant information—into their decision-making journey (Tregua et al., 2021).

Participants with high involvement in specific product categories exhibited a stronger emotional connection to brands that offered integrated and personalised omnichannel experiences. High product category involvement drives these customers to seek brands that provide comprehensive and immersive shopping experiences, enhancing brand loyalty. Conversely, participants with lower product category involvement expressed a more utilitarian approach, prioritising convenience over engagement, which may limit the effectiveness of omnichannel strategies aimed at fostering deeper connections. For these individuals, brand loyalty may be more convenience-based than experience-driven. As one customer stated:

“Mobile phones are very important to me—it’s like my life buddy; when shopping for mobile phones, I want to see everything—online reviews, in-store demonstrations, and expert advice. The more information I have, the more confident I feel in my choices.”

In contrast, another participant remarked:

“Despite I quite appreciate the omnichannel experience characteristics we discussed earlier, I don’t really care much about the details when I buy mobile phones; it’s just something I have to use for my work and life, so I would rather buy and use quickly.”

The focus group findings suggested that product category involvement influences the extent to which customers feel empowered in their shopping journeys. Those with high involvement reported feeling more empowered when brands provided tailored experiences that aligned with their interests, which, in turn, strengthened their brand loyalty. In contrast, customers with lower involvement were less likely to feel empowered

when interacting with brands, indicating that lower involvement may weaken the connection between empowerment and brand loyalty. As one customer noted:

“You are what your phone is; when brands understand my preferences and make recommendations based on what I like, it feels like they’re really listening to me. That definitely makes me more loyal.”

Another participant shared:

“I don’t expect much from mobile phones; surely a good omnichannel experience makes me feel empowered when making the purchase, but it has nothing to do with my loyalty to the brand.”

The discussions also revealed that product category involvement moderates how customers perceive the effectiveness of omnichannel strategies. Highly involved customers actively seek brands that leverage technology and integration to enhance their shopping experiences, fostering stronger emotional ties and bolstering brand loyalty. This appreciation for integrated experiences signifies that high product category involvement amplifies positive reactions to omnichannel efforts. As one participant mentioned:

“I appreciate when brands keep optimising their apps to connect my online and in-store experiences. It shows they care about customers.”

Moreover, the role of product category involvement in moderating the relationship between empowerment and brand loyalty was evident in the discussions. Highly involved customers tended to link their sense of empowerment to positive brand perceptions, which reinforced their loyalty. This connection suggests that high product category involvement enhances the positive effects of empowerment on brand loyalty. As one participant remarked:

“I appreciate if a brand cares about me as much as I care about my phone. When I feel that I’m in the driver’s seat to make my purchase decisions, rather than bothered or hassled, I surely like it and am more likely to stick with the brand.”

In summary, the focus group discussions highlighted the moderating role of product category involvement in shaping the relationships among omnichannel experience, empowerment, and brand loyalty. Customers with high involvement in a product category tend to engage deeply with omnichannel features, seeking comprehensive and personalised experiences that strengthen their emotional connection to brands. These customers actively integrate firm-provided resources—such as advanced technologies and personalised recommendations—into their decision-making processes, exemplifying the value co-creation principle of SDL. This high involvement fosters empowerment and enhances brand loyalty, as these customers feel understood and supported by the brands they engage with. Conversely, less-involved customers often adopt a utilitarian approach, prioritising convenience over engagement. Their lower involvement may weaken their sense of empowerment and diminish the impact of omnichannel strategies on loyalty. The findings highlight the moderating role of product category involvement in shaping how customers perceive and interact with omnichannel experiences, suggesting that brands should tailor their strategies to accommodate varying levels of customer engagement and interest.

4.4 Summary and reflection

The qualitative exploration phase provided comprehensive insights into the intricate relationships among omnichannel experience characteristics, customer empowerment, and brand loyalty, while also highlighting the moderating roles of personal innovativeness and product category involvement. The focus group discussions, centred on the mobile phone category in China, revealed that Integration, Flexibility, and Personalisation are the most influential omnichannel characteristics in fostering brand loyalty. These attributes empower customers by enabling seamless transitions across channels, adaptable shopping journeys, and tailored interactions that resonate with individual preferences. Moreover, empowerment emerged as a pivotal mediator, translating functional omnichannel features into emotional and relational outcomes that drive deeper loyalty. Personal innovativeness and product category involvement were identified as key moderators, shaping how customers engage with omnichannel features and their resultant loyalty.

From the perspective of Service-Dominant Logic (SDL), these findings underscore the value co-creation process, where customers actively integrate brand-provided resources with their preferences and capabilities to derive meaningful experiences. High personal innovativeness enhances the co-creation process by driving engagement with novel technologies and adaptive services, while low innovativeness may hinder it. Similarly, high product category involvement amplifies the positive effects of omnichannel features and empowerment, fostering stronger emotional connections and brand loyalty, while lower involvement leads to more utilitarian and convenience-driven behaviours.

While the qualitative exploration phase yielded rich insights, certain limitations must be acknowledged. These limitations pertain to the research scope, geographic focus, and sample size, which may restrict the generalisability of the findings.

- **Focus on a single product category.** The study's exclusive focus on mobile phones, a high-involvement product category, may limit its applicability to other categories. Customer behaviours in low-involvement goods or specialised luxury products may differ significantly, requiring broader research to fully understand how omnichannel characteristics impact brand loyalty across diverse contexts.
- **Geographic scope limited to one city.** Conducting the study solely in Shanghai, an advanced urban market, provides insights into various customers but may not capture the experiences of those in less developed or economically diverse regions. Including participants from multiple cities or regions would enhance the generalisability of the findings.
- **Limited sample size.** While three focus groups with 18 participants allowed for in-depth qualitative exploration, the small sample may limit broader applicability. Increasing the sample size in future research would offer greater representation and enable more robust analysis of customer behaviour patterns.

These limitations are systematically addressed in the next phase of research, which employs a quantitative approach. Expanding the scope to include diverse product categories and multiple geographic regions provide broader insights into how omnichannel characteristics operate across different contexts. Additionally, a larger sample size can facilitate statistical testing of hypotheses, including the mediating role of

empowerment and the moderating effects of personal innovativeness and product category involvement. By addressing these limitations, the subsequent research phase provides a more comprehensive and generalisable understanding of omnichannel experiences and their impact.

5. Phase II: Quantitative examination

This study employs the Service-Dominant Logic (SDL) framework to investigate how omnichannel characteristics—integration, flexibility, and personalisation—influence customer empowerment and brand loyalty. SDL conceptualises customers as active participants in value co-creation, integrating firm-provided resources with their own knowledge, skills, and traits to create meaningful shopping experiences (Lusch & Vargo, 2014). Framing omnichannel interactions as dynamic and participatory, this study develops a theoretical model to explore the relationships among these characteristics, customer empowerment, and brand loyalty, while examining how personal traits moderate these relationships. Figure 3 illustrates the proposed research model.

Grounded in SDL, this research builds on the principles of resource integration and value co-creation to propose a series of hypotheses. Integration is hypothesised to positively influence customer empowerment by reducing friction and enabling seamless channel transitions. The literature suggests that integration mitigates the complexity of omnichannel systems, allowing customers to navigate their journeys with ease and confidence (Neslin, 2022). Flexibility is expected to enhance empowerment by offering customers the freedom to choose convenient shopping channels that align with their needs, fostering a sense of control. Personalisation, by tailoring brand interactions to individual preferences, is proposed to further strengthen empowerment by simplifying decision-making and enriching the shopping experience (Juaneda-Ayensa et al., 2016).

The mediating role of empowerment is central to the proposed model. Empowerment serves as a psychological bridge between omnichannel experience and brand loyalty, transforming functional features of the shopping experience into emotional connections with the brand (Zhang et al., 2018). Accordingly, hypotheses have been developed to test both direct and mediated relationships.

This study also incorporates the moderating roles of personal innovativeness and product category involvement. Personal innovativeness, or a customer's willingness to adopt novel technologies and approaches, is anticipated to amplify the positive effects of integration, flexibility, and personalisation on empowerment and loyalty. High-involvement customers—particularly those deeply engaged in categories requiring significant information processing or personal relevance—are hypothesised to form stronger connections with brands that offer empowering omnichannel strategies (Tregua et al., 2021).

5.1 Hypothesis development

5.1.1 Omnichannel experience and empowerment

Within the Service-Dominant Logic (SDL) framework, integration is conceptualised as a pivotal resource that enables seamless value creation across multiple channels (Liu et al., 2024). This characteristic reflects the firm's ability to provide interconnected and synchronised touchpoints, allowing customers to integrate these resources with their own knowledge and preferences to co-create meaningful shopping experiences. Research highlights that well-integrated omnichannel systems empower customers by reducing friction and offering a cohesive journey, enabling them to make informed decisions with ease (Neslin, 2022). Integration minimises disruptions and enhances decision-making

confidence, allowing customers to seamlessly transition across channels while accessing real-time information, such as product availability and promotions (Beck & Rygl, 2015). By enabling consistent and synchronised interactions across online, offline, and mobile platforms, integration provides the necessary infrastructure for customer empowerment. It transforms the complexity of modern retail into a manageable and satisfying experience, reinforcing the customer's sense of control and autonomy (Xu & Jackson, 2019). Focus group discussions reinforced that a well-integrated omnichannel experience allows customers to navigate their shopping journey more efficiently by seamlessly connecting online research, availability checks, and in-store purchases. Participants highlighted that integration minimizes disruptions, saves time, and reduces frustration by supporting continuity across channels. Integrated brands that provide real-time updates on inventory and promotions across platforms help customers make informed, confident decisions, enhancing their sense of control and empowerment. Accordingly:

- **Hypothesis 1a:** Integration is positively related to empowerment.

Flexibility, a key feature of omnichannel experiences, allows customers to choose shopping channels based on convenience and personal preferences. Literature underscores flexibility as a customer-centric approach, enhancing satisfaction and empowerment by aligning with diverse customer needs (Shi et al., 2020). By enabling smooth transitions between online and offline options, flexibility grants customers greater autonomy and control over their shopping journey (Carroll & Guzmán, 2013). Under the SDL framework, flexibility embodies a vital resource that facilitates dynamic resource combination, enabling customers to adapt their shopping journeys to their unique needs and circumstances. These adaptable shopping pathways allow customers to optimise their decision-making processes, fostering a deeper sense of empowerment, which transform rigid shopping systems into dynamic experiences tailored to individual circumstances. Focus group discussions reinforced the importance of flexibility, as participants appreciated the freedom to adjust their shopping approach based on changing schedules or preferences. Many noted that flexible options, like choosing between home delivery and in-store pickup, or switching seamlessly between channels, allowed them to feel more in control and empowered to make choices that suited their individual needs. This adaptability was seen as a significant contributor to a satisfying and empowering shopping experience. Accordingly:

- **Hypothesis 1b:** Flexibility is positively related to empowerment.

Within SDL framework, personalisation enhances resource relevance by aligning firm-provided resources—such as product recommendations, targeted promotions, and customised communication—with customers' unique preferences and expectations (Sharma & Fatima, 2024). This alignment increases the utility of these resources, empowering customers to engage actively in the value co-creation process. By simplifying decision-making and reducing cognitive effort, personalisation fosters a sense of control and agency, making shopping journeys smoother and more manageable (Juaneda-Ayensa et al., 2016). Focus group discussions echoed this, with participants noting that personalized recommendations and targeted promotions made them feel understood and valued. Many shared that these tailored experiences allowed them to quickly find relevant products, fostering confidence in their choices. For example, participants appreciated when brands remembered their past purchases or preferences, as it gave them a greater

sense of control over the shopping experience. This alignment between customer needs and brand actions highlights personalization's role in enhancing empowerment. Therefore:

- **Hypothesis 1c:** Personalization is positively related to Empowerment.

5.1.2 Omnichannel experience and brand loyalty

Research on brand loyalty suggests that integration, flexibility, and personalization within omnichannel strategies significantly impact customers' long-term commitment to a brand (Zhang, Park, Park, et al., 2024). The seamless integration of channels not only enables smoother transitions across platforms but also builds trust, as customers perceive the brand as reliable and consistent (Yin et al., 2022). When customers can transition between channels effortlessly, they feel a stronger connection to the brand, reinforcing loyalty and encouraging repeat engagement (Liu & Liu, 2024). This was echoed in the focus groups, where participants emphasized that brands offering integrated experiences across platforms earned their trust and loyalty. Participants described how integrated experiences—such as being able to check in-store availability online or return online purchases in-store—reduced hassle and created a sense of continuity. This consistency across channels made participants feel that the brand was dependable and aligned with their needs, fostering a deeper connection. Overall, integrated omnichannel experiences were seen as a major factor in their continued loyalty to brands that provided a seamless shopping journey. Hence:

- **Hypothesis 2a:** Integration is positively related to brand loyalty.

Flexibility, which allows customers to tailor their shopping journey across channels based on personal convenience, is another key driver of brand loyalty. Literature highlights that flexible omnichannel options meet diverse customer needs, promoting a sense of appreciation and commitment to the brand (Shi et al., 2020). By offering adaptable shopping methods, brands can enhance customer satisfaction, making customers more likely to remain loyal (Wünderlich et al., 2019). Focus group discussions strongly supported this, with participants noting that flexibility—such as choosing between home delivery and in-store pickup or switching between channels based on convenience—contributed to their loyalty. Many participants expressed that brand providing flexible options showed respect for their preferences, making their shopping experiences more enjoyable and reinforcing their attachment to the brand. The ability to adapt their shopping approach as needed allowed participants to feel that the brand genuinely valued their time and needs, solidifying their loyalty. Thus:

- **Hypothesis 2b:** Flexibility is positively related to brand loyalty.

Personalisation, which tailors shopping experiences to individual preferences, is a powerful factor in fostering brand loyalty. Research suggests that personalized interactions strengthen customer-brand relationships by creating meaningful, relevant experiences that customers find engaging and satisfying (Xu & Jackson, 2019). When brands provide personalized recommendations, customers are more likely to feel connected to the brand, which enhances their loyalty (Cotarelo et al., 2021). Focus group discussions aligned with this view, with participants emphasizing that personalized recommendations and tailored communication made them feel uniquely valued by the brand. Many noted that personalized experiences—such as receiving relevant product

suggestions or offers based on past purchases—encouraged a deeper commitment to the brand. Participants felt that brands who "remembered" their preferences showed a genuine interest in meeting their needs, which fostered a sense of trust and attachment, ultimately reinforcing their loyalty. Therefore:

- **Hypothesis 2c:** Personalization is positively related to brand loyalty.

5.1.3 The mediating role of empowerment

Empowerment, as a sense of control and autonomy within the shopping journey, plays a critical mediating role in linking omnichannel characteristics to brand loyalty. Literature suggests that when customers feel empowered—able to make informed and confident choices—they develop stronger emotional bonds with brands, increasing their loyalty (Zhang et al., 2018). Empowerment fosters positive internal states, making customers more inclined to return to and advocate for the brand (Mohammad, 2020; Ürgüplü & Yumurtacı Hüseyinoğlu, 2021). Focus group discussions reinforced empowerment's impact on loyalty, with participants describing how brands that offered empowering experiences made them feel more valued and engaged. Participants noted that when they had the tools and information needed to make decisions freely—such as real-time inventory updates, personalized suggestions, or seamless channel transitions—they were more satisfied and felt a heightened connection to the brand. This sense of empowerment increased their likelihood to stay loyal, as they felt the brand genuinely supported their shopping autonomy. Accordingly:

- **Hypothesis 3:** Empowerment is positively related to brand loyalty.

5.1.4 The moderating role of personal innovativeness

Personal innovativeness, defined as a customer's willingness to adopt and explore new shopping technologies (Cheng, 2014), is known to influence how customers engage with omnichannel experiences and brand loyalty (Xuan, Truong, & Vo Quang, 2023). Literature suggests that customers high in personal innovativeness are more likely to appreciate advanced omnichannel features like integration, flexibility, and personalization, as these options allow them to explore novel and engaging brand interactions (Xuan, Truong, & Vo Quang, 2023; Zhang, Park, & Park, 2024). This openness to new experiences enhances their connection to the brand and positively influences loyalty. Focus group discussions supported this moderating effect, with participants high in personal innovativeness expressing greater satisfaction with integrated, flexible, and personalized omnichannel features. These customers enjoyed the ability to seamlessly switch between channels, adjust their shopping methods, and receive tailored recommendations, all of which enhanced their loyalty. Participants indicated that these dynamic features aligned with their interest in exploring cutting-edge shopping experiences, making them feel more engaged and committed to brands that offered such options. This suggests that personal innovativeness strengthens the positive impact of omnichannel characteristics on brand loyalty. Therefore:

- **Hypothesis 4a-1:** Personal innovativeness positively moderates the relationship between integration and brand loyalty.

- **Hypothesis 4a-2:** Personal innovativeness positively moderates the relationship between flexibility and brand loyalty.
- **Hypothesis 4a-3:** Personal innovativeness positively moderates the relationship between personalisation and brand loyalty.

Personal innovativeness, or a customer's openness to adopting new technologies and shopping approaches, can also enhance the link between empowerment and brand loyalty. Research suggests that customers with high personal innovativeness are more likely to appreciate and fully engage with empowering brand experiences, as they find value in the freedom and control offered by omnichannel features (Juaneda-Ayensa et al., 2016). This heightened engagement strengthens their loyalty, as they feel empowered to make informed choices in a way that aligns with their innovative preferences (Krey et al., 2019; Xuan, Truong, & Vo Quang, 2023). Focus group findings aligned with this, with participants who were more innovative reporting stronger connections to brands that empowered them through flexible, integrated, and personalized options. These customers valued the control and autonomy provided by omnichannel experiences, which allowed them to explore and interact with the brand in diverse ways, reinforcing their loyalty. Thus, personal innovativeness amplifies the effect of empowerment on brand loyalty, as these customers are especially drawn to brands that enable them to shop freely and explore new experiences. Thus:

- **Hypothesis 4b:** Personal innovativeness positively moderates the relationship between empowerment and brand loyalty

5.1.5 The moderating role of product category involvement

Product category involvement, defined as the level of personal relevance and interest a customer has in a particular product category (Charters & Pettigrew, 2006), can significantly influence the relationship between omnichannel characteristics and brand loyalty (Menidjel et al., 2020). Literature indicates that customers with high product involvement are more attentive to and engaged with omnichannel features like integration, flexibility, and personalization, as these features enhance their shopping experience by meeting specific needs within the category (Hsia et al., 2020; Zhou & Huang, 2023). This increased engagement often translates into stronger brand loyalty, as high-involvement customers feel more connected to brands that provide relevant and responsive experiences (Hsia et al., 2020; McClure & Seock, 2020). Focus group discussions echoed this moderating effect, with participants who were highly involved in specific product categories (e.g., electronics or fashion) showing greater appreciation for omnichannel features that aligned with their needs. For these customers, integrated platforms, adaptable shopping options, and personalized recommendations were especially valuable, as they allowed them to make informed choices tailored to their interests. This alignment between product involvement and omnichannel characteristics strengthened their loyalty, as they felt that the brand was attentive to their preferences within the category. Therefore:

- **Hypothesis 5a-1:** Product category involvement positively moderates the relationship between integration and brand loyalty.
- **Hypothesis 5a-2:** Product category involvement positively moderates the relationship between flexibility and brand loyalty.

- **Hypothesis 5a-3:** Product category involvement positively moderates the relationship between personalisation and brand loyalty.

Literature suggests that product category involvement can also strengthen the relationship between empowerment and brand loyalty. Customers with high product involvement are more likely to value and respond positively to empowering brand experiences, as they actively seek information and options that allow them to make well-informed decisions within that category (Becker & Jaakkola, 2020). This engagement fosters a deeper emotional connection to the brand, enhancing loyalty. Focus group findings supported this moderating effect, with participants who were highly engaged in certain product categories expressing a stronger connection to brands that offered empowering experiences. These customers valued features like real-time product information, personalized recommendations, and seamless integration across channels, which allowed them to confidently explore their options and make choices aligned with their preferences. Accordingly:

- **Hypothesis 5b:** Product category involvement positively moderates the relationship between empowerment and brand loyalty

In summary, by using the SDL framework as the guiding theory, the proposed research model (Figure 3) positions integration, flexibility, and personalization as essential omnichannel experience characteristics that serve as antecedents to customer empowerment. Empowerment, in turn, acts as a central mediator, linking these omnichannel elements to brand loyalty outcomes. The model further highlights the moderating roles of individual customer traits—specifically, personal innovativeness and product category involvement—which influence the strength and direction of these relationships. Collectively, these hypotheses provide a comprehensive basis for understanding how omnichannel experiences drive brand loyalty, guiding the structure for subsequent quantitative examination.

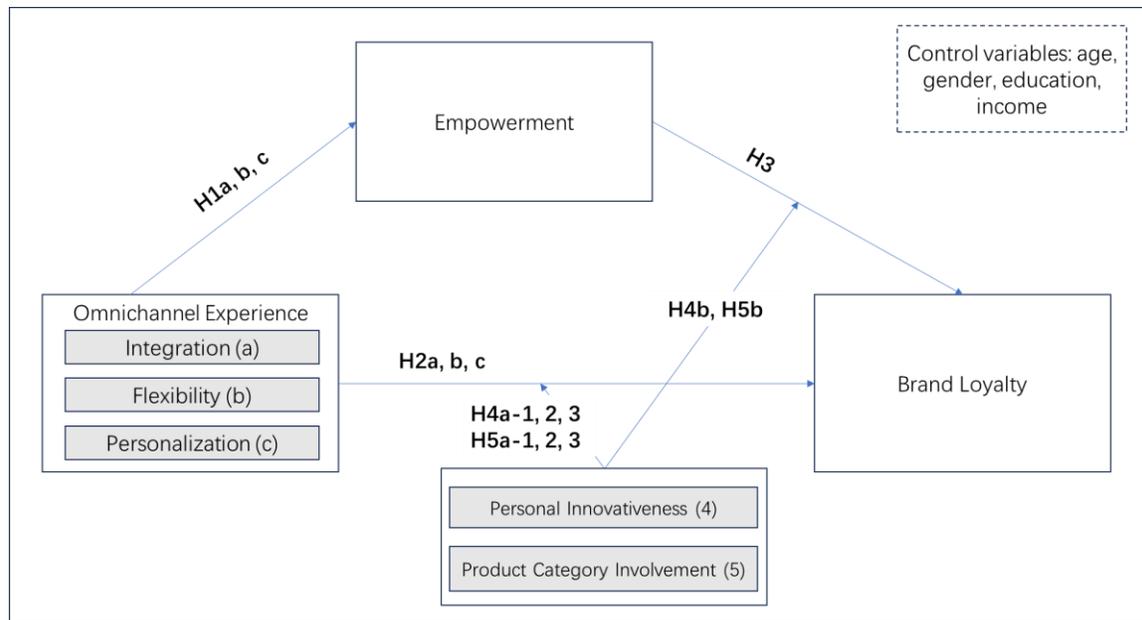


Figure 3. The quantitative research model

5.2 Measurements

The measurement instruments employed in this study were carefully selected and adapted from well-established scales in previous omnichannel and customer behaviour research (Shi et al., 2020; Zhang, He, Qin, Fu, & He, 2019), ensuring the constructs' robustness in terms of both reliability and validity. This process of adapting measurement scales is critical in ensuring that the constructs used in the research accurately capture the behaviours and perceptions they are intended to measure; while also ensuring they are applicable to the specific context of this study. As pointed out by Bagozzi and Yi (1988), the careful selection of scales is essential for the development of rigorous and valid models in customer research, especially in studies using structural equation modelling (SEM), where the relationships between constructs and observed variables must be clearly defined.

The use of established measurement scales, rather than generating new ones from the qualitative study, offers a few benefits for the present study. It ensures reliability and validity, as these established scales have already been rigorously tested. Using proven instruments allows for comparability with prior studies and aligns our findings with existing literature, contributing to a stronger foundation for our research. Additionally, established scales enhance the generalizability of the study across different city tiers and customer segments, minimizing the risk of measurement errors. Finally, this approach is more efficient, saving time and resources by avoiding the lengthy process of developing and validating new scales from scratch.

5.2.1 Likert scale and measurement approach

Each construct was assessed using a five-point Likert scale, which ranged from 1 (strongly disagree) to 5 (strongly agree). The decision to use a Likert scale was based on its widespread use in customer research, particularly in studies examining attitudes and perceptions. Likert scales are highly versatile and can be used to measure a wide range of constructs, from customer satisfaction to brand loyalty. In this study, the five-point scale was chosen to maintain consistency with previous studies that have explored similar constructs in the omnichannel retail context (Gao, Fan, et al., 2021; Zhang et al., 2019). A five-point scale strikes a balance between providing enough granularity to capture variations in responses while avoiding overwhelming respondents with too many options, which can lead to response fatigue and lower quality data (Krosnick & Presser, 2010).

Such scales allow for the effective capture of customers' subjective perceptions and attitudes toward the measured constructs. For example, a customer's perception of "integration" across multiple channels may vary based on their experiences with different brands. A five-point scale allows respondents to express these nuances effectively. Additionally, the Likert scale provides an intuitive and accessible response format, encouraging engagement from respondents in survey-based research, particularly in the context of self-administered online surveys. Given the rise of online research methods, particularly in the context of omnichannel retailing, the accessibility of this approach makes it ideal for capturing large amounts of data efficiently.

5.2.2 Development of measurement items

The development of measurement items was guided by a detailed review of existing literature, ensuring alignment with the conceptual definitions of each construct and prior empirical evidence. By grounding the measurement items in established research, the study ensures that the scales used are valid and reliable, a critical requirement for robust SEM-based analysis (Brodie, Hollebeek, Juric, & Ilic, 2011; Kurtaliqui et al., 2024).

- **Integration (IG):** This dimension refers to the seamless transition between online and offline channels, reflecting the coherence of omnichannel strategies across multiple touchpoints. The items for measuring integration were adapted from Zhang et al. (2019), a study that emphasizes the importance of consistent information flow and service quality across channels. Integration is a key driver of the omnichannel experience as it allows customers to navigate between different retail environments without encountering significant disruptions. The integration construct reflects not only the functional integration of channels but also across different stages of customer experience across those channels (Shi et al., 2020).
- **Flexibility (FL):** Flexibility captures the convenience offered to customers by allowing them to access various services across different channels, particularly when customers can select their preferred touchpoints to serve their own shopping objectives. Shi et al. (2020) introduced flexibility as a vital characteristic of omnichannel retail, reflecting customers' desire to access and engage with a brand in ways that suit their preferences and circumstances. Flexibility is often a significant determinant of customer empowerment and satisfaction, as it allows customers to adapt the shopping experience to their individual needs, such as choosing to

purchase online but pick up the product in-store (Tyrväinen et al., 2020).

- **Personalisation (PL):** Personalisation refers to the ability of brands to tailor experiences and offers based on customer preferences and behaviours. This is a critical factor in enhancing customer satisfaction and loyalty, as demonstrated by Zhang et al. (2019), who highlighted the growing expectation among customers for personalised service across multiple channels. Personalisation is increasingly recognized as a core element of omnichannel retail strategies, driven by advancements in data analytics and customer relationship management (CRM) systems that allow brands to deliver highly customized experiences (Rahman et al., 2022).
- **Empowerment (EP):** Empowerment relates to the degree of control customers feel they have over their shopping experience. Zhang et al. (2018) provided a set of items measuring customers' perceived influence over their interactions with brands, emphasizing the positive impact of empowerment on customer satisfaction and brand loyalty. Empowerment is particularly important in the omnichannel context, where customers often expect a high level of control over how they engage with brands, whether through choosing different channels or customizing products and services (Mishra et al., 2022).
- **Brand Loyalty (BL):** The items used to measure brand loyalty were derived from Gao and Huang (2021), who focused on customers' commitment to brands and their willingness to advocate for them. Brand loyalty is particularly relevant in omnichannel environments where customers are exposed to multiple touchpoints, and their loyalty is tested across these interactions. The loyalty construct captures both behavioural loyalty (repeat purchases) and attitudinal loyalty (willingness to recommend the brand to others) (Liu & Liu, 2024).
- **Personal Innovativeness (PI):** This construct captures the extent to which customers are open to adopting new technologies and products. Zhang, Park, and Park (2024) developed items that measure customers' tendencies to seek out new products and services, especially in technologically advanced environments like omnichannel retail. Personal innovativeness is an important individual characteristic that can influence how customers engage with omnichannel shopping experiences, as more innovative customers are likely to adopt new technologies and explore different shopping channels more readily (Xuan, Truong, & Vo Quang, 2023).
- **Product Category Involvement (PCI):** This construct refers to the level of interest and importance that customers place on the products they purchase. Higher involvement typically correlates with greater emotional investment in the purchase decision, as demonstrated by Menidjel et al. (2020). Product category involvement is particularly important in omnichannel contexts because customers may display different levels of involvement across product categories, influencing their shopping behaviours and their responses to omnichannel features (Zhou & Huang, 2023).

A detailed summary of the measurement items and their corresponding references is presented in Table 4, ensuring transparency in the adaptation of these scales for the study's context.

Table 4. Construct measurements and references

Construct	Measurement items	Reference
Integration (IG)	IG1. This brand offers me sufficient channels in any phase of a transaction, including searching product information, querying inventory, ordering and commenting. IG2. This brand provides targeted information to me during any phase of my buying process. IG3. I have access to shopping traces in one channel from another channel. IG4. I can receive a consistent response to a query through different channels of this brand. IG5. This brand delivers a consistent brand image across the various channels. IG6. This brand's service level (e.g. employee service, service promptness, etc.) across the various channels is consistent.	Zhang et al. (2019)
Flexibility (FL)	FL1. I can try on products in physical stores and order them online. FL2. I can choose alternative channels for a given service. FL3. I can order online and make payment and pick-up offline. FL4. The after-sales service is available across different channels. FL5. I can accomplish specific tasks through preferred channels.	Shi et al. (2020)
Personalisation (PL)	PL1. This brand is able to meet my personal needs. PL2. This brand understands my preferences and recommends interesting information to me. PL3. This brand offers me personalised service.	Zhang et al. (2019)
Empowerment (EP)	EP1. In my dealings with this brand, I feel I am in control. EP2. The ability to influence the goods and services of this brand is beneficial to me. EP3. I feel good because of my ability to influence the choice set offered to me by this brand. EP4. During the shopping process, I can select product and service freely EP5. My influence over this brand has increased relative to the past.	Zhang et al. (2018)
Brand Loyalty (BL)	BL1. Unless there are any unexpected reasons, I plan to continue buying from this brand like always. BL2. I encourage friends to shop from this brand. BL3. I recommend this brand to everyone who seeks my advice.	Gao and Huang (2021)
Personal Innovativeness (PI)	PI1. I prefer to buy the latest products. PI2. I like to find information about new products on omnichannel. PI3. People around me often ask me for information about new products.	Zhang, Park, Park, et al. (2024)
Product Category Involvement (PCI)	PCI1. I find it important what products I buy PCI2. I am interested in the kind of products I buy PCI3. It means a lot to me what products I buy	Menidjel et al. (2020)

5.2.3 Translation and localization of measurement instruments

Given that the study was conducted with Chinese respondents, the measurement scales were translated into Chinese to enhance comprehension and ensure that the responses accurately reflected the participants' true perceptions. The translation followed a rigorous back-translation process to ensure equivalency with the original English versions. Specifically, bilingual experts translated the original items into Chinese, followed by an independent back-translation into English to ensure that the original meaning of the items was preserved. This back-translation process is crucial in cross-cultural research to prevent any loss of meaning or subtle changes in the interpretation of items (Brislin, 1970).

Any discrepancies identified during this process were resolved through discussion and consensus. For instance, cultural nuances were considered in the translation of items related to empowerment, as the concept of customer empowerment may carry different connotations in Chinese retail contexts compared to Western markets. Moreover, care was taken to ensure that the translated items retained the same level of reliability and validity as the original scales, which was verified through pilot testing.

The Chinese version of the measurements is included in Appendix D.

5.3 Data collection

Data for this study were collected through an online questionnaire hosted on the widely used Chinese survey platform wjx.com, previously known as sojump.com. This platform is one of the most popular tools for academic and market research in China, and its extensive reach and ease of use made it the ideal choice for data collection in this study. Wjx.com is known for its robust user base and technological infrastructure, making it a trusted platform for gathering high-quality data for surveys. Given that this study focused on omnichannel customer behaviour, the use of an online survey was particularly appropriate, as omnichannel customers are already familiar with digital tools and online shopping environments.

The study targeted customers in tier-1 to tier-3 cities in China, as these cities represent the forefront of retail development and omnichannel shopping behaviours in the country. Tier-1 cities such as Beijing, Shanghai, and Guangzhou are characterized by their advanced retail infrastructure, high customer purchasing power, and rapid adoption of digital retail technologies. Tier-2 cities, including Chengdu, Hangzhou, and Nanjing, are also rapidly developing in terms of retail infrastructure and customer sophistication, making them ideal locations for studying emerging trends in omnichannel behaviour. While Tier-3 cities, such as Dongguan, Baoji, and Leshan, are also included as they are experiencing rapid urbanization and increasing digital adoption, offering an additional perspective on how omnichannel strategies are influencing customers in developing markets with growing purchasing power and evolving retail landscapes.

The inclusion of multiple product categories further reflects the diverse nature of customer preferences in these rapidly developing urban markets. By examining multiple product categories, this study captures a wide range of customer behaviours, providing insights into how omnichannel strategies may differ across sectors such as apparel, electronics, and home goods.

5.3.1 Survey design and pre-testing

Before launching the full-scale survey, a pre-test was conducted to ensure the clarity and appropriateness of the questionnaire items. Pre-testing is a standard practice in survey research, helping to identify any potential issues with question wording, response options, or the overall flow of the survey (Saunders et al., 2019). This step involved a small group of 20 respondents (convenience sampling), all of whom had experience with omnichannel shopping. The primary goal of the pre-test was to identify any ambiguous or unclear questions that could potentially confuse respondents. For example, feedback from the pre-test revealed that some respondents were unsure how to interpret items related to channel integration, leading to minor revisions in wording to enhance clarity.

Feedback from the pre-test participants was used to refine the wording of certain items and improve the overall structure of the survey. In particular, items related to the integration of online and offline shopping experiences were fine-tuned to ensure that they accurately captured respondents' experiences across different channels. The ordering of questions was also revised based on the pre-test feedback to improve the flow of the survey and reduce potential response bias.

In designing the survey, special attention was given to the order of questions to minimize potential bias. For example, general questions about shopping behaviour were placed at the beginning of the survey, followed by more specific questions about omnichannel experiences and brand loyalty. This sequence helped to ensure that respondents were not unduly influenced by earlier questions when responding to later ones. Additionally, the survey was designed to be completed in about 5 minutes to minimize respondent fatigue and encourage thoughtful responses.

5.3.2 Self-administered online survey

The use of a self-administered online survey was considered the most appropriate method for data collection in this study, given the nature of the research topic. Omnichannel customers are typically well-versed in digital tools, making an online format highly accessible to them. Moreover, online surveys are more economical compared to interviewer-assisted methods and allow respondents to complete the questionnaire at their own pace, which can lead to more thoughtful and accurate responses. Self-administered surveys also reduce the risk of interviewer bias, which can occur when respondents are influenced by the presence or behaviour of the interviewer (Saunders et al., 2019).

The questionnaire was optimized for mobile devices, ensuring that participants could easily complete it on their smartphones. This was particularly important given the increasing reliance on mobile devices for online shopping and engagement in China. Research shows that Chinese customers are increasingly turning to mobile devices as their primary means of accessing both e-commerce platforms and social media channels (GSMA, 2021), making it crucial that the survey be mobile-friendly. The mobile optimization of the survey also aligns with the behaviours of omnichannel shoppers, who often use their smartphones to browse products, compare prices, and make purchases across multiple channels.

5.3.3 Remedies for common method bias

To address potential common method bias, this study implemented several procedural remedies to enhance the validity and reliability of the collected data. These remedies were guided by best practices in survey methodology (Creswell & Creswell, 2017; Payne & Williams, 2011; Saunders et al., 2019), with the goal of minimizing biases such as social desirability, acquiescence, and common rater effects.

First, anonymity and confidentiality were emphasised throughout the data collection process. Respondents were assured that their answers would remain anonymous and that the data would only be used for research purposes. This approach aimed to reduce social desirability bias, encouraging participants to provide honest and uninfluenced responses. Second, to avoid response patterns caused by question proximity or order effects, questions in the survey were randomised wherever appropriate. This randomisation prevented participants from linking related items and responding in a way that might artificially inflate or deflate observed relationships. It also reduced the risk of sequential bias, where prior questions influence responses to subsequent ones. Third, the questionnaire was designed to use clear, concise, and neutral language to ensure that respondents understood the questions as intended. Ambiguous or leading questions were avoided to reduce interpretation errors. Pre-testing and pilot studies further ensured that the language used was accessible and culturally appropriate for the target audience. Last but not least, other procedural measures included balancing positive and negative phrasing of items to minimise acquiescence bias and incorporating reverse-coded items to detect and address response patterns. Scales and items were adapted or developed based on established measurement frameworks to ensure relevance and reliability.

By combining these procedural remedies with statistical tests like Harman's single-factor test, this study effectively mitigates the risk of common method bias. These comprehensive efforts allow for confident interpretation of the findings, ensuring that observed relationships between variables reflect actual dynamics rather than methodological artefacts.

5.3.4 Sample and recruitment

To recruit participants for the study, with the help from a third-party research agency, an invitation was disseminated through various digital channels, including mobile SMS, social media platforms, email lists, and targeted advertisements. The recruitment strategy was designed to reach a broad cross-section of omnichannel shoppers, ensuring diversity in terms of age, gender, income, and education levels. Given the rise of social commerce in China, particularly on platforms like WeChat and Xiaohongshu, social media was a particularly effective channel for recruiting omnichannel customers who regularly engage with brands online.

The sample was intended to reflect the broad spectrum of customers who engage in omnichannel shopping, spanning different age groups, income levels, and education backgrounds. A screening question was incorporated at the beginning of the survey to ensure that all participants had experience with omnichannel shopping. This criterion was essential, as the study aimed to investigate customer behaviours and attitudes specifically within the omnichannel retail context. Participants were asked whether they had used

various channels (e.g., online, in-store, mobile) during their shopping journey in the past. Only those who answered "yes" were allowed to proceed with the survey, ensuring that the sample consisted of active omnichannel shoppers.

The online survey was conducted from July 2024 to September 2024, during which 450 responses were initially collected. After data cleaning, which involved removing incomplete responses and those with uniform ratings across all items (indicating potential disengagement), 355 valid responses were retained for analysis. Data cleaning is a critical step in ensuring the quality of survey data, particularly in online surveys where response bias and incomplete answers can be common (Saunders et al., 2019). The final sample size of 355 was deemed adequate for SEM-based analysis, which typically requires a minimum sample size of 200-300 to achieve reliable parameter estimates (Mundfrom, Shaw, & Ke, 2005)

Table 5 presents the characteristics of the respondents in more detail. Gender, Age, Education, and Income were based on respondents' inputs when completing the questionnaire. The frequency of city tiers was manually calculated based on the IP addresses of different respondents when they complete the questionnaire. The majority of participants were female (61.1%), which aligns with previous research showing that women are more likely to engage in omnichannel shopping, particularly in categories such as fashion and beauty (Wang, 2021). The age distribution was skewed toward middle-aged adults (35-44 years), reflecting the demographic composition of active omnichannel shoppers in China. Educational attainment and income levels were also varied, providing a comprehensive snapshot of the omnichannel customer base. I

Table 5. Respondents' demographics

Variables		Frequency	Percentage
Gender	Male	138	38.9%
	Female	217	61.1%
Age	18-24	16	4.5%
	25-34	115	32.4%
	35-44	132	37.2%
	45-54	85	23.9%
	55 or older	7	2.0%
Education	High school or below	40	11.3%
	Associate College Degree	105	29.6%
	Bachelor's	174	49.0%
	Master's	22	6.2%
	Ph. D	14	3.9%
Income	<3000	44	12.4%
	3000~5000	119	33.5%
	5001~8000	153	43.1%

	8001~10000	26	7.3%
	10001~20000	7	2.0%
	20001~30000	4	1.1%
	>30000	2	0.6%
City Tiers	Tier 1	71	20.0%
	Tier 2	241	67.9%
	Tier 3	43	12.1%

5.4 Data analysis

Once the data collection phase was complete, the next crucial step involved analysing the collected data using a range of descriptive and inferential statistical techniques. This multi-stage process allowed for the exploration of the relationships between key variables, offering insights into how different aspects of the omnichannel shopping experience influence customer empowerment and brand loyalty. The primary analytical tool employed was Structural Equation Modelling (SEM), which is widely regarded as one of the most powerful and flexible statistical techniques available for analysing complex relationships between multiple variables. SEM is particularly well-suited for studies such as this, which seek to explore both direct and indirect effects among a set of interrelated constructs (Hair et al., 2012).

SEM allows for the simultaneous testing of multiple hypotheses, which makes it ideal for examining the interactions between integration, flexibility, personalisation, empowerment, brand loyalty, personal innovativeness, and product category involvement. This approach offers several advantages over traditional regression analysis, including the ability to model relationships between latent constructs and account for measurement error (Byrne, 2016).

5.4.1 Measurement model

The measurement model is a foundational step in SEM that tests the relationships between observed variables (i.e., survey items) and the latent constructs they are designed to measure. This model helps to ensure that the constructs used in the analysis are reliable and valid, which is a crucial requirement for obtaining meaningful and accurate results from the structural model (Hair et al., 2012).

The estimation of the measurement model was primarily based on assessing reliability and validity. This paper employed various statistical techniques, including Cronbach's alpha, composite reliability (CR), average variance extracted (AVE), confirmatory factor analysis (CFA), and evaluations of discriminant validity. The analysis aimed to confirm that the constructs measured in the study were both reliable and valid. Specifically, Cronbach's alpha was utilized to assess internal consistency, with a threshold of 0.70 or higher considered acceptable. The composite reliability (CR) and average variance extracted (AVE) values were also calculated to verify convergent validity, with established criteria suggesting that CR should exceed 0.70 and AVE should be greater than 0.50. Furthermore, discriminant validity was evaluated by comparing the square roots of AVE

with the correlations between constructs, ensuring that the square roots exceeded the inter-construct correlations.

All the following analysis were conducted using IBM SPSS 27 and AMOS 27, contributing to a comprehensive understanding of the measurement model's robustness.

Reliability and convergent validity

Reliability refers to the internal consistency of the items used to measure a particular construct. In this study, several statistical tests were performed to assess the reliability of the constructs, including Cronbach's alpha and Composite Reliability (CR). Cronbach's alpha is one of the most commonly used measures of internal consistency, with values above 0.70 typically indicating acceptable reliability (Peterson, 1994). As shown in Table 6, Cronbach's alpha values for all constructs exceeded the 0.70 threshold, with values ranging from 0.878 to 0.908, suggesting that the items were reliably measuring their respective constructs.

Composite Reliability (CR) was calculated to provide a more nuanced assessment of the reliability of the measurement scales. Like Cronbach's alpha, CR values greater than 0.70 are considered acceptable (Fornell & Larcker, 1981). In this study, item loadings for all constructs exceeded the recommended threshold of 0.70 (Hair et al., 2014), which indicates that each item significantly contributes to its respective construct. Meanwhile, CR values ranged from 0.889 to 0.919, further confirming the internal consistency of the scales used to measure omnichannel shopping behaviours, empowerment, brand loyalty, personal innovativeness, and product category involvement. CR is particularly useful in SEM analysis because it accounts for the factor loadings of individual items, providing a more accurate assessment of reliability than Cronbach's alpha alone.

Convergent validity was also assessed as part of the measurement model analysis. Convergent validity refers to the extent to which the items used to measure a construct are correlated with one another, indicating that they are all measuring the same underlying concept. To assess convergent validity, the Average Variance Extracted (AVE) was calculated for each construct. AVE values greater than 0.50 are considered acceptable, indicating that more than 50% of the variance in the observed variables is explained by the construct (Fornell & Larcker, 1981). In this study, the AVE values for all constructs exceeded the recommended threshold, with values ranging from 0.616 to 0.767. This confirms that the items used in the study adequately capture the intended constructs, providing strong evidence of convergent validity.

Table 6. Reliability and convergent validity analysis

Construct	Items	Loadings	Cronbach's α	CR	AVE
Integration (IG)	IG1	0.814	0.908	0.929	0.686
	IG2	0.806			
	IG3	0.804			
	IG4	0.818			
	IG5	0.794			
	IG6	0.812			

Flexibility (FL)	FL1	0.835	0.902	0.919	0.695
	FL2	0.854			
	FL3	0.837			
	FL4	0.801			
	FL5	0.839			
Personalisation (PL)	PL1	0.877	0.907	0.917	0.786
	PL2	0.875			
	PL3	0.908			
Empowerment (EP)	EP1	0.777	0.878	0.889	0.616
	EP2	0.808			
	EP3	0.825			
	EP4	0.736			
	EP5	0.774			
Brand Loyalty (BL)	BL1	0.767	0.798	0.800	0.572
	BL2	0.794			
	BL3	0.705			
Personal Innovativeness (PI)	PI1	0.870	0.833	0.890	0.729
	PI2	0.844			
	PI3	0.848			
Product Category Involvement (PCI)	PCI1	0.882	0.864	0.908	0.767
	PCI2	0.884			
	PCI3	0.861			

Discriminant validity

Discriminant validity refers to the extent to which the constructs are distinct from one another, meaning that they measure different concepts. Ensuring discriminant validity helps to confirm that the constructs are not overly correlated and that each construct captures a unique aspect of the phenomenon being studied (Bagozzi & Yi, 1988). In this study, discriminant validity was assessed by comparing the square roots of the AVE for each construct with the correlations between that construct and others in the model. According to the guidelines proposed by Fornell & Larcker (1981), discriminant validity is demonstrated when the square root of the AVE for a given construct is greater than its correlations with other constructs.

As shown in Table 7, the square root of the AVE for each construct in this study were greater than their correlations with other constructs, confirming that the constructs were sufficiently distinct from one another. For example, the square root of the AVE for Empowerment (EP) was 0.769, which exceeded its correlation with Integration (IG) at 0.409, indicating that Empowerment and Integration were distinct constructs. Similar patterns were observed across all constructs; for instance, the square root of AVE for Flexibility (FL) was 0.805, surpassing its correlations with other constructs, further confirming the discriminant validity of the measurement model. These results suggest that the constructs used in the study capture distinct and non-overlapping dimensions of the omnichannel shopping experience, empowerment, and brand loyalty.

Table 7. Discriminant validity analysis

	IG	FL	PL	EP	BL	PI	PCI
IG	0.808						
FL	0.140*	0.834					
PL	0.230***	0.224***	0.887				
EP	0.409***	0.279***	0.347***	0.785			
BL	0.457***	0.426***	0.450***	0.536***	0.756		
PI	-0.08	-0.091	-0.038	-0.024	-0.143*	0.854	
PCI	-0.03	-0.023	0.073	0.012	-0.084	0.325***	0.876

Note:

1. *: $p < 0.05$, ***: $P < 0.001$

2. The bold values on the diagonal are square roots of AVE

Common method bias analysis

To assess the presence of common method bias (CMB), Harman's single-factor test was conducted using principal component analysis (PCA) on all items included in the study (Table 8). CMB arises when a significant proportion of variance is explained by a single factor, potentially confounding the relationships between variables (Podsakoff, Podsakoff, Williams, Huang, & Yang, 2024). This analysis evaluates the unrotated solution and examines the number of factors with eigenvalues greater than 1.

The PCA results revealed that the first unrotated factor accounted for 25.076% of the total variance, well below the commonly accepted threshold of 50% (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). This finding suggests that no single factor dominates the dataset. Furthermore, a total of seven factors with eigenvalues greater than 1 were identified, cumulatively explaining 73.303% of the total variance. This distribution highlights that the variance is shared across multiple dimensions, rather than being concentrated in a single factor.

The relatively low proportion of variance explained by the first factor, combined with the presence of multiple factors with eigenvalues greater than 1, indicates that common method bias is unlikely to significantly impact the validity of the results. The presence of seven factors suggests a multidimensional structure in the data, consistent with the theoretical constructs underpinning the study. Additionally, procedural remedies (Section 5.3.3), such as ensuring respondent anonymity, randomising question order, and using neutral and concise wording, were implemented during survey design to mitigate the risk of common method bias.

Table 8. Harman's single-factor test and total variance explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	7.021	25.076	25.076	7.021	25.076	25.076
2	3.369	12.031	37.107	3.369	12.031	37.107
3	3.028	10.816	47.923	3.028	10.816	47.923
4	2.281	8.147	56.071	2.281	8.147	56.071
5	1.977	7.061	63.132	1.977	7.061	63.132
6	1.663	5.938	69.069	1.663	5.938	69.069
7	1.185	4.234	73.303	1.185	4.234	73.303
8	0.552	1.97	75.274			
9	0.544	1.943	77.216			
10	0.496	1.773	78.989			
11	0.485	1.733	80.722			
12	0.459	1.64	82.362			
13	0.453	1.619	83.982			
14	0.404	1.442	85.423			
15	0.398	1.42	86.844			
16	0.384	1.372	88.215			
17	0.353	1.259	89.474			
18	0.331	1.18	90.655			
19	0.326	1.165	91.82			
20	0.319	1.141	92.961			
21	0.315	1.124	94.085			
22	0.291	1.039	95.124			
23	0.277	0.988	96.112			
24	0.251	0.896	97.008			
25	0.238	0.849	97.857			
26	0.217	0.777	98.633			
27	0.203	0.726	99.359			
28	0.179	0.641	100			

Confirmatory factor analysis

To further evaluate the fit of the measurement model, confirmatory factor analysis (CFA) was conducted. CFA is a key component of SEM that allows researchers to assess how well the observed data fit the hypothesized factor structure. By comparing the model's predicted relationships between observed variables and their corresponding latent constructs to the actual data, CFA provides a rigorous test of the validity of the measurement model (Kline, 2023).

Several fit indices were used to evaluate the model's goodness of fit, including the CMIN/DF ratio, the Root Mean Square Error of Approximation (RMSEA), the Goodness-of-Fit Index (GFI), and the Comparative Fit Index (CFI). Each of these fit indices provides a different perspective on the model's fit, making it important to consider them together when evaluating the overall quality of the model.

As is shown in Table 9, the CMIN/DF ratio of Phase II was calculated at 1.214, which is well below the maximum acceptable threshold of 5 and within the excellent range of less than 3. This low ratio suggests that the model adequately captures the underlying data structure, indicating a good balance between model complexity and fit. The Root Mean Square Error of Approximation (RMSEA) is particularly sensitive to model misspecification, making it one of the most informative indices for evaluating model fit (Kline, 2023). In Phase II, RMSEA was found to be 0.025, which is substantially below the excellent threshold of 0.05, indicating a close fit between the model and the observed data. This value suggests that the model provides a close fit to the observed data, highlighting its robustness in capturing the relationships among constructs. Other fit indices also supported the model's appropriateness: the Goodness-of-Fit Index (GFI) was 0.928, and the Adjusted Goodness-of-Fit Index (AGFI) was 0.912, both of which exceed the acceptable thresholds of 0.80 and 0.90, respectively. Additionally, the Normed Fit Index (NFI) was 0.931, the Incremental Fit Index (IFI) was 0.987, the Tucker-Lewis Index (TLI) was 0.985, and the Comparative Fit Index (CFI) was 0.987. All these values surpass the recommended threshold of 0.90, confirming an excellent fit for the model.

Overall, the results of the CFA supported the adequacy of the measurement model, providing necessary validation to move forward with the structural model analysis.

Table 9. CFA analysis and model fit

Parameters	Reasonable Threshold	Excellent Threshold	Model value	Judgement	Result
CMIN			399.387		
CMIN/DF	<5	<3	1.214	excellent	Yes
RMSEA	<0.08	<0.05	0.025	excellent	Yes
GFI	>0.8	>0.9	0.928	excellent	Yes
AGFI	>0.8	>0.9	0.912	excellent	Yes

NFI	>0.8	>0.9	0.931	excellent	Yes
IFI	>0.8	>0.9	0.987	excellent	Yes
TLI	>0.8	>0.9	0.985	excellent	Yes
CFI	>0.8	>0.9	0.987	excellent	Yes

Descriptive statistics and correlation analysis

In addition, the descriptive statistics for the measurement items as well as the correlation analysis between key constructs were also conducted to ensure that the data meet the assumptions required for subsequent structural equation modelling (SEM) analysis. The descriptive statistics, including the mean, standard deviation, skewness, and kurtosis of each item, offer insights into the distribution of responses and the overall variability in the data. These metrics provide a foundation for understanding the central tendencies and dispersion within the sample, allowing us to assess whether the data meet the assumptions required for further statistical analysis.

Table 10 presents the mean values for each item, which ranged from 3.400 to 4.285, indicating relatively balanced distributions across the measured constructs. The standard deviations ranged from 1.087 to 1.524, suggesting moderate variability in the responses. The skewness and kurtosis values for all items fell within the acceptable range defined by Kline (2023), which posits that a skewness absolute value of less than 3 and a kurtosis absolute value of less than 10 indicate that the observed variables approximate a normal distribution. As seen in the table, all items demonstrated skewness and kurtosis values well within these thresholds, confirming that the data closely follow a normal distribution, which is essential for subsequent analysis, particularly for structural equation modelling (SEM).

The skewness values, all negative, indicate a slight leftward skew in the data, meaning that a larger portion of respondents tended to provide higher ratings on the Likert scale (e.g., agree or strongly agree). Meanwhile, the kurtosis values are within acceptable limits, indicating that the data are neither too peaked nor too flat. Given that all item skewness and kurtosis values are well below these reference thresholds, it can be concluded that the sample data meet the normality assumption, satisfying the basic requirements for data analysis in this study.

Table 10. Descriptive analysis

Construct	Items	Mean	Std. Dev.	Skewness	Kurtosis
Integration (IG)	IG1	3.617	1.372	-0.719	-0.765
	IG2	3.504	1.364	-0.556	-0.942
	IG3	3.589	1.378	-0.646	-0.893
	IG4	3.625	1.327	-0.769	-0.602
	IG5	3.586	1.309	-0.714	-0.626
	IG6	3.600	1.113	-0.919	-0.635

Flexibility (FL)	FL1	3.625	1.344	-0.705	-0.722
	FL2	3.685	1.290	-0.723	-0.631
	FL3	3.682	1.395	-0.755	-0.772
	FL4	3.659	1.321	-0.706	-0.688
	FL5	3.623	1.385	-0.685	-0.825
Personalisation (PL)	PL1	3.420	1.524	-0.516	-1.241
	PL2	3.442	1.480	-0.512	-1.182
	PL3	3.400	1.514	-0.464	-1.278
Empowerment (EP)	EP1	3.659	1.373	-0.737	-0.724
	EP2	3.628	1.339	-0.716	-0.695
	EP3	3.676	1.334	-0.734	-0.683
	EP4	3.687	1.276	-0.719	-0.571
	EP5	3.634	1.307	-0.650	-0.755
Brand Loyalty (BL)	BL1	3.710	1.286	-0.817	-0.422
	BL2	3.662	1.282	-0.651	-0.740
	BL3	3.617	1.353	-0.738	-0.700
Personal Innovativeness (PI)	PI1	4.076	1.151	-1.256	0.746
	PI2	4.028	1.169	-1.229	0.642
	PI3	4.096	1.113	-1.216	0.715
Product Category Involvement (PCI)	PCI1	4.220	1.098	-1.629	2.102
	PCI2	4.285	1.087	-1.752	2.439
	PCI3	4.220	1.136	-1.533	1.577

Table 11 presents the outcomes of the correlation analysis. To explore the relationships between the primary constructs in this study—integration (IG), flexibility (FL), personalisation (PL), empowerment (EP), brand loyalty (BL), personal innovativeness (PI), and product category involvement (PCI)—a Pearson correlation analysis was conducted. Pearson’s correlation coefficient measures the strength and direction of linear relationships between variables, ranging from -1 to 1. This step helps identify whether significant associations exist between the different construct variables. Correlation analysis also reveals the potential for multicollinearity, where variables are highly correlated with each other, which could complicate SEM by inflating standard errors.

The key findings are as follows:

The correlation analysis revealed positive relationships between key omnichannel constructs. Integration (IG) was positively correlated with flexibility (FL) ($r = 0.128$, $p < 0.05$), personalisation (PL) ($r = 0.210$, $p < 0.01$), empowerment (EP) ($r = 0.369$, $p < 0.01$), and brand loyalty (BL) ($r = 0.387$, $p < 0.01$), indicating that higher integration leads to greater flexibility, personalisation, empowerment, and loyalty. Flexibility (FL) also correlated positively with personalisation ($r = 0.210$, $p < 0.01$), empowerment ($r = 0.249$, $p < 0.01$), and brand loyalty ($r = 0.360$, $p < 0.01$), suggesting that flexible omnichannel experiences enhance personalisation, empowerment, and loyalty. Similarly, personalisation (PL) had strong positive correlations with empowerment ($r = 0.310$, $p < 0.01$) and brand loyalty ($r = 0.382$, $p < 0.01$).

The strongest relationship was observed between empowerment (EP) and brand loyalty (BL) ($r = 0.451$, $p < 0.01$), underscoring empowerment’s key role in fostering loyalty. Interestingly, none of these core omnichannel features—integration, flexibility, or

personalisation—showed significant correlations with personal innovativeness (PI) or product category involvement (PCI). However, personal innovativeness was negatively correlated with brand loyalty ($r = -0.115$, $p < 0.05$), suggesting that more innovative customers may be less loyal to a single brand. Lastly, PI and PCI were significantly correlated ($r = 0.278$, $p < 0.01$), indicating that more innovative customers are often highly engaged with specific product categories.

Table 11. Pearson's correlation analysis

	IG	FL	PL	EP	BL	PI	PCI
IG	1						
FL	.128*	1					
PL	.210**	.210**	1				
EP	.369**	.249**	.310**	1			
BL	.387**	.360**	.382**	.451**	1		
PI	-0.07	-0.08	-0.029	-0.025	-.115*	1	
PCI	-0.03	-0.017	0.065	0.006	-0.068	.278**	1

Note: *: $p < 0.05$, **: $p < 0.01$

The correlation analysis reveals statistically-significant positive relationships between the core omnichannel constructs (integration, flexibility, personalisation) and key outcomes such as empowerment and brand loyalty, reinforcing the hypothesis that well-designed omnichannel strategies enhance customer engagement and loyalty. The strong positive relationship between empowerment and brand loyalty underscores the mediating role of empowerment, as empowered customers are more likely to form lasting commitments to a brand. Interestingly, the lack of significant correlations between PI, PCI, and most omnichannel features (except for the correlation between PI and BL) suggests that these individual characteristics may moderate the relationships between omnichannel experiences and brand loyalty rather than having direct correlations. This aligns with the study's moderation hypothesis, where personal innovativeness and product category involvement are expected to influence how customers respond to omnichannel features.

5.4.2 Structural model

With the measurement model validated, the structural model analysis further tested the hypothesized relationships between the latent constructs, providing insights into the direct and indirect effects of omnichannel shopping behaviours on empowerment and brand loyalty. The structural model also examined the moderating effects of personal innovativeness and product category involvement. The estimation of the structural model involved examining the strength of the relationships (path coefficients) between constructs and determining whether the hypotheses proposed in the study were supported by the data. All the following analysis were conducted by using SPSS AMOS 27, a widely used software package for SEM that allows researchers to estimate path coefficients, test for mediation and moderation effects, and assess the overall fit of the model.

Path coefficient analysis – main effect

The path coefficients in the structural model represent the strength and direction of the relationships between constructs. These coefficients are similar to regression coefficients, indicating the extent to which changes in one variable are associated with changes in another. In SEM, path coefficients can be either positive or negative, depending on whether the relationship between the constructs is direct or inverse. The significance of the path coefficients is typically tested using a p-value, with a p-value of less than 0.05 indicating that the relationship is statistically significant (Kline, 2023).

The results of the path coefficient analysis are presented in Figure 4. The analysis confirmed several key relationships in the model, providing strong support for most of the hypothesized relationships between omnichannel shopping behaviours, empowerment, and brand loyalty.

- **Integration → Empowerment (Hypothesis 1a):** The path coefficient from Integration to Empowerment was positive and significant ($\beta = 0.332$, $p < 0.001$), indicating that higher levels of omnichannel integration led to greater customer empowerment. This finding suggests that when customers experience a seamless transition between online and offline channels, they feel more in control of their shopping experience, which enhances their sense of empowerment, supporting P1a.
- **Flexibility → Empowerment (Hypothesis 1b):** Flexibility also had a positive and significant effect on Empowerment ($\beta = 0.184$, $p < 0.001$), suggesting that offering flexible shopping options enhances customers' sense of control and influence in their interactions with a brand. According to this finding, Flexibility allows customers to engage with a brand on their own terms, choosing the channels and services that best meet their needs, which leads to a heightened sense of empowerment.
- **Personalisation → Empowerment (Hypothesis 1c):** The relationship between Personalisation and Empowerment was similarly positive and significant ($\beta = 0.231$, $p < 0.001$), confirming that tailored shopping experiences contribute to higher levels of customer empowerment, validating P1b. This suggests that Personalisation allows customers to feel understood by the brand, as their preferences and behaviours are taken into account when crafting their shopping experience; this, in turn, increases their sense of control and satisfaction.

Regarding the direct effects on Brand Loyalty, the following relationships were observed.

- **Integration → Brand Loyalty (Hypothesis 2a):** The path coefficient from Integration to Brand Loyalty was significant ($\beta = 0.152$, $p < 0.01$), indicating that seamless integration across online and offline channels positively impacts customer loyalty to a brand. When customers perceive that a brand offers a consistent and integrated experience across multiple channels, they are more likely to remain loyal to that brand.
- **Flexibility → Brand Loyalty (Hypothesis 2b):** Flexibility had a positive and significant effect on Brand Loyalty ($\beta = 0.179$, $p < 0.001$), showing that the availability of flexible shopping options strengthens customer loyalty. Customers who can choose how, when, and where they engage a brand are more likely to develop a sense of loyalty, as they feel that the brand is responsive to their needs.

- **Personalisation → Brand Loyalty (Hypothesis 2c):** Personalisation had the strongest effect on Brand Loyalty ($\beta = 0.259$, $p < 0.001$), underscoring the importance of personalised services in building and maintaining customer loyalty. When customers feel that a brand understands their unique preferences and offers tailored experiences, they are more likely to develop long-term loyalty to that brand.
- **Empowerment → Brand Loyalty (Hypothesis 3):** Empowerment also had a significant positive effect on Brand Loyalty ($\beta = 0.217$, $p < 0.001$), suggesting that when customers feel empowered, they are more likely to remain loyal to the brand. Empowered customers feel that they have a strong influence over their interactions with the brand, which fosters a sense of commitment and loyalty.

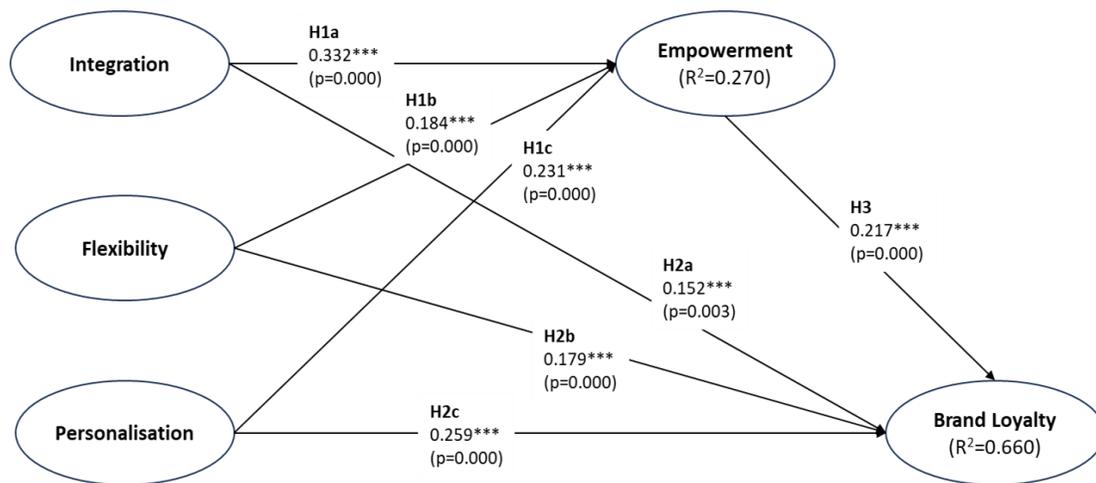


Figure 4. Path coefficients – main effect

The mediating effect of empower

In addition to examining the moderation effects of personal innovativeness and product category involvement, this study also investigated the **mediating role of empowerment** in the relationships between omnichannel characteristics (integration, flexibility, and personalisation) and brand loyalty. Mediation analysis helps to determine whether a third variable (in this case, empowerment) explains the relationship between an independent variable (such as integration) and a dependent variable (brand loyalty). Mediation analysis was performed by using **bootstrap resampling**, a statistical technique that provides robust estimates of indirect effects in SEM by repeatedly sampling the data to create a distribution of estimates (Preacher & Hayes, 2008).

The results of the mediation analysis are presented in Table 12 and show that empowerment mediates the relationships between integration, flexibility, and personalisation and brand loyalty, suggesting that when customers feel empowered by their interactions with a brand, they are more likely to remain loyal to that brand. The significant direct effects and significant indirect effects indicate that the model is a partial mediation model.

- **Integration → Empowerment → Brand Loyalty**

The mediation analysis revealed that empowerment partially mediates the relationship between integration and brand loyalty. The indirect effect of integration on brand loyalty through empowerment (IE = 0.088, 95% BCCI [0.039, 0.155], $p = 0.001$) was significant, indicating that part of the effect of integration on brand loyalty is explained by customers' feelings of empowerment. This suggests that when customers experience seamless integration across online and offline channels, they feel more empowered, which in turn increases their loyalty to the brand.

However, the direct effect of integration on brand loyalty (DE = 0.152, 95% BCCI [0.041, 0.275], $p = 0.008$) remained significant, showing that integration also independently contributes to brand loyalty. This indicates that while empowerment plays an important role in mediating the relationship between integration and brand loyalty, integration itself has a direct positive impact on loyalty as well. The ability of integration to contribute both directly and indirectly to brand loyalty underscores its importance in omnichannel retail strategies.

The total effect of integration on brand loyalty (TE = 0.239, 95% BCCI [0.115, 0.359], $p = 0.001$) confirms that integration is a key driver of brand loyalty, both directly and indirectly through empowerment. This finding highlights the importance of creating a seamless, integrated omnichannel experience, as it not only empowers customers but also fosters long-term loyalty.

- **Flexibility → Empowerment → Brand Loyalty**

Similarly, empowerment partially mediated the relationship between flexibility and brand loyalty. The indirect effect of flexibility on brand loyalty through empowerment (IE = 0.048, 95% BCCI [0.017, 0.096], $p = 0.003$) was significant, showing that offering flexible shopping options leads to greater customer empowerment, which in turn enhances brand loyalty. Flexible omnichannel options, such as the ability to choose between online and offline purchasing or to return products through multiple channels, empower customers by giving them control over how they engage with the brand.

The direct effect of flexibility on brand loyalty (DE = 0.179, 95% BCCI [0.079, 0.296], $p = 0.001$) was also significant, confirming that flexibility has an independent effect on brand loyalty in addition to its indirect effect through empowerment. This suggests that flexibility contributes to brand loyalty both by empowering customers and by directly enhancing their satisfaction with the shopping experience.

The total effect of flexibility on brand loyalty (TE = 0.228, 95% BCCI [0.122, 0.349], $p = 0.001$) underscores the importance of flexibility in fostering customer loyalty. This finding suggests that brands that offer flexible, customer-centric omnichannel experiences are more likely to build lasting relationships with their customers, as flexibility empowers customers and meets their needs more effectively.

- **Personalisation → Empowerment → Brand Loyalty**

The mediation analysis revealed that empowerment significantly mediates the relationship between personalisation and brand loyalty. The indirect effect of personalisation on brand loyalty through empowerment (IE = 0.061, 95% BCCI [0.023,

0.118], $p = 0.001$) was significant, showing that personalised experiences increase customers' feelings of empowerment, which in turn strengthens their loyalty to the brand. Personalisation plays a key role in creating a sense of empowerment, as customers feel that their preferences and needs are being recognized and addressed by the brand.

The direct effect of personalisation on brand loyalty (DE = 0.259, 95% BCCI [0.147, 0.390], $p = 0.001$) was also significant, indicating that personalisation has a strong, independent influence on brand loyalty in addition to its indirect effect through empowerment. This suggests that personalised services not only empower customers but also directly increase their attachment and loyalty to the brand.

The total effect of personalisation on brand loyalty (TE = 0.320, 95% BCCI [0.207, 0.444], $p = 0.001$) highlights the critical role of personalised services in driving customer loyalty. Both the direct and indirect effects of personalisation on brand loyalty emphasize the importance of offering tailored experiences in omnichannel environments. Brands that invest in personalisation strategies are likely to see significant gains in customer loyalty, as personalisation both empowers customers and fosters a deeper emotional connection with the brand.

Table 12. Mediation analysis by bootstrap

Parameter	Effect	95%BCCI			
		Lower	Upper	p	
IG-EP-BL	IE	0.088	0.039	0.155	0.001
	DE	0.152	0.041	0.275	0.009
	TE	0.239	0.115	0.359	0.002
FL-EP-BL	IE	0.048	0.017	0.096	0.003
	DE	0.179	0.079	0.296	0.001
	TE	0.228	0.122	0.349	0.001
PL-EP-BL	IE	0.061	0.023	0.118	0.001
	DE	0.259	0.147	0.390	0.001
	TE	0.320	0.207	0.444	0.001

The results of the mediation analysis underscore the importance of Empowerment as a key mechanism through which omnichannel characteristics such as integration, flexibility, and personalisation influence brand loyalty. When customers feel empowered by their interactions with a brand—whether through seamless integration across channels, flexible shopping options, or personalised services—they are more likely to remain loyal to that brand. These findings suggest that brands can enhance loyalty by focusing on strategies that empower customers, giving them a greater sense of control and satisfaction in their shopping experiences.

The moderating effects

Moderation analysis was conducted to examine how individual differences, such as personal innovativeness and product category involvement, influenced the relationships between omnichannel characteristics and brand loyalty. Moderation analysis allows researchers to explore whether the strength of a relationship between two variables changes depending on the level of a third variable, known as the moderator (Aiken & West, 1991). In this study, moderation analysis was used to determine whether personal innovativeness and product category involvement moderated the relationship between empowerment and brand loyalty. The results, displayed in Table 13, indicate that both personal innovativeness and product category involvement significantly moderated several key relationships in the model.

The analysis revealed that both personal innovativeness and product category involvement play significant moderating roles in the relationships between omnichannel characteristics (integration, flexibility, personalisation) and brand loyalty. Moderation effects help explain how individual traits or circumstances impact the strength of the relationships between the various factors in omnichannel shopping, leading to more nuanced conclusions about customer behaviour.

- **Personal innovativeness as a moderator:**

The moderation effect of Personal Innovativeness on the relationship between Integration and Brand Loyalty was supported ($\beta = 0.104$, $p = 0.029$). This finding indicates that individuals with higher levels of personal innovativeness, who are more inclined to adopt new technologies and products, exhibit stronger brand loyalty when they experience high levels of integration across channels. These customers are more likely to value the seamlessness of omnichannel integration, as they are predisposed to exploring and utilizing new and interconnected technologies. Accordingly, Hypothesis P4a-1 is supported.

Personal innovativeness also moderated the relationship between Flexibility and Brand Loyalty ($\beta = 0.171$, $p < 0.001$). This suggests that customers who are more innovative are likely to appreciate flexible shopping options and, as a result, are more likely to develop loyalty to brands that offer flexible omnichannel experiences. Personal innovativeness increases the likelihood that customers explore and benefit from the flexibility provided by omnichannel strategies, such as options for online purchasing with in-store pickup or returns. Accordingly, Hypothesis P4a-2 is supported.

The moderation effect of Personal Innovativeness on the relationship between Personalisation and Brand Loyalty was significant ($\beta = 0.137$, $p = 0.003$). Innovative customers, who are generally more open to new and customized experiences, respond positively to personalised services and are more likely to remain loyal to brands that offer tailored shopping experiences. These customers are highly motivated by brands that use advanced technology to personalise the shopping journey, increasing their overall brand attachment. Accordingly, Hypothesis P4a-3 is supported.

Personal Innovativeness also moderated the relationship between Empowerment

and Brand Loyalty ($\beta = 0.111$, $p = 0.036$). Customers who are more open to innovation are likely to feel more empowered by the omnichannel experience, which enhances their loyalty to the brand. This suggests that personal innovativeness strengthens the empowering effects of omnichannel shopping, making customers feel more in control of their interactions with brands, thus boosting loyalty. Accordingly, Hypothesis P4b is supported.

- **Product category involvement as a moderator:**

The moderation effect of Product Category Involvement (PCI) on the relationship between Integration and Brand Loyalty was significant ($\beta = 0.183$, $p < 0.001$). This finding suggests that customers who are highly involved in a particular product category are more likely to remain loyal to brands that offer seamless integration across channels. High involvement in a product category increases the importance of seamless shopping experiences because these customers are more invested in the purchase process and more likely to value a brand that makes their journey easier and more consistent across channels. Therefore, Hypothesis P5a-1 is supported.

Product Category Involvement also moderated the relationship between Flexibility and Brand Loyalty ($\beta = 0.110$, $p = 0.015$). Customers who are highly involved in a specific product category tend to value flexible shopping options, which strengthens their loyalty to the brand. This is particularly true in product categories where purchasing decisions involve higher levels of deliberation, such as electronics or high-end fashion, where the ability to choose between online and offline channels adds significant value to the shopping experience. Therefore, Hypothesis P5a-2 is supported.

The moderation effect of Product Category Involvement on the relationship between Personalisation and Brand Loyalty was supported ($\beta = 0.116$, $p = 0.015$). Customers with high involvement in a product category are more likely to respond positively to personalised shopping experiences, leading to stronger brand loyalty. Personalised services are especially important for customers who are deeply invested in a particular product category, as these services align closely with their specific needs and preferences. Therefore, Hypothesis P5a-3 is supported.

Finally, Product Category Involvement moderated the relationship between Empowerment and Brand Loyalty ($\beta = 0.106$, $p = 0.039$). This finding indicates that customers who are more involved in a product category feel a greater sense of empowerment in their interactions with the brand, which in turn fosters loyalty. For high-involvement customers, empowerment plays a crucial role in building a long-term relationship with the brand, as they value brands that give them a sense of control over their shopping experience. Therefore, Hypothesis P5b is supported.

Table 13. Moderation effect analysis

Hypothesis & Paths	Estimates	p-value
P4a-1: BL <--- IG*PI	0.104*	0.029

P4a-2: BL <--- FL*PI	0.171***	0.000
P4a-3: BL <--- PL*PI	0.137**	0.003
P4b: BL <--- EP*PI	0.111*	0.036
P5a-1: BL <--- IG*PCI	0.183***	0.000
P5a-2: BL <--- FL*PCI	0.110*	0.015
P5a-3: BL <--- PL*PCI	0.116*	0.015
P5b: BL <--- EP*PCI	0.106*	0.039

Note: *: $p < 0.05$, **: $p < 0.01$, ***: $P < 0.001$

The significant moderation effects observed in this study highlight the importance of individual differences in shaping the relationships between omnichannel characteristics and brand loyalty. Customers with high levels of personal innovativeness or product category involvement are more likely to respond positively to omnichannel features such as integration, flexibility, and personalisation. These customers also experience greater empowerment, which further strengthens their loyalty to the brand. These findings suggest that brands can enhance loyalty by targeting marketing strategies that cater to these individual differences, providing personalised and flexible omnichannel experiences that resonate with more innovative and highly involved customers.

5.5 Summary

Phase II investigated the relationships between key omnichannel experience features—specifically Integration, Flexibility, and Personalisation—and their influence on Empowerment and Brand Loyalty. The primary objective was to quantitatively validate the findings from earlier research using data collected from 355 respondents across multiple city tiers in China. The study also examined the moderating roles of Personal Innovativeness and Product Category Involvement in these relationships. By employing structural equation modelling (SEM), the analysis examined both direct and indirect effects between omnichannel features, empowerment, and brand loyalty, while also considering how individual characteristics influence these dynamics.

The results confirmed that Integration, Flexibility, and Personalisation have a significant positive impact on Empowerment, which in turn enhances Brand Loyalty. Integration showed a significant positive correlation with Empowerment and Brand Loyalty. Customers who experienced seamless integration across different shopping channels felt more in control of their overall shopping experience, which directly led to higher brand loyalty. This seamless transition across channels strengthens the customer's relationship with the brand, demonstrating that omnichannel integration is a key driver in fostering long-term loyalty.

Flexibility was also found to significantly affect both Empowerment and Brand Loyalty. Customers who had flexible options for engaging with a brand—such as choosing between online and offline touchpoints, or the convenience of completing certain tasks through their preferred channels—reported higher levels of empowerment. Flexibility gave customers greater control over their shopping experience, making them more inclined to

remain loyal to the brand. The direct effect of flexibility on brand loyalty further underscored its importance in omnichannel strategies, showing that customers value flexible engagement as an integral part of their shopping journey.

Personalisation had the strongest effect on both Empowerment and Brand Loyalty. Customers who encountered personalised shopping experiences, where their preferences were recognized and services tailored to their individual needs, felt significantly more empowered. This sense of empowerment translated into stronger brand loyalty, demonstrating that personalised interactions are central to creating long-lasting customer relationships. Personalisation also showed a direct impact on Brand Loyalty, reinforcing the notion that offering tailored experiences is a highly effective strategy for fostering brand attachment.

Empowerment emerged as a critical mediating factor in the relationship between omnichannel features and brand loyalty. The mediation analysis confirmed that customer empowerment explains a substantial part of the influence that Integration, Flexibility, and Personalisation have on brand loyalty. When customers feel empowered by a brand's omnichannel offerings, they are more likely to develop stronger loyalty to that brand. This finding highlights the importance of designing omnichannel strategies that give customers control and enhance their engagement with the brand, as empowered customers are more likely to remain loyal in the long term.

The moderation analysis revealed that individual characteristics such as Personal Innovativeness and Product Category Involvement also play a significant role in shaping the relationships between omnichannel features and brand loyalty. Customers with higher levels of Personal Innovativeness demonstrated stronger loyalty responses to Integration, Flexibility, and Personalisation. These customers are more likely to embrace new technologies and shopping experiences, which makes them more responsive to seamless and flexible omnichannel features. Personal Innovativeness also amplified the effect of empowerment on brand loyalty, suggesting that innovative customers feel more empowered by their interactions with omnichannel environments and, as a result, are more likely to stay loyal to the brand.

Product Category Involvement also moderated the relationship between omnichannel experience features and Brand Loyalty. Customers who were highly involved in specific product categories, such as electronics or apparel, showed stronger loyalty responses to Integration, Flexibility, and Personalisation. For these customers, the ability to have seamless and flexible omnichannel options significantly enhanced their sense of empowerment, leading to greater brand loyalty. The moderation effects suggest that product category involvement intensifies the positive impact of omnichannel features, particularly for customers who are deeply engaged with the products they are purchasing.

The structural model analysis provided clear evidence that omnichannel characteristics—particularly Integration, Flexibility, and Personalisation—drive both Empowerment and Brand Loyalty. Empowerment consistently played a key role in mediating the relationship between these omnichannel features and Brand Loyalty, indicating that customers who feel empowered are more likely to develop lasting engagement to a brand. Furthermore, the moderating roles of Personal Innovativeness and Product Category Involvement

suggest that individual customer differences significantly affect how omnichannel experiences influence loyalty.

As shown in Table 14, all hypothesis were validated, affirming the complex interplay between these constructs and underscoring the significance of both empowerment and engagement in fostering brand loyalty within omnichannel settings.

Table 14. Summary of Phase II and hypothesis validation

Hypothesis	Results (if supported)
H1a: Integration (IG) is positively related to Empowerment (EP)	Yes
H1b: Flexibility (FL) is positively related to Empowerment (EP)	Yes
H1c: Personalisation (PL) is positively related to Empowerment (EP)	Yes
H2a: Integration (IG) is positively related to Brand Loyalty (BL)	Yes
H2b: Flexibility (FL) is positively related to Brand Loyalty (BL)	Yes
H2c: Personalisation (PL) is positively related to Brand Loyalty (BL)	Yes
H3: Empowerment (EP) is positively related to Brand Loyalty (BL)	Yes
H4a-1: Personal Innovativeness (PI) positively moderates the relationship between Integration (IG) and Brand Loyalty (BL)	Yes
H4a-2: Personal Innovativeness (PI) positively moderates the relationship between Flexibility (FL) and Brand Loyalty (BL)	Yes
H4a-3: Personal Innovativeness (PI) positively moderates the relationship between Personalisation (PL) and Brand Loyalty (BL)	Yes
H4b: Personal Innovativeness (PI) positively moderates the relationship between Empowerment (EP) and Brand Loyalty (BL)	Yes
H5a-1: Product Category Involvement (PCI) positively moderates the relationship between Integration (IG) and Brand Loyalty (BL)	Yes
H5a-2: Product Category Involvement (PCI) positively moderates the relationship between Flexibility (FL) and Brand Loyalty (BL)	Yes
H5a-3: Product Category Involvement (PCI) positively moderates the relationship between Personalisation (PL) and Brand Loyalty (BL)	Yes
H5b: Product Category Involvement (PCI) positively moderates the relationship between Empowerment (EP) and Brand Loyalty (BL)	Yes

In summary, the study validated the proposed relationships within the refined theoretical model from Phase I, confirming that omnichannel strategies based on integration, flexibility, and personalisation are crucial in fostering customer empowerment and brand loyalty. The results also highlight the importance of individual characteristics, such as personal innovativeness and product category involvement, in moderating these relationships. Brands that successfully integrate these omnichannel features while considering the personal traits of their customers are likely to see enhanced empowerment and stronger loyalty among their customer base. These findings provide valuable insights for developing customer-centric omnichannel strategies that effectively build long-term customer loyalty.

6. Discussion

6.1 Overview

The study was motivated by the increasing complexity of modern retail environments and the critical need for brands to create cohesive, customer-centric omnichannel strategies. As customers navigate diverse touchpoints, their expectations for seamless, flexible, and personalized experiences have risen. However, limited research has holistically examined how these characteristics shape customer behaviours, particularly through the lens of empowerment and brand loyalty. Guided by the Service-Dominant Logic (SDL) framework, this research aimed to address this gap by exploring how integration, flexibility, and personalisation within omnichannel systems influence customer empowerment and subsequently drive brand loyalty. Additionally, the moderating effects of personal traits—personal innovativeness and product category involvement—were examined to provide a nuanced understanding of individual differences.

The research comprised two complementary phases: a qualitative exploration and a quantitative examination. The qualitative study revealed that integration, flexibility, and personalisation are the most critical omnichannel characteristics influencing customer perceptions. These characteristics enhance customer empowerment by enabling seamless transitions across channels, providing adaptable options, and offering tailored experiences. Empowerment emerged as a pivotal mediating factor, linking omnichannel characteristics to brand loyalty. Insights from the focus groups highlighted the importance of aligning omnichannel strategies with customer preferences and needs.

The quantitative phase, using structural equation modelling (SEM), validated these findings. Integration, flexibility, and personalisation were found to significantly enhance empowerment, which, in turn, positively influenced brand loyalty. The study confirmed the moderating roles of personal innovativeness and product category involvement, with highly innovative and involved customers exhibiting stronger loyalty responses to empowering omnichannel strategies.

By integrating the results from both phases, the study demonstrates a robust alignment between the qualitative insights and quantitative validation. The qualitative findings provided rich, context-specific narratives about customer behaviours, which informed the development of the quantitative framework. Meanwhile, the quantitative results offered empirical support for the theoretical model, confirming the relationships identified during the qualitative phase. Together, these findings underscore the importance of omnichannel characteristics in shaping customer empowerment and loyalty while highlighting the moderating influence of personal traits.

6.2 Theoretical contribution

This research makes several significant theoretical contributions to the study of omnichannel experiences and customer behaviour. First, it refines the conceptualisation of omnichannel dimensions by empirically validating integration, flexibility, and personalisation as core constructs. These dimensions are framed not as static features but as dynamic, interconnected elements that collectively empower customers and foster loyalty. Second, the study resolves the empowerment-loyalty paradox by demonstrating that customer empowerment, when effectively aligned with omnichannel strategies,

strengthens rather than diminishes brand loyalty. This insight reframes empowerment as a central mechanism that transforms omnichannel features into meaningful and emotionally engaging customer-brand relationships. Third, the research highlights the critical role of personal traits, such as personal innovativeness and product category involvement, as moderators within omnichannel ecosystems, advancing understanding of how individual differences shape customer responses and loyalty outcomes. Fourth, it extends the applicability of Service-Dominant Logic (SDL) by introducing a midrange theoretical framework that operationalises SDL principles within omnichannel contexts, conceptualising integration, flexibility, and personalisation as operant resources that enable value co-creation. Finally, the study enhances geographic insights by grounding its findings in the diverse Chinese market, revealing how regional variations in digital infrastructure and customer behaviour influence omnichannel engagement. These contributions collectively enrich the theoretical foundations of omnichannel research, offering actionable insights for navigating the complexities of modern retail landscapes.

6.2.1 Refined understanding of omnichannel experience

The conceptualisation of omnichannel experiences has attracted significant scholarly attention but remains fragmented and inconsistent across studies. Early frameworks, such as those by Cao and Li (2015) and Lemon and Verhoef (2016), examined affective, cognitive, and behavioural dimensions, while others, like Shen et al. (2018), emphasised channel integration quality. This diversity of approaches has complicated efforts to establish a cohesive understanding of omnichannel experiences. Shi et al. (2020) advanced the field by introducing a framework with five core dimensions—connectivity, integration, consistency, flexibility, and personalisation—offering clarity and structure for research. However, as customer expectations and technological innovations evolve, not all dimensions hold equal relevance. While connectivity and consistency remain foundational, their roles as differentiators have diminished, necessitating a reassessment of impactful omnichannel characteristics.

This study addresses these gaps by prioritising integration, flexibility, and personalisation as central to omnichannel experience. Integration enables seamless transitions across channels, fulfilling customer demands for connectivity and efficiency. Flexibility empowers customers by offering adaptable and responsive shopping journeys tailored to individual preferences and circumstances. Personalisation amplifies relevance by tailoring interactions and recommendations to customer needs, fostering deeper emotional engagement. By empirically validating these dimensions, this research updates and strengthens the theoretical foundation for omnichannel studies, offering a practical model for further exploration.

In addition to refining these dimensions, this study examines their synergistic function within the broader omnichannel context. Unlike prior studies that treated these dimensions as discrete (Mishra et al., 2024), this research frames them as dynamic, interconnected elements that collectively drive customer empowerment and loyalty. Framed within the Service-Dominant Logic (SDL), these dimensions are conceptualised as operant resources enabling value co-creation between firms and customers (Katsifaraki & Theodosiou, 2024). Integration connects channels into a cohesive ecosystem, flexibility enhances autonomy and responsiveness, and personalisation deepens emotional engagement.

Overall, this study advances the conceptualisation of omnichannel experiences by shifting from static to dynamic perspectives, treating integration, flexibility, and personalisation as interactive components shaping customer behaviour. It repositions adaptability, embodied in flexibility and personalisation, as a central determinant of customer satisfaction while reframing the dimensions' impact from isolated effects to their collective influence, demonstrating how their interplay fosters customer empowerment and loyalty. By aligning omnichannel dimensions with contemporary customer expectations, this research enhances theoretical understanding and establishes a robust foundation for advancing retail research (Nguyen, McClelland, Hoang Thuan, & Hoang, 2022; Tueanrat et al., 2021). It highlights the critical roles of integration, flexibility, and personalisation as essential elements of omnichannel strategies and demonstrates their applicability to broader theoretical domains, such as customer relationship management and service innovation. Furthermore, it positions these dimensions as foundational constructs that shape the co-creation of value between customers and firms, offering a cohesive narrative that strengthens the theoretical underpinnings of omnichannel experiences in modern retail landscapes.

6.2.2 Resolution of the paradox between empowerment and loyalty

Omnichannel experiences are designed to create integrated and personalised interactions that bring brands closer to customers (Li et al., 2020). By enabling seamless transitions across multiple channels, these experiences enhance customer satisfaction, build trust, and encourage positive word-of-mouth (Liu & Liu, 2024; Sharma & Fatima, 2024). However, while omnichannel strategies empower customers to make informed decisions, they may also reduce the need for loyalty to a single brand, as customers increasingly prioritise convenience and personal preferences across platforms (Fernández et al., 2018). This dual dynamic introduces a crucial tension: the integration and personalisation of touchpoints provide customers with control and choice, yet this same empowerment can diminish brand loyalty by making it easier for customers to switch between brands (Tyrväinen et al., 2020). Despite these insights, current literature lacks an empirical examination of how empowerment functions in omnichannel settings, highlighting the need to investigate whether omnichannel-driven empowerment can indeed foster enduring loyalty.

The findings from this study resolve the empowerment-loyalty paradox in omnichannel experiences by demonstrating how integration, flexibility, and personalisation empower customers while simultaneously fostering brand loyalty. This research establishes a comprehensive understanding of how these dimensions function within modern retail environments, highlighting their role as active enablers of customer engagement and satisfaction.

Empowerment is identified as a pivotal mechanism linking omnichannel characteristics to loyalty. Integration eliminates friction across online, offline, and mobile channels, creating seamless transitions that enhance customers' sense of control. This connectivity is instrumental in building brand attachment. Flexibility further amplifies autonomy by allowing customers to adapt their shopping behaviour to specific preferences and situational needs, such as choosing between in-store pickup and home delivery. Personalisation stands out for its ability to foster recognition and emotional engagement, as tailored interactions create a sense of value and relevance that strengthens

commitment to the brand. Importantly, empowerment functions as a mediating mechanism, transforming the functional benefits of omnichannel features into emotional loyalty. Traditional theories suggested that increased customer autonomy might reduce brand commitment by facilitating ease of switching. However, this study reveals the opposite: when empowerment is aligned with customer preferences through integration, flexibility, and personalisation, it fosters stronger loyalty by delivering meaningful and satisfying experiences. This insight challenges traditional assumptions and aligns with the principles of Service-Dominant Logic (SDL), conceptualising omnichannel characteristics as operant resources that co-create value by enabling customer agency and engagement.

The study also underscores the collective influence of integration, flexibility, and personalisation, framing them as dynamic, interconnected components of a holistic omnichannel strategy. This reframing advances theoretical understanding by positioning these dimensions not as isolated attributes but as synergistic elements that collectively enhance empowerment and loyalty. Empowerment, in this context, emerges not as a byproduct of convenience but as an active mechanism driving deeper brand attachment by meeting customers' needs for autonomy, relevance, and personalised engagement. This research makes significant theoretical contributions by redefining the relationship between empowerment and loyalty in omnichannel settings. Contrary to earlier perspectives, which viewed increased customer autonomy as a potential threat to loyalty, this study demonstrates that empowerment—when delivered through well-designed omnichannel strategies—acts as a driver of loyalty. By positioning customer autonomy as a foundation for brand attachment, the findings enrich our understanding of how omnichannel features can strengthen customer-brand relationships.

Moreover, this study integrates empowerment into the SDL framework, conceptualising integration, flexibility, and personalisation as operant resources facilitating value co-creation. Empowerment is reframed as a central mediator, bridging the relationship between firm-provided resources and customer outcomes. This perspective not only expands SDL's applicability in omnichannel contexts but also underscores the importance of prioritising customer agency in strategy design.

In sum, the resolution of the empowerment-loyalty paradox offered by this research provides robust evidence that customer empowerment, far from diluting loyalty, strengthens it. By reframing customer autonomy as a mechanism of brand engagement, the study deepens theoretical understanding of omnichannel experiences and establishes a foundation for exploring the psychological processes underpinning loyalty in dynamic, multi-channel retail landscapes.

6.2.3 Clarification on the roles of specific personal traits

In omnichannel retail environments, personal traits are widely recognised as critical factors influencing how customers interact with channels and brands, shaping their ability to integrate and transform resources into meaningful experiences. These individual differences, encompassing emotional responses, attitudes, and behaviours, are shaped by personal background, unique needs, and external factors such as culture, family, and education (Zhang, Park, Park, et al., 2024). Grounded in frameworks like Service-Dominant Logic (SDL), previous research has highlighted traits such as personal innovativeness and self-efficacy as pivotal in determining how customers perceive and

utilise omnichannel features like integration, flexibility, and personalisation (Sheth et al., 2022; Huang et al., 2024). These traits not only influence customer responses to experiences but also affect the quality and outcomes of the co-creation process, making them central to understanding customer behaviour in complex, multi-channel settings.

This study addresses significant gaps in the literature regarding the role of personal traits in omnichannel environments. While various personal traits have been identified, there has been limited consensus on which traits are most influential. Furthermore, although the importance of personal traits is acknowledged, their specific functions and mechanisms within omnichannel contexts remain underexplored. Key areas requiring further examination include how traits like personal innovativeness and product category involvement interact with omnichannel characteristics to influence empowerment and loyalty. Additionally, the moderating effects of these traits on relationships between omnichannel dimensions and outcomes such as customer empowerment and brand loyalty have been insufficiently studied. This study fills these gaps by examining these traits' roles as active moderators within omnichannel ecosystems.

The findings clarified distinct roles for personal innovativeness and product category involvement in shaping customer responses to omnichannel experiences. Customers with high personal innovativeness responded particularly positively to integration, flexibility, and personalisation, perceiving these features as empowering. This group demonstrated a heightened appreciation for the control and tailored interactions enabled by omnichannel strategies, which fostered deeper emotional connections to brands. For example, individuals who embraced innovative shopping technologies, such as real-time inventory updates or AI-driven personalisation, felt a strong sense of loyalty to brands that aligned with their openness to innovation. Conversely, customers with low personal innovativeness preferred simpler, more familiar shopping experiences, engaging less with omnichannel features and exhibiting weaker loyalty responses. These findings underscore that personal innovativeness amplifies the empowerment-loyalty relationship, particularly when brands cater to customers' preferences for cutting-edge solutions.

Product category involvement also proved to be a key factor in how customers engage with omnichannel experiences. Those with high involvement in specific product categories were intrinsically motivated to explore information and options across multiple channels. For these customers, integration, flexibility, and personalisation were critical in fostering empowerment and brand loyalty. These individuals valued seamless access to detailed product information and customisation options, which deepened their satisfaction and attachment to the brand. In contrast, customers with lower product category involvement prioritised convenience over engagement, diminishing the impact of empowerment on loyalty. This differentiation highlights the varying depth of customer engagement based on the relevance of the product category, demonstrating that empowerment's effectiveness in fostering loyalty is contingent on customer interest.

By empirically validating the moderating roles of personal innovativeness and product category involvement, this study advances theoretical understanding of omnichannel customer behaviour. Unlike prior research that treated these traits as contextual factors, this study positions them as integral moderators within the empowerment-loyalty dynamic. Personal traits are conceptualised as active components in the resource integration

process, shaping how customers perceive, utilise, and transform firm-provided resources—such as integration, flexibility, and personalisation—into meaningful outcomes.

The implications extend beyond omnichannel retailing, challenging traditional models that often assume uniform customer interaction with omnichannel environments. This study demonstrates that aligning omnichannel strategies with individual customer traits can optimise empowerment and loyalty outcomes, reinforcing the importance of personalisation and adaptability. By integrating personal traits into omnichannel, the research enriches the theoretical discourse, offering a nuanced understanding of how customer autonomy and individual differences shape brand relationships. These findings contribute to a broader theoretical narrative that positions personal traits not as peripheral factors but as critical to the mechanisms that drive customer loyalty in dynamic and complex retail ecosystems.

6.2.4 Extension of SDL's applicability

Service-Dominant Logic (SDL) offers a transformative lens for understanding economic and social exchange, emphasising value co-creation through resource integration and actor-to-actor interactions (Vargo & Lusch, 2004). Unlike the traditional goods-dominant perspective, which centres on transactional value and tangible outputs, SDL redefines exchange as a dynamic process shaped by the integration of firm-provided and customer resources. By framing value as co-created through service exchanges, SDL provides a theoretical foundation for exploring how omnichannel strategies empower customers and enhance loyalty through seamless, tailored interactions (Cui et al., 2022). However, SDL's broad conceptual principles often lack direct operationalisation within specific domains, limiting both its theoretical depth and practical relevance (Bhanja & Saxena, 2022).

One significant gap in SDL scholarship is the absence of midrange theories that bridge its overarching principles with specific applications. As Vargo and Lusch (2017) noted, SDL provides a robust metatheoretical foundation but requires domain-specific frameworks to articulate the mechanisms of resource integration and value co-creation. This gap is particularly evident in omnichannel retail, where diverse customer behaviours and technological innovations complicate the co-creation process. Existing research often overlooks the nuanced interactions between omnichannel characteristics and individual customer traits within SDL's framework, leaving critical questions about the drivers of value co-creation and loyalty unanswered. Without midrange theories, SDL's applicability in addressing these complexities remains constrained (Vargo, Koskela-Huotari, & Vink, 2020).

This study addresses these gaps by introducing a midrange theoretical framework that extends SDL into the omnichannel domain. The framework integrates SDL's emphasis on value co-creation with empirically validated omnichannel dimensions—integration, flexibility, and personalisation—conceptualised as operant resources that enhance customer empowerment. Integration fosters seamless connectivity across channels, reducing friction and building trust; flexibility enables adaptive shopping experiences, aligning with contextual value creation; and personalisation deepens emotional engagement, solidifying brand loyalty. By positioning these dimensions as mechanisms of resource integration, the framework operationalises SDL's abstract principles within the omnichannel context. Additionally, it reframes empowerment as a dynamic facilitator of

satisfaction and loyalty, challenging assumptions that customer autonomy dilutes brand attachment. Instead, it demonstrates that empowerment, when aligned with integrated, flexible, and personalised strategies, strengthens loyalty by creating meaningful interactions. The framework further incorporates personal traits—such as personal innovativeness and product category involvement—as moderators that shape value co-creation processes, illustrating how individual differences affect resource integration. By systematically addressing customer heterogeneity, the study advances SDL's applicability, bridging theoretical concepts with actionable constructs and enriching its scope within dynamic retail ecosystems.

The framework directly addresses a persistent challenge in SDL: its abstraction (Tregua et al., 2021). While SDL emphasises value-in-use and the co-creation process, it often lacks clarity on specific operational pathways (Vargo & Lusch, 2017). This study provides empirical evidence of how integration, flexibility, and personalisation function as enablers of empowerment and loyalty in omnichannel contexts. Integration fosters seamless transitions that build trust, flexibility supports customer autonomy by adapting to situational needs, and personalisation enriches interactions by aligning with individual preferences. Together, these dynamics validate SDL's theoretical tenets while refining its practical applications.

The study further connects SDL with institutional arrangements in omnichannel ecosystems. SDL's focus on actor-generated institutions and institutional arrangements as coordinators of value co-creation resonates strongly with omnichannel environments. These ecosystems serve as institutionalised systems where resource integration occurs, facilitating value co-creation between customers and firms. By situating empowerment within these institutional logics, the study offers a more comprehensive understanding of how omnichannel strategies enable both customer agency and brand loyalty.

Overall, this research exemplifies how midrange theories can operationalise SDL principles in complex, customer-centric contexts. By bridging SDL with omnichannel constructs and validating their interactions empirically, the study advances theoretical understanding while addressing critical gaps in omnichannel studies. It demonstrates how SDL can evolve beyond its foundational premises to offer actionable insights for specific domains, reinforcing its relevance in navigating the complexities of modern retail ecosystems. In doing so, the study lays the groundwork for further refinement of SDL in increasingly dynamic, technology-driven environments, highlighting its enduring utility in conceptualising value co-creation.

6.2.5 Expansion of geographic understanding

China is a leading market for omnichannel adoption, driven by its advanced digital infrastructure and widespread customer engagement with mobile and online shopping platforms. Through qualitative and quantitative research across multiple cities and product categories, this study examines how Chinese customers interact with omnichannel characteristics such as integration, flexibility, and personalisation. Data collected from respondents in tier-1 to tier-3 cities captures behavioural nuances across urban environments, accounting for variations in access to technology and digital resources. This approach reveals distinct differences in omnichannel engagement between highly developed areas and emerging markets.

By grounding its findings in a China-based context, this study broadens the geographic understanding of omnichannel strategies. It captures the diversity within China's market, offering insights into how omnichannel experiences are perceived across urban tiers and product categories. The results show that regional factors, such as technological maturity and cultural expectations, significantly shape customer engagement with omnichannel features. These findings challenge Western-centric perspectives in existing omnichannel frameworks and underscore the need for adaptable models sensitive to regional variations.

This research sets a precedent for exploring omnichannel dynamics in other diverse markets. By identifying characteristics particularly influential in the Chinese market, such as integration and mobile-based personalisation, it provides a foundation for examining high-growth retail regions where digital infrastructure and customer behaviours are rapidly evolving. These insights enhance the inclusivity of omnichannel theories, promoting strategies that align with regional differences in digital maturity and customer preferences.

6.3 Practical implications

This study also offers practical insights for brands aiming to excel in the omnichannel retail landscape, emphasising strategic, operational, and organisational imperatives. At the strategic level, brands must prioritise integration, flexibility, and personalisation to deliver seamless and empowering customer experiences that foster trust and loyalty. Real-time synchronisation of inventory, pricing, and customer profiles ensures consistency across channels, while flexible fulfilment and return policies cater to diverse customer needs, enhancing satisfaction and engagement. Personalisation, driven by data insights, deepens emotional connections by tailoring interactions to individual preferences. From an operational perspective, robust technological infrastructure is indispensable for enabling features such as real-time updates, AI-driven personalisation, and sentiment analysis, which streamline customer journeys and reinforce trust. Organisations must also address key challenges, including resistance to change, fragmented structures, and legacy systems. Building cross-functional teams, investing in scalable technologies, and fostering a culture of innovation are critical for overcoming these barriers. Additionally, balancing personalisation with privacy through transparent data practices and empowering customers with control over their data ensures compliance and sustains trust. By addressing customer heterogeneity through targeted segmentation and tailored strategies, brands can create inclusive experiences that resonate with diverse audiences, positioning themselves for sustained growth and competitive advantage in today's dynamic retail environment.

6.3.1 Strategic recommendations

Optimize omnichannel experiences. To build and sustain brand loyalty in competitive omnichannel environments, brands must optimise customer experiences by strategically prioritising integration, flexibility, and personalisation. These elements, as evidenced by this study, are instrumental in driving customer empowerment and fostering deeper brand connections. By addressing customer expectations with precision, brands can deliver experiences that exceed expectations and build lasting loyalty.

Integration across online and offline channels is essential for building customer loyalty (Leckie et al., 2016). The present research highlights that when customers experience seamless transitions between touchpoints, they feel more empowered, which in turn

strengthens their loyalty. Seamless transitions between touchpoints reduce friction, enhance trust, and empower customers by providing consistent and cohesive experiences. The study highlights the importance of synchronising inventory, pricing, and customer profiles in real-time. For example, enabling customers to check in-store availability while browsing online or ensuring consistent pricing across channels fosters transparency and reduces frustration, enhancing customer confidence in the brand. Additionally, features like cross-channel continuity—saving online carts for in-store checkout—reinforce convenience and meet modern shopping expectations (McGlynn, 2017). Consolidating customer profiles across touchpoints creates a unified, personalised experience, which makes customers feel valued and connected, further solidifying loyalty.

Flexibility in the shopping journey empowers customers to tailor their experiences to their specific needs, strengthening emotional connections and loyalty (Shi et al., 2020). Flexible fulfilment options, such as buy-online-pickup-in-store (BOPIS), home delivery, or ship-to-store, cater to diverse customer preferences and lifestyles. The study emphasises that accommodating varying schedules and priorities fosters trust and reinforces the brand's responsiveness. Similarly, flexible return policies—allowing returns across channels—enhance the post-purchase experience, reducing customer stress and promoting repeat engagement. Tailored fulfilment choices, such as sustainable or expedited shipping, further demonstrate the brand's commitment to meeting individual customer values (Wunderlich et al., 2019), reinforcing loyalty through inclusivity and respect for personal preferences.

Personalisation plays a pivotal role in driving customer loyalty, as it makes customers feel recognised and valued (Tyrväinen et al., 2020). The study's findings demonstrate that personalised interactions across online and offline channels heighten customer satisfaction and foster a sense of empowerment. Tailoring experiences based on individual preferences—through data-driven insights from purchase history, browsing behaviour, and engagement patterns—transforms generic interactions into highly curated journeys. For instance, personalised recommendations that align with past behaviours or demographic insights create a sense of recognition and deepen emotional connections with the brand. Ensuring consistency in personalisation across channels, such as aligning online product suggestions with in-store experiences, strengthens trust and reinforces a seamless customer journey. Moreover, targeted offers and customised communication strategies further enhance engagement, as customers perceive the brand as attentive to their unique needs and values.

Empower customers. Empowering customers is pivotal in fostering long-term brand loyalty within today's dynamic omnichannel landscape (Ali Acar & Puntoni, 2016; Mohammad, 2020; Wathieu et al., 2002). This study underscores that when customers feel a sense of control, autonomy, and recognition in their interactions with a brand, they are more likely to form deep, enduring connections. Enhancing customer empowerment through tailored choices, active engagement, and meaningful recognition not only strengthens relationships but also encourages sustained commitment and advocacy.

One effective strategy is enabling choice and control throughout the customer journey. Modern customers expect autonomy in navigating their shopping experiences, favouring brands that cater to their preferences for flexibility and personalisation. Multi-channel customer service options—such as online chat, phone support, and in-store assistance—

allow customers to seek help on their own terms, reinforcing satisfaction and trust. Flexible payment and fulfilment choices, including buy and pick flexibilities, home delivery, and adaptable return policies, can further enhance empowerment by accommodating individual needs. By providing options that align with customers' lifestyles, brands create a sense of responsiveness and commitment, which deepens loyalty.

Personalised preferences in account settings further empower customers. Features like adjustable notification preferences, customised delivery methods, and access to order history give customers control over their interactions, fostering stronger bonds with the brand. Each tailored touchpoint contributes to a seamless and satisfying experience, reinforcing the customer's perception of being valued and understood. Through consistent and personalised control, brands can ensure that each interaction strengthens the customer's attachment and loyalty over time.

Beyond offering choice, fostering active engagement and interaction plays a crucial role in building loyalty. Customers who feel their feedback is valued are more likely to remain engaged with a brand. Establishing feedback channels across digital and physical touchpoints—such as post-purchase surveys and in-store kiosks—creates opportunities for customers to share their opinions easily. Acknowledging and acting on customer feedback strengthens the customer-brand relationship, as customers perceive the brand as responsive and respectful of their perspectives. Demonstrating the impact of customer suggestions, such as through social media updates or in-store displays, further enhances this sense of collaboration. Customers who see their contributions reflected in tangible changes develop a sense of belonging and view the brand as a partner in a shared journey.

Creating community engagement opportunities also enriches the customer experience. Interactive content like online forums, Q&A sessions, and social media discussions fosters connections between customers, building a sense of community and mutual value. When customers feel part of a broader brand community, their loyalty strengthens as they gain both social and emotional benefits from their interactions. This communal environment not only reinforces attachment but also positions the brand as a central part of their social identity.

Empowering customers through choice, engagement, and recognition creates a journey where each interaction strengthens trust and connection. This strategic focus not only meets practical needs but also cultivates emotional loyalty, ensuring that customers feel valued and respected as active participants in their relationship with the brand.

Address customer heterogeneity. The study highlights the importance of recognising and addressing customer heterogeneity (Herhausen et al., 2019; Neslin, 2022), particularly in terms of personal innovativeness and product category involvement. By leveraging personal traits like innovativeness and product category involvement, managers can craft strategies that deliver tailored experiences and foster deeper customer loyalty.

Managers should adapt their strategies to account for varying levels of product category involvement. High-involvement customers, such as those shopping for electronics or luxury goods, seek comprehensive information to inform their decisions. Providing detailed product descriptions, expert reviews, and comparison tools supports their research-driven approach and reinforces brand credibility. In contrast, low-involvement customers, who

prioritize efficiency, benefit from concise product descriptions, essential information, and streamlined browsing. Tailoring the shopping experience to these distinct preferences can improve satisfaction and encourage repeat purchases. Additionally, designing loyalty programs that align with involvement levels—such as rewarding high-involvement customers for research-related activities and low-involvement customers for purchases—ensures that rewards resonate with their motivations.

Effective communication is another critical managerial takeaway. High-innovation and high-involvement customers respond well to detailed, data-driven messaging that highlights new features, exclusive products, or expert insights. Managers should craft targeted communications for these groups to reinforce their sense of value and connection to the brand. Meanwhile, less innovative or involved customers prefer concise, actionable messaging that simplifies decision-making. Customizing communication styles based on customer traits enhances relevance, builds trust, and ensures stronger engagement across segments.

Loyalty programs represent a powerful tool for addressing customer heterogeneity. Managers can design tiered programs that cater to diverse customer needs. Experiential rewards, such as VIP invitations or early access to new products, appeal to high-innovation and high-involvement customers seeking unique experiences. Traditional rewards, like discounts or cashback, resonate with low-involvement customers who value immediate benefits. Aligning loyalty rewards with customer preferences ensures that programs feel personalized and meaningful, fostering long-term loyalty.

By incorporating these insights into their strategies, managers can create more inclusive and customer-centric omnichannel experiences. Recognizing and respecting the diverse needs and preferences of their audience enables brands to deliver relevant and satisfying interactions, building trust and loyalty in increasingly competitive retail landscapes. This approach not only improves customer satisfaction but also positions brands as responsive, adaptive, and committed to meeting the needs of their diverse customer base.

6.3.2 Implementation considerations

To ensure the success of the above-mentioned strategies, brands must address key implementation considerations that serve as the bridge between strategic intent and effective omnichannel outcomes. These considerations include establishing robust technological infrastructure, achieving operational alignment, empowering customers with tailored mechanisms, and employing sophisticated customer segmentation and personalisation techniques. Each element is critical to creating seamless, impactful, and customer-centric omnichannel experiences.

Technological infrastructure. A strong technological foundation is indispensable for delivering a cohesive omnichannel strategy. Brands must invest in the integration of Customer Relationship Management (CRM) and Enterprise Resource Planning (ERP) systems to enable synchronised customer data, inventory, pricing, and purchase histories across all channels. Such integration ensures customers experience consistent interactions—whether they engage with a brand via a physical store, an e-commerce platform, or a mobile app.

Advanced technologies like artificial intelligence (AI) and machine learning significantly enhance omnichannel capabilities. For instance, AI-powered recommendation engines can offer personalised product suggestions by analysing browsing histories, previous purchases, and predictive patterns, while sentiment analysis tools provide real-time feedback on customer satisfaction, enabling brands to address potential issues proactively. By integrating such tools, brands foster a sense of recognition and trust, which are essential for building loyalty.

Furthermore, real-time data synchronisation across platforms is critical. Inventory availability must update instantaneously across physical and digital channels to avoid stock discrepancies, which can frustrate customers and harm brand credibility. For example, a customer ordering an item online should not encounter out-of-stock issues when picking it up in-store. Investing in cutting-edge technologies ensures brands can meet the elevated expectations of modern customers, who demand instant, accurate, and frictionless experiences.

Operational alignment. Operational coherence across all channels is critical for delivering a seamless omnichannel experience. Processes such as saving shopping carts across devices, offering unified customer service, and facilitating cross-channel fulfilment options require streamlined operations. For example, brands must align their logistics networks to support services like buy-online-pickup-in-store (BOPIS), ship-to-store, and same-day delivery. This level of flexibility not only meets diverse customer preferences but also reinforces the brand's commitment to convenience and reliability.

Achieving operational alignment extends to inventory and pricing consistency. Real-time updates on product availability and ensuring that online and in-store pricing is uniform are key to reducing customer frustration and fostering trust. Discrepancies in these areas can undermine the brand experience, leading to dissatisfaction and potential attrition. Moreover, cross-department collaboration is essential for operational success. Marketing, IT, and logistics teams must work in harmony to implement features like personalised promotions and dynamic fulfilment options. Ensuring that these departments are aligned on priorities and equipped with the necessary resources is a prerequisite for delivering cohesive omnichannel experiences.

Empowerment mechanisms. Customer empowerment is central to creating meaningful and loyal brand relationships. To achieve this, brands must provide mechanisms that enhance choice, control, and recognition throughout the customer journey. Features like customisable notification preferences, tailored delivery options, and adjustable account settings empower customers to personalise their interactions with the brand. Such features give customers a sense of ownership and autonomy, reinforcing their emotional connection to the brand.

Feedback mechanisms are equally vital. Accessible channels for customer input—whether through online surveys, reviews, or in-store kiosks—create opportunities for customers to share their opinions, making them feel valued. Importantly, acting on this feedback and communicating resulting changes demonstrates that the brand prioritises customer voices. For instance, informing customers that a product feature was improved based on their feedback reinforces trust and strengthens brand perception. Brands should also actively communicate how customer feedback influences decision-making. For

example, sharing updates about changes implemented based on customer input demonstrates that the brand values its customers' contributions. This transparency strengthens the perception of the brand as responsive and customer-focused.

Customer segmentation and personalisation. An effective omnichannel strategy requires granular segmentation to cater to diverse customer preferences and behaviours. Personal innovativeness and product category involvement are two key dimensions that influence how customers interact with omnichannel features. High-innovation customers are more likely to engage with cutting-edge technologies such as augmented reality (AR) and AI-driven chatbots, while low-innovation customers prefer simpler, more intuitive experiences.

For tech-savvy customers, brands should highlight features like AR-enabled virtual try-ons or mobile customisation tools. These offerings not only meet their expectations but also create an exclusive and immersive experience that fosters deeper loyalty. Conversely, less tech-savvy customers benefit from streamlined interfaces and straightforward processes, such as simple navigation and transparent checkout experiences. By designing features that align with each group's comfort levels, brands can create a more inclusive and satisfying omnichannel experience. High-involvement customers, such as those purchasing electronics or luxury goods, seek in-depth information and comparison tools. Brands can meet these expectations by providing detailed product descriptions, expert reviews, and side-by-side comparisons. Low-involvement customers, on the other hand, prioritise convenience and quick decision-making, benefiting from summarised product information and intuitive layouts. Tailoring the customer journey to reflect these differences strengthens satisfaction and loyalty across segments.

By aligning segmentation with personalisation efforts, brands can deliver experiences that resonate with diverse audiences. Whether through high-tech solutions for the tech-savvy or streamlined processes for the less technologically inclined, personalisation fosters a sense of relevance and reward, driving both satisfaction and loyalty.

In summary, the successful implementation of omnichannel strategies depends on robust technological infrastructure, operational coherence, customer empowerment, and targeted segmentation. By addressing these considerations, brands can translate strategic aspirations into impactful and customer-centric outcomes, meeting the needs of modern shoppers and setting the stage for sustained loyalty and growth.

6.3.3 Organizational challenges

However, implementing the above strategies presents a range of organizational challenges that require careful navigation to ensure success. These challenges arise from factors such as resistance to change, fragmented structures, outdated technology, limited resources, and cultural hesitations toward innovation. Addressing these issues demands strategic foresight, collaborative efforts, and a commitment to adaptability and continuous improvement.

Change management and employee resistance. One of the most significant challenges lies in managing change within the organization. The transition to an omnichannel model often disrupts established workflows and requires employees to adapt to new technologies, processes, and expectations. Resistance to change is a common hurdle, with staff feeling

apprehensive about potential job redundancies or struggling to adapt to cross-functional operations. This resistance is often compounded by inadequate leadership buy-in, as the absence of clear and consistent support from senior management can diminish employee motivation. To overcome these barriers, organizations must implement comprehensive change management programs that prioritize transparent communication and inclusive participation. Leaders must articulate the strategic value of omnichannel initiatives while actively involving employees in the transformation process, thereby fostering a sense of shared purpose and commitment.

Siloed organizational structures. Fragmented organizational structures further complicate omnichannel implementation. Many companies operate within departmental silos, with limited collaboration between key functions such as IT, marketing, logistics, and sales. These disconnected structures result in inefficiencies, misaligned priorities, and inconsistent messaging, which ultimately undermine the customer experience. For example, marketing teams may design promotions without coordinating with logistics, leading to inventory shortages or delayed deliveries. Addressing this fragmentation requires organizations to establish cross-functional teams dedicated to omnichannel initiatives, ensuring alignment in goals, priorities, and execution. Clear governance structures that promote accountability and unified communication can help mitigate these challenges, enabling smoother operational coherence and consistent customer interactions.

Technological fragmentation. The technological landscape of many organizations also poses a formidable challenge. Legacy systems, often built for single-channel operations, are frequently incompatible with the integrated tools required for omnichannel functionality. This technological fragmentation hinders real-time data synchronization, leading to inconsistent customer profiles, pricing discrepancies, and inaccurate inventory updates. For instance, a lack of integration between online and offline systems might result in customers purchasing out-of-stock items, damaging trust and satisfaction. To address these issues, organizations must invest in scalable and interoperable technologies, such as centralized Customer Relationship Management (CRM) and Enterprise Resource Planning (ERP) systems. Additionally, employing middleware solutions to bridge the gap between outdated and modern systems ensures that data flows seamlessly across channels, creating a unified customer experience.

Resource constraints. Resource constraints present another obstacle for many organizations, particularly those with limited budgets or personnel. Omnichannel strategies demand significant investments in technology, training, and process reengineering, which can be challenging for smaller companies or those operating in resource-strapped environments. Similarly, skill gaps among employees often limit the effective adoption and utilization of new tools, further complicating implementation efforts. Organizations can navigate these constraints by adopting a phased approach to omnichannel adoption, focusing initially on high-impact areas and gradually expanding capabilities. Partnering with technology providers or external consultants can also help optimize resource allocation and provide access to specialized expertise.

Data and cyber privacy. Balancing personalization with privacy adds another layer of complexity to omnichannel strategy execution. While personalization is critical to enhancing customer experiences and building loyalty, overly intrusive data practices can

alienate customers and invite regulatory scrutiny. Modern customers are increasingly skeptical of how their data is collected and used, and brands must navigate stringent privacy regulations such as GDPR and CCPA to maintain compliance. To address this challenge, organizations should adopt transparent data practices that clearly communicate the purpose and scope of data collection. Empowering customers with control over their data preferences—such as the ability to opt in or out of specific uses—fosters trust and demonstrates respect for customer autonomy. Robust cybersecurity measures, such as multi-factor authentication and encryption, further reassure customers that their data is secure.

Cultural resistance to innovation. Cultural resistance to innovation can also hinder the adoption of omnichannel strategies. Organizations that are risk-averse or reliant on traditional methods may struggle to embrace the continuous improvement required for omnichannel success. Employees and leaders alike may hesitate to adopt new technologies or processes due to fear of failure or uncertainty about their effectiveness. Overcoming this inertia requires a cultural shift that values experimentation and encourages creative problem-solving. Organizations should create opportunities for innovation through pilot programs, incentives for employee-driven solutions, and a leadership culture that celebrates progress and learning.

Ultimately, addressing these organizational challenges is essential for unlocking the potential of omnichannel strategies. By fostering a culture of adaptability, breaking down silos, investing in modern technologies, and prioritizing ethical and transparent practices, companies can position themselves to deliver seamless and customer-centric experiences. Successfully navigating these obstacles not only enables operational excellence but also builds the trust and loyalty required to thrive in today's competitive retail landscape.

6.4 Limitation and future research

This study provides important insights into omnichannel customer experiences and their impact on brand loyalty. Nevertheless, it is necessary to address its limitations and propose future research directions. This section identifies and discusses methodological, sample, contextual, and theoretical limitations, accompanied by avenues for future research, to enhance understanding and broaden the applicability of findings in this field.

6.4.1 Methodological limitations and future research

A critical methodological limitation of this study is its cross-sectional design. By capturing data at a single point in time, the research provides a snapshot of customer behaviour but does not account for the dynamic and evolving nature of omnichannel experiences and brand loyalty. As customer preferences, technological innovations, and competitive strategies in retail continuously evolve, the relationships identified in this study may shift over time. For example, new omnichannel features, such as augmented reality (AR) shopping tools or blockchain-enabled transparency, could alter customer loyalty in ways that cannot be captured by a one-time analysis.

Future research may adopt longitudinal design to address this limitation. By tracking customer behaviours over time, longitudinal studies could illuminate how customer-brand relationships develop, strengthen, or weaken in response to specific omnichannel

strategies (Park, 2017; Venkatesh & Davis, 2000). For instance, such research could examine whether features like real-time integration and personalised recommendations sustain customer loyalty over time or if initial enthusiasm diminishes as the novelty wears off. Longitudinal approaches would also provide insights into how life events, market shifts, or emerging technologies influence loyalty trajectories, enabling brands to refine their strategies to remain relevant in a dynamic landscape.

Another methodological constraint lies in the focus on the positive attributes of omnichannel experience, such as integration, flexibility, and personalisation. While these aspects are essential for understanding how brands foster customer empowerment and loyalty, the study does not adequately address potential negative attributes (Quach et al., 2020). For instance, decision fatigue, privacy concerns, and channel-switching complexity are significant factors that could detract from customer satisfaction and loyalty (Tseng & Wang, 2016; Xu & Jackson, 2019). Exploring these downsides would provide a more balanced and comprehensive view of omnichannel experiences. Future research should investigate how adverse factors, such as inconsistent data synchronisation, information overload, or perceived security risks, impact customer engagement and trust, offering insights to help brands proactively mitigate these issues.

6.4.2 Sample limitations and future research

The representativeness of the study's sample constitutes a notable limitation. The research focuses on urban customers in China, particularly in tier-1 to tier-3 cities. While these areas offer valuable insights due to their advanced digital infrastructure and high levels of omnichannel adoption, the findings may not generalise to rural or less technologically developed regions within China. Customers in these areas may encounter different challenges, such as limited internet access, lower digital literacy, or fewer brick-and-mortar store options, which could shape their omnichannel behaviours and preferences in unique ways.

Furthermore, the study's regional focus limits the applicability of its findings to global markets. Cultural, economic, and regulatory variations across countries significantly influence how customers perceive and engage with omnichannel features (Xuan, Truong, & Quang, 2023). For example, customers in countries with stringent privacy regulations, such as those in the European Union, may exhibit greater caution towards data-sharing practices compared to those in China. Similarly, shoppers in emerging markets like India or Brazil may prioritise affordability and offline accessibility over advanced technological features.

To address these limitations, future research should broaden its scope to include diverse geographic and cultural settings. Comparative studies examining rural versus urban customer behaviours within a single country could reveal regional differences in omnichannel engagement. Additionally, cross-national research could investigate how cultural values, economic conditions, and regulatory environments shape customer responses to omnichannel strategies. Exploring demographic variables, such as age, gender, and socioeconomic status, could further refine understanding of how specific customer segments interact with omnichannel ecosystems (Herhausen et al., 2019). For instance, younger, tech-savvy customers may favour AR-enabled shopping experiences, while older customers may prefer simpler, more accessible interfaces.

6.4.3 Contextual limitations and future research

The study's focus on general customer behaviour in omnichannel environments limits its applicability to specific retail contexts or product categories (Lee, 2022). Different product types often entail distinct engagement and decision-making processes. High-involvement products, such as electronics or luxury goods, typically require detailed information, expert reviews, and immersive shopping features, whereas low-involvement products, such as groceries, emphasise convenience and efficiency. The absence of a detailed analysis of these contextual variations restricts the findings' relevance to category-specific applications.

Future research should explore how omnichannel strategies perform across various product categories and retail contexts. For instance, research could investigate the role of real-time inventory updates and virtual try-ons in enhancing loyalty for fashion or electronics, compared to the impact of simple checkout processes on grocery purchases. Additionally, emerging trends such as sustainability-focused retail and experiential retailing merit further exploration (Gerea et al., 2021). As customers increasingly prioritise ethical and environmentally conscious shopping, understanding how omnichannel features can empower customers to make sustainable choices—such as by providing transparent information on product origins or carbon-neutral delivery options—would be valuable. Similarly, experiential retail (Gilovich & Gallo, 2020; Siebert, Gopaldas, Lindridge, & Simões, 2020), which blends digital and physical elements to create memorable interactions, offers opportunities to examine how immersive technologies like VR or AR influence customer empowerment and loyalty in sectors such as luxury or entertainment.

Social commerce, facilitated through platforms like Instagram and WeChat, also presents a compelling area for future research (Zhou, Du, & Cutright, 2022). By integrating peer-to-peer interactions and community-driven content, social commerce allows customers to play an active role in shaping their shopping journeys. Investigating how social media-based omnichannel strategies enhance customer empowerment and loyalty could provide actionable insights for brands seeking to leverage this trend.

6.4.4 Theoretical limitations and future research

This study identifies empowerment (Pranic & Roehl, 2012) as a partial mediator in the relationship between omnichannel experiences and brand loyalty, highlighting its role in transforming omnichannel features into loyalty-driving mechanisms. However, additional mediators—such as trust, satisfaction, and emotional attachment—may also be pivotal in explaining this relationship. Future research should explore these complementary factors to develop a more comprehensive understanding of the mechanisms underlying loyalty in omnichannel settings.

The theoretical framework further examines personal innovativeness and product category involvement as key moderators of omnichannel experiences, offering valuable insights into how individual differences shape customer behaviour. However, these variables represent only a subset of the broader factors influencing customer engagement (Holkkola et al., 2023; Park & Kim, 2021). Traits such as risk tolerance, technology acceptance, and social influence may also play critical roles. For instance, risk-averse customers might avoid advanced technologies like AI-driven recommendations due to

security concerns, whereas those with high technology acceptance may actively seek out such features (Wolf & Steul-Fischer, 2023). Situational factors, including purchase occasion and time constraints, also affect customer engagement. For example, routine purchases versus special occasions, or shopping under time pressure versus relaxed settings, can influence customer expectations and behaviours, adding complexity to omnichannel interactions (Hsia et al., 2020; Roschk & Hosseinpour, 2020)

Expanding the theoretical framework to include a broader range of moderators and mediators enables researchers to develop more nuanced models of customer behaviour. Investigating variables such as demographic characteristics, psychological traits, and situational factors (Roschk & Hosseinpour, 2020) could enrich understanding of how customer responses vary across contexts. Cross-disciplinary approaches integrating behavioural economics, psychology, and cultural studies would further strengthen these insights. Additionally, exploring the interplay between empowerment, trust, and emotional attachment could uncover new synergies that drive loyalty.

In conclusion, addressing these methodological, contextual, and theoretical limitations help future research build a more holistic understanding of omnichannel customer experiences. Broadening the scope of inquiry across diverse geographies, retail contexts, and theoretical dimensions not only deepen academic knowledge but also provide actionable insights for practitioners to adapt their strategies in a rapidly evolving retail environment. Such efforts are essential for navigating the complexities of modern customer behaviour and maintaining competitiveness in the omnichannel marketplace.

7. Conclusions

7.1 Summary of findings

This dissertation has provided a comprehensive exploration of the interplay between omnichannel experiences, customer empowerment, and brand loyalty, while also shedding light on the moderating roles of personal traits such as innovativeness and product category involvement. Grounded in the Service-Dominant Logic (SDL) framework, the research extends theoretical understanding by positioning empowerment as a critical mediator that translates the benefits of integration, flexibility, and personalisation into sustained loyalty. Empirical findings from a mixed-method approach have illuminated how customer empowerment functions as a bridge between the operational aspects of omnichannel strategies and the relational outcomes they foster.

Moreover, the study has advanced the academic discourse on omnichannel customer behaviour by demonstrating the nuanced ways in which personal traits influence interactions with omnichannel environments. High personal innovativeness amplifies responsiveness to technological advancements, while product category involvement shapes the intensity of engagement across touchpoints. These insights contribute to a more robust understanding of the heterogeneity in customer behaviour, guiding future studies to consider individual differences as essential factors in omnichannel research.

The findings of this research carry profound implications for both academia and practice. Theoretically, the integration of SDL principles into the study of omnichannel experiences offers a holistic lens for examining the co-creation of value between firms and customers. By highlighting empowerment as a central construct, the study stresses the importance of psychological factors in shaping customer outcomes, providing a foundation for future theoretical advancements in the field. Practically, the research equips businesses with actionable insights to refine their omnichannel strategies. The emphasis on creating seamless, personalised, and flexible customer journeys aligns with the modern customer's demand for empowerment and convenience. By tailoring strategies to accommodate diverse personal traits, brands can design more inclusive experiences that resonate across different customer segments, fostering deeper engagement and loyalty. These findings are particularly relevant in a digital-first era where competitive differentiation increasingly hinges on the ability to deliver integrated and contextually relevant experiences.

While this study offers valuable contributions, certain limitations—including its cross-sectional design, focus on positive attributes, and restricted geographic scope—underscore the need for further research. Future studies should adopt longitudinal methods to track evolving customer behaviours, expand beyond urban Chinese consumers to capture diverse geographic and cultural contexts, and explore additional factors such as trust, emotional attachment, risk tolerance, and technology acceptance. Additionally, refining category-specific insights and examining emerging trends like sustainability-focused retail and social commerce would provide a more comprehensive understanding of omnichannel dynamics. By addressing these gaps, future research can better equip brands to navigate the evolving retail landscape and sustain customer loyalty.

7.2 Personal reflections

My interest in exploring omnichannel customer behaviour and its impact on brand loyalty stems from my professional journey as a management consultant. Over the years, I have had the privilege of working with clients navigating the complexities of today's omnichannel environment. In this role, I consistently encountered challenges that sparked deeper questions: how can businesses create truly seamless and empowering experiences for their customers? How can they leverage the opportunities of omnichannel strategies while addressing their inherent complexities? These questions were not only central to my consulting work but also motivated me to embark on this academic exploration.

Through this dissertation, I sought to uncover a more systematic and insightful approach to help businesses thrive in an increasingly interconnected and customer-driven landscape. The research journey became a deeply rewarding experience, enabling me to bridge theoretical understanding with practical application. As I delved into concepts such as integration, personalisation, and customer empowerment, I found a framework that resonated with the challenges I had observed in practice. This work represents both a synthesis of my professional observations and an academic contribution to the field—a culmination of my desire to provide my clients with innovative, evidence-based strategies for growth in the omnichannel era.

This research has not only advanced my academic understanding but has also significantly influenced my perspective as a consultant. Just as omnichannel strategies aim to empower customers through coherence and adaptability, I have come to value the importance of these principles in my own professional practice. Whether advising clients or exploring new ideas, I have learned that success often lies in fostering connections—between channels, concepts, and people—and creating experiences that feel both seamless and meaningful.

As I move forward, I am eager to apply the insights gained from this research to my consulting work, helping businesses craft strategies that meet the demands of today's empowered customers. This dissertation is both a culmination of my academic journey and a starting point for new applications and discoveries. It has deepened my appreciation for the complexities of customer behaviour and the potential for omnichannel strategies to transform not only businesses but also the experiences of the people they serve.

In reflecting on this journey, I am reminded of the enduring value of curiosity and commitment to understanding the challenges and opportunities of a rapidly evolving world. This work represents my contribution to that understanding and my dedication to continuing this exploration in both academic and practical domains.

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Appendix A. The list of participants' profiles for Phase I

Group name	Coded name	Age	Gender	City Tiers	Phone Price (in RMB)	Monthly income (Disposable, in RMB)
SHA	YL	33	Female	T1	1,399	8,000
	QC	34	Male	T1	1,999	20,000
	LJH	19	Male	T1	999	3,000
	LY	36	Female	T1	1,799	10,000
	CYJ	31	Male	T1	1,999	20,000
	SLQ	19	Female	T1	1,200	5,000
SHB	XJY	42	Female	T1	2,500	15,000
	DWZ	23	Male	T1	2,999	12,000
	GXY	27	Female	T1	2,500	8,000
	HJH	35	Male	T1	3,900	28,000
	LJ	40	Female	T1	3,699	10,000
	WXY	27	Female	T1	3,998	15,000
SHC	JJY	34	Male	T1	4,999	20,000
	XZJ	34	Male	T1	8,999	15,000
	DJQ	18	Male	T1	7,080	16,000
	FT	37	Male	T1	7,500	30,000
	YYQ	41	Female	T1	4,399	5,000
	HMC	21	Female	T1	4,000	4,000

Appendix B. The discussion guide for Phase I (English version)

1. Introduction (5 mins)

- a) Welcome and thanks
- b) Introduction to the purpose and setting of the discussion
- c) Statement of confidentiality and anonymity
- d) Confirm participant consent to participate: yes/no
- e) Rules of the discussion: open/constructive conversation, one person at a time, right to not to answer, stop or exit at any time

2. Opening (5 mins)

Participants casual self-introduction, sharing who they are as a person, including their names, personal hobbies, favourite mobile brands and why

**Moderator note: please make sure every participant speaks up properly*

3. Discussion – understanding the last omnichannel experience (30 mins)

- a) **Question 3a:** When did you last purchase a mobile phone, and what were the key channels you used during the whole omnichannel shopping journey?

**Moderator note: the entire shopping journey include pre-purchase, purchase, and post-purchase, and participants may use various online, offline, social channels to explore information, compare products, make the purchase, seek for advices, and share their experiences, etc.*

- b) **Question 3b:** How did you feel about your last omnichannel shopping experience overall? What were the characteristics of omnichannel experience that you valued the most/felt the most important in your last purchase?

**Moderator note: Please allow the participants use their own words to explain their perceptions first, and then present the board with five omnichannel experience characteristics (Connectivity, Integration, Consistency, Flexibility, and Personalisation) and let the participants further compare and evaluate. It is OK that certain traits are not important to the participants*

4. Discussion – understanding the impacts of last omnichannel experience (40 mins)

- a) **Question 4a:** Why do you feel these characteristics are important, and how do they impact your loyalty on the brand you purchased from?

**Moderator note: please invite the participants to explain the impacts of each prioritise omnichannel experience characteristics one by one. The impact may be stated in either positive or negative terms.*

Question 4b: How would you describe the level of empowerment you received based on these omnichannel characteristics?

**Moderator note: may invite the participants to compare the experience from different mobile phone brands if necessary. In terms of empowerment, may use alternative terms such as “more in control”, “choices in your own terms” to explain*

- b) Question 4c: How would this level of empowerment affect your brand loyalty?

**Moderator note: participants can discuss in either positive or negative terms, do not force the answer.*

5. Discussion – understanding the roles of personal characteristics (30 mins)

- a) **Question 5a:** How would you describe your personal innovativeness? How does it affect your perception of your last omnichannel shopping experience and your loyalty to the brand?

**Moderator note: explain to participants that personal innovativeness generally refers to the tendency to accept new things relatively faster, or exhibit higher self-confidence and a stronger sense of adventure than their peers and friends. Participants may rate their own personal innovativeness from 1 to 10.*

- b) **Question 5b:** How would you describe the role of mobile phones in your life? How does this impact your perception of your last omnichannel experience and brand loyalty?

**Moderator note: can share a few examples to spark the conversation, e.g., a mobile phone can be “merely a tool” to some people while “representing who I am” to some others.*

- c) **Question 5c:** what other personal characteristics that are also play important roles between omnichannel experience and brand loyalty?

6. Closing the discussion (10 mins)

- a) **6a. Ending question:** what other comments would you like to add to today's discussion?

- b) **6b. Closing mark with thank you.**

**Moderator note: ideally, each group shall last for no more than 120 mins; if extra time needed, the moderator must get consent from all participants, and extend the discussion for an additional 30 mins (maximum).*

Appendix C. Coding results for Phase I

I. Characteristics of omnichannel experience

Axial Code	Open Codes	Description	Sample quotes	Select References
Integration	Synchronized Channels	Integration refers to the extent to which customer perceives all information, services, and interactions across different purchase channels are unified and consistent	“At least the price from online and offline should be consistent; actually, it should be consistent no matter where I make the purchase”	(Gao, Fan, et al., 2021)
	Seamless Processes			
	Unified Information			
	Fluid Services			
Flexibility	Adaptable Purchase Options	Flexibility refers to the level of fluidity and continuity customer enjoys when migrating tasks and transitioning from one channel to another during different phases of their purchasing process	“I bought the phone online but can still go to the offline store for customer services, such as repairing”	(Shen et al., 2018)
	Payment and Delivery Choices			
	Return and Exchange Flexibility			
Personalisation	Timely Responses	Personalisation refers to the degree to which customers are able to get customized information and offers, and personalised attention and services based on who they are as a person and what they need as a customer	“I bought their phone before, so they recognized me when I bought the new phone this time, and they provided many useful suggestions”	(Tyrväinen et al., 2020)
	Purchase History Recognition			
	Tailored Suggestions			
	Customisable Process			

II. Three additional factors that affect brand loyalty

Axial Code	Open Codes	Description	Sample quotes	Select References
Empowerment	Control over Choices	Empower refers to the extent to which customers perceives they have the ability to shape the composition of their choice sets and decision making across all relevant interactions with the focal brand	“I bought the cell phone as a gift to my father”	(Wathieu et al., 2002)
	Informed Decision Making			
	Proactive Engagement			
Personal Innovativeness	Early Adoption	Personal innovativeness refers to the tendency to accept innovation relatively faster than others in the	“I tend to buy the latest mobile products as they give me a sense of	(Xuan, Truong, & Vo Quang, 2023)
	Embracing novel features			

	Pursing trends	social system; innovators can be individual customers who are open to new experiences and stimuli	<i>being ahead of others</i>
Product Category Involvement	Personal Attachment Active Exploration	Category Involvement refers to “a consumer’s enduring perceptions of the importance of the product category based on the customer’s inherent needs, values, and interests	<i>“Cell phone is just a tool for my life and work, and I don’t see there are major differences between different brands”</i> (Menidjel et al., 2020)

Appendix D. Chinese version of the measurement scales in Phase II

Construct	Measurement Items in Chinese	Reference
Integration (IG)	IG1. 这个品牌在购买历程的任一环节，包括产品信息、库存信息、下单以及评价等，都为我提供了足够多的渠道选择 IG2. 这个品牌在购买历程的任一环节都能为我提供有针对性的信息 IG3. 我从这个品牌的一个渠道可以看到在另一个渠道的购买记录 IG4. 针对同一个问题，我在这个品牌的不同渠道均能够获得一致的回复 IG5. 这个品牌在不同渠道始终能保持一致的品牌形象 IG6. 这个品牌在不同渠道始终能保持一贯的服务水准	Zhang et al. (2019)
Flexibility (FL)	FL1. 我可以在线下试用产品但是在线上下单 FL2. 针对特定服务，我可以选择该品牌的其他渠道 FL3. 我可以线上下单、支付，但是在线下取货 FL4. 在不同类型的渠道上，我都可以获得该品牌相应的售后服务 FL5. 我可以基于自己的喜好，选择该品牌的不同渠道满足需求	Shi et al. (2020)
Personalisation (PL)	PL1. 这个品牌能够满足我的个性化需求 PL2. 这个品牌了解我的个人喜好且能推荐相关的信息给我 PL3. 这个品牌能够给我提供个性化的服务	Zhang et al. (2019)
Empowerment (EP)	EP1. 在与这个品牌相关的体验中，我感觉自己占据主导权 EP2. 能够影响这个品牌如何提供产品和服务对我有好处 EP3. 因为有能力影响这个品牌提供的选择，我感觉很好 EP4. 在整个购买过程中，我可以自由的选择不同产品和服务 EP5. 我能够对这个品牌产生的影响比过去更大	Zhang et al. (2018)
Brand Loyalty (BL)	BL1. 除非有什么意外因素，我计划未来持续购买这个品牌的产品 BL2. 我会鼓励朋友们购买这个品牌 BL3. 我会向想征求我意见的人推荐这个品牌	Gao and Huang (2021)
Personal Innovativeness (PI)	PI1. 我倾向于购买最新的产品 PI2. 我喜欢通过全渠道获取新产品相关的信息 PI3. 身边的人通常会征求我关于新产品信息的意见	Zhang, Park, Park, et al. (2024)
Product Category Involvement (PCI)	CI1. 我认为自己购买的产品很重要 CI2. 我对自己购买的产品感兴趣 CI3. 我认为购买什么产品意义重大	Menidjel et al. (2020)

Appendix E. The full Chinese questionnaire

全渠道购买行为调查问卷

欢迎信息：

您好，非常感谢您参加调研！本问卷旨在研究消费者在全渠道环境下的购买行为，不涉及任何敏感信息的收集，相关信息会被严格保密且不会被用做任何商业用途。本次问卷填写时间大约为 5-10 分钟，如您有顾虑，可以在填写问卷的过程中随时停止。对您的时间与支持表示感谢！

第一部分. 筛选问题

SQ1. 您是否有过全渠道购物行为，即在整个购物过程中使用尽可能多的线上、线下即社交媒介渠道，包括信息收集、产品比较、完成购买以及获取服务等？

1. 是
2. 否（终止问卷，提示感谢参与）

第二部分. 基础问题

GQ1. 您最近一次通过全渠道方式购物的时间距离现在有多久？单选

1. <1 周
2. 1~2 周
3. 2~4 周
4. 1-3 个月
5. >3 个月

GQ2. 您最近一次通过全渠道方式购物买了什么类别的产品？单选

1. 时尚服饰
2. 手机数码
3. 食品饮料
4. 家用电器
5. 生鲜蔬果
6. 箱包服饰
7. 珠宝首饰
8. 户外用品
9. 其他，请标注_____

PCI. 您如何评价本次购买的产品对您个人生活的重要性或意义？请对以下描述进行打分，其中 1 分代表非常不同意，5 分代表非常同意

PCI1. 我认为自己购买的产品很重要

PCI2. 我对自己购买的产品感兴趣

PCI3. 我认为购买什么产品意义重大

GQ3. 您最近一次购买的产品属于哪个品牌？填空_____

第三部分. 主体问题

以下, 请您进一步评价与上述最近购买品牌相关的全渠道体验。针对每一项描述, 您可以从 1-5 分中任选一个表明您是否同意该项描述。其中 1 分代表非常不同意, 5 分代表非常同意

IG. 整合性

IG1: 这个品牌在购买历程的任一环节, 包括产品信息、库存信息、下单以及评价等, 都为我提供了足够多的渠道选择。

IG2: 这个品牌在购买历程的任一环节都能为我提供有针对性的信息。

IG3: 我从这个品牌的一个渠道可以看到在另一个渠道的购买记录

IG4: 针对同一个问题, 我在这个品牌的不同渠道均能够获得一致的回复

IG5: 这个品牌在不同渠道始终能保持一致的品牌形象

IG6: 这个品牌在不同渠道始终能保持一贯的服务水准

FL. 灵活性

FL1: 我可以在线下试用产品但是在线上下单

FL2: 针对特定服务, 我可以选择该品牌的其他渠道

FL3: 我可以线上下单、支付, 但是在线下取货

FL4: 在不同类型的渠道上, 我都可以获得该品牌相应的售后服务

FL5: 我可以基于自己的喜好, 选择该品牌的不同渠道满足需求

PL. 个性化

PL1: 这个品牌能够满足我的个性化需求

PL2: 这个品牌了解我的个人喜好且能推荐相关的信息给我

PL3: 这个品牌能够给我提供个性化的服务

EP. 赋能

EP1. 在与这个品牌相关的体验中, 我感觉自己占据主导权

EP2. 能够影响这个品牌如何提供产品和服务对我有好处

EP3. 因为有能力影响这个品牌提供的选择, 我感觉很好

EP4. 在整个购买过程中, 我可以自由的选择不同产品和服务

EP5. 我能够对这个品牌产生的影响比过去更大

BL. 忠诚度

BL1. 除非有什么意外因素, 我计划未来持续购买这个品牌的产品

BL2. 我会鼓励朋友们购买这个品牌

BL3. 我会向想征求我意见的人推荐这个品牌

第三部分. 基础信息

PI. 您如何评价您个人对于新产品的偏好程度? 请对以下描述进行打分, 其中 1 分代表非常不同意, 5 分代表非常同意

PI1. 我倾向于购买最新的产品

PI2. 我喜欢通过全渠道获取新产品相关的信息

PI3. 身边的人通常会征求我关于新产品信息的意见

AQ1. 您的性别: 1. 男 2. 女

AQ2. 请问您的年龄有多大?

1. 18-24
2. 25-34
3. 35-44
4. 45-54
5. 超过 55 岁

AQ3. 教育程度:

1. 高中学历或以下
2. 大专学历
3. 学士学位
4. 硕士学位
5. 博士学位及以上

AQ4. 个人月收入 (元)

1. <3000
2. 3000~5000
3. 5001~8000
4. 8001~10000
5. 10001~20000
6. 20001~30000
7. >30000

您的答卷已经提交, 感谢您的参与!