Customer Engagement and Behavior in Multi-Channel Retail: Insights from the Malaysia Market

Jie Li Lim (Corresponding Author),
Faculty of Entrepreneurship and Business, University
Malaysia Kelantan, City Campus, Pengkalan Chepa,
16100, Kota Bharu, Kelantan, Malaysia.
Email: jieli7376@gmail.com

Wai Hong Tan
Faculty of Entrepreneurship and Business, University
Malaysia Kelantan, City Campus, Pengkalan Chepa,
16100, Kota Bharu, Kelantan, Malaysia.
Email: jieli7376@gmail.com

Abstract – This study investigates customer behaviour and engagement in Malaysia's multi-channel retail environment, focusing on how channel availability, marketing strategies, and customer experience quality influence consumer engagement across retail touchpoints. A quantitative survey was conducted among 400 Malaysian consumers aged 18 and above. Correlation and mediation analyses using the PROCESS macro reveal that all three independent variables have significant direct effects on customer behaviour and engagement. Channel availability exerts the strongest influence, followed by customer experience quality and marketing strategies. Mediation analysis highlights the partial mediating roles of consistent multi-channel experience and the availability of discount codes or coupons in strengthening these relationships. These findings offer actionable insights for retailers, particularly SMEs in Malaysia, to enhance customer satisfaction and loyalty through integrated multi-channel strategies. The study also underscores the growing importance of technological disruption and AI adoption in shaping the future of retail.

Keywords: "Channel availability", "Customer behaviour", "Customer engagement", "Marketing strategies", "Mediation analysis"

1. Introduction

Multi-channel retailing refers to the processes involved in selling goods or services to consumers across more than one channel (Levy & Weitz, 2009). In recent years, the imperative for digital transformation and agile value-chain innovation has become even more pronounced, where researchers note that robust business-model innovation underpins seamless omnichannel integration (Ciasullo & Lim, 2022). The rise of multi-channel retailing has significantly transformed the retail landscape, with businesses now utilising a variety of platforms, including physical stores, online platforms, and mobile applications, to engage with customers. This shift, driven by advancements in e-commerce and digital technologies, has revolutionised traditional shopping paradigms, offering consumers greater convenience and flexibility. Since the COVID-19 pandemic, consumers expect unified inventory visibility, click-and-collect options, and consistent cross-channel promotions

(Asmare & Zewdie, 2022), and marketers face significant challenges in integrating and synchronising their marketing strategies across diverse media channels (O'Toole, 2000; Purwanti, Lailyningsih, & Suyanto, 2022).

In Malaysia, digital retail is undergoing rapid transformation driven by social commerce and mobile payments. The emergence of TikTok Shop, with influencers hosting live-stream shopping events, has markedly increased customer engagement and purchase intention on social platforms (Lin & Nuangjamnong, 2022). At the same time, e-wallet services such as Touch 'n Go, GrabPay, and ShopeePay have seen widespread consumer adoption, as users favour the speed, convenience, and integrated rewards these mobile payment solutions offer (Teoh, Yew, & Heang, 2020). Together, these developments underscore Malaysia's shift toward a cashless, app-centric retail ecosystem and reinforce the need for retailers to integrate social-commerce and digital-payment channels within their multi-channel strategies.

The problem addressed by this study lies in the complexity retailers face in ensuring consistent channel availability, executing effective marketing strategies, and maintaining high-quality customer experiences. These factors collectively influence customer engagement, which is a critical determinant of business success. For instance, discrepancies in inventory between online and physical stores, ineffective marketing efforts, and fragmented customer experiences can erode consumer trust and loyalty. This research seeks to explore these challenges and their impact on customer engagement within multi-channel retail environments.

This study has three main objectives: to examine the influence of channel availability on customer engagement, to assess the effectiveness of marketing strategies in promoting customer interaction, and to evaluate the role of customer experience quality in fostering customer loyalty. The research focuses on Malaysian consumers aged 18 and above, with an emphasis on the behaviours and preferences that shape their engagement with multi-channel retailing. It is important to note that the study is limited to digitally engaged consumers in Malaysia, and the findings may be more reflective of urban populations with frequent access to online and offline retail platforms. The study further explores any mediating effect imposed by some plausible factors. Overall, the study aims to provide actionable insights for retailers to refine their strategies and enhance customer satisfaction in an increasingly competitive market.

The findings of this study have significant academic and practical implications. Academically, they contribute to the understanding of consumer behaviour within multi-channel environments. Practically, the insights offered will provide retailers with valuable guidelines for enhancing customer engagement through integrated, effective multi-channel strategies. As the diversification of consumer shopping and purchasing behaviours across multiple channels grows, it has become essential to deepen our understanding of consumer decision-making processes and to develop new methods for tracking and evaluating consumer attitudes toward specific retailers (Rangaswamy & van Bruggen, 2005).

2. Literature Review

2.1. Customer Engagement

Customer engagement represents the extent of a consumer's interaction and emotional connection with a brand, spanning both online and offline channels. It encompasses activities such as interactions on social media, participation in promotions, and frequent purchases across touchpoints. Research indicates that engaged customers exhibit higher levels of loyalty, satisfaction, and advocacy. In the context of multi-channel retailing, customer engagement is influenced by seamless transitions between platforms, consistent messaging, and personalised experiences.

2.2. Channel Availability

Channel availability refers to the accessibility of various shopping platforms such as physical stores, websites, and mobile apps. Studies highlight that customers value the convenience of switching between channels, which significantly impacts their purchasing decisions. For instance, the availability of real-time product information and synchronised inventory across channels can enhance the shopping experience, thereby boosting engagement. Moreover, a systematic review finds that omnichannel strategies, such as real-time stock updates and personalised push notifications, significantly strengthen customer loyalty and repurchase intentions (Asmare & Zewdie, 2022). It helps build customer loyalty, which moderates the relationship between customer relationship management practices and customer loyalty. Therefore, the influence of the relationship becomes stronger as the interaction between customer relationship management techniques and multiple channels develops (Chen & Ching, 2007). On another note, digital marketing capabilities, such as integrated analytics and dynamic pricing, also play a crucial moderating role under rapidly changing market conditions (Purwanti, Lailyningsih, & Suyanto, 2022).

2.3. Marketing Strategies

Marketing strategies involve tailored efforts to communicate with and attract customers. Multi-channel marketing, including social media campaigns, email marketing, and in-store promotions, has been proven to increase consumer interaction. A consistent message across media improves brand recognition and positively influences customer attitudes, resulting in higher engagement rates (Manivannan, Parida, & Murthy, 2022). The overwhelming volume of both online and traditional advertisements, however, can lead consumers to ignore those they find unappealing. To prevent this, advertisers should not only highlight brand attributes but also promote upcoming promotions, discounts, and unique product benefits to capture consumer attention (Wiese, Martínez-Climent, & Botella-Carrubi, 2020).

2.4. Customer Experience Quality

Customer experience quality pertains to the overall perception of a brand at every interaction point. Elements such as user-friendly interfaces, responsive customer service, and seamless checkout processes play pivotal roles in shaping this perception. High-quality experiences not only enhance customer satisfaction but also encourage repeat engagement and loyalty. Quality customer service is essential for building enriched relationships and benefiting customers (Pilarz & Kot, 2019). This good effect helps the business as well as increases public confidence in its products.

Recent discussions on customer behaviour in multi-channel retail have highlighted ethical and trust-related concerns, particularly around data privacy, promotional transparency, and influencer marketing. For example, Lin and Nuangjamnong (2022) found that customer engagement on platforms like TikTok Shop is influenced not only by accessibility and entertainment value but also by the perceived authenticity and ethical conduct of influencers. Additionally, the growing adoption of e-wallets and mobile payment systems has raised questions about ethical persuasion and consumer vulnerability, especially among younger, digitally engaged users (Teoh, Yew, & Heang, 2020). In response to these dynamics, it is increasingly important for retailers to maintain transparent marketing strategies and deliver consistent experiences across channels.

In the Malaysian retail context, the rapid expansion of multi-channel environments has compelled businesses to diversify shopping platforms while ensuring high service quality. This study emphasises that consistent multi-channel experiences and the availability of discount-based promotions act as critical mediators between key retail strategies and consumer engagement. When customers encounter cohesive service and platform integration alongside targeted incentives like discount codes, their likelihood of sustained engagement increases. These findings align with prior work that stresses the importance of quality and consistency in shaping consumer behaviour (Purwanti, Lailyningsih, & Suyanto, 2022; Asmare & Zewdie, 2022).

2.5. Hypothesis Statement

Our research aims to test the following hypotheses:

H_1: There is a relationship between channel availability and customer behaviour and engagement in multi-channel retail.

H_2: There is a relationship between marketing strategies and customer behaviour and engagement in multi-channel retail.

H_3: There is a relationship between customer experience quality and customer behaviour and engagement in multi-channel retail.

3. Methodology of Study

This study employs a quantitative approach using structured questionnaires (Google Form) as the primary data collection tool. Distributed online via platforms such as WhatsApp and Instagram, the survey assessed the relationships between channel availability, marketing strategies, customer experience quality, and customer engagement. This method enabled systematic data collection while leveraging digital accessibility and efficiency.

A purposive sampling technique was used to target Malaysian consumers aged 18 and above who actively engage with multi-channel retail platforms. This non-probability method was selected to ensure participants had relevant shopping experiences across physical and digital channels. The online distribution method was appropriate for reaching digitally engaged respondents.

The sample consisted of 400 participants. Data collected through the questionnaire were analysed using SPSS, a versatile software that supports various analyses, data

transformations, and output generation (Arkkelin, 2014). Descriptive statistics summarised demographic characteristics, while reliability analysis using Cronbach's alpha confirmed internal consistency in the measured constructs.

To examine mediation effects, the study applied the PROCESS macro developed by Hayes (2009) within SPSS. PROCESS is widely used for estimating direct and indirect effects through bootstrapping, offering more accurate confidence intervals than traditional methods. It was suitable for testing the mediating role of variables such as consistent multi-channel experience and discount codes, using continuous data derived from Likert-scale responses.

While purposive sampling ensured relevance to the research context, it may introduce sampling bias. The majority of respondents were younger, tech-savvy individuals more likely to use social media and mobile payment systems. As a result, the findings may not fully capture the perspectives of older or less digitally active consumers. This limitation is acknowledged and highlights the need for future studies to consider more representative sampling techniques.

4. Findings and Discussion

The majority of our 400 respondents are females, at 61.0%, while males represent 39.0%. The most prominent age group is 21 to 23 years old, accounting for 24.50% of the respondents, followed by 24 to 26 years old at 21.75% and 18 to 20 years old at 19.25%. In terms of race, 55.75% are Malay, 26.75% are Indian, and 16.75% are Chinese, with 0.75% representing other races. The respondents are mostly single, at 63.75%, followed by married individuals at 27.50%, engaged at 5.50% and 3.25% for divorced. For employment status, 47.0% are students, 46.25% are employed, and the remaining 6.75% are unemployed.

4.1. Reliability Testing

Table 1 displays the Cronbach's Alpha values for the variables in the study, based on responses from 400 participants. The results show that all variables demonstrate good to excellent reliability, from 0.782 stemming from marketing strategies to 0.921 stemming from customer experience quality. These findings confirm the internal consistency of the variables for further analysis.

Table 1: The test of reliability

Variable	Cronbach's Alpha	N	Strength
Customer Behavior and Engagement	0.868	5	Very Good
Channel Availability	0.909	5	Excellent
Marketing Strategies	0.782	5	Good
Customer Experience Quality	0.921	5	Excellent

4.2. Correlation Analysis

Before presenting the correlation results, data normality was assessed using skewness and kurtosis values. Since the distributions of the key variables did not fully meet normality assumptions, Spearman's rank-order correlation was used. This non-parametric method is

suitable for ordinal data obtained through Likert-scale responses. Additionally, the PROCESS macro was applied for mediation analysis, as it does not assume normality for estimating indirect effects.

Spearman's Rank Correlation Analysis in *Table 2* shows significant positive relationships between customer behaviour and engagement and the constructs of channel availability, marketing strategies, and customer experience quality (p-value < 0.01).

Table 2: Spearman correlation between variables

Variables	Correlation Coefficient (ρ)	p-value	Strength
Customer Behaviour and Engagement ↔ Channel Availability	0.626	0.000	Strong
Customer Behaviour and Engagement ↔ Marketing Strategies	0.406	0.000	Moderate
Customer Behaviour and Engagement ↔ Customer Experience Quality	0.528	0.000	Moderate
Channel Availability ↔ Marketing Strategies	0.437	0.000	Moderate
Channel Availability ↔ Customer Experience Quality	0.582	0.000	Moderate
Marketing Strategies ↔ Customer Experience Quality	0.382	0.000	Weak

The strongest correlation exists between customer behaviour and engagement and channel availability ($\rho = 0.626$), indicating the importance of offering diverse, accessible channels. The correlation with customer experience quality ($\rho = 0.528$) also highlights its role in fostering engagement, while marketing strategies show a weaker correlation ($\rho = 0.406$). These effect sizes suggest meaningful practical relationships, particularly for channel availability.

Table 3: Spearman's correlation analysis hypothesis

Spearman's Correlation Analysis Hypothesis	p-value	Correlation Coefficient	Relationship	Result
H_1: There is a significant monotonic relationship between channel availability and customer behaviour and engagement in multi-channel retail.	0.000	0.626	Strong Correlation	Accepted
H_2: There is a significant monotonic relationship between marketing strategies and customer behaviour and engagement in multi-channel retail.	0.000	0.406	Moderate correlation	Accepted
H_3: There is a significant monotonic relationship between customer experience quality and customer	0.000	0.528	Moderate correlation	Accepted

behaviour and engagement in multi-
  channel retail.

Based on *Table 3*, Spearman's correlation analysis confirms that all hypotheses are accepted. These results emphasise the importance of prioritising seamless multi-channel access, high-quality customer experiences, and effective marketing strategies to enhance customer engagement in multi-channel retail environments.

Following the correlation analysis, which confirmed significant associations among the key variables, a mediation analysis was conducted to further explore the indirect effects and clarify the mechanisms underlying these relationships.

4.3 Mediation Analysis

Building on the findings obtained above, mediation analysis was applied to assess whether additional factors explain this association, offering a deeper understanding of consumer behaviour and engagement. Based on the PROCESS macro in SPSS (Hayes, 2009), we ran mediation analysis for two plausible factors, namely consistent multi-channel experience and the availability of discount codes or coupons, and summarised the results in *Tables 4* and *5*. Note that the independent and dependent variables are now based on the means of Likert-scale questions (we used medians for Spearman correlations) to ensure consistency with the approach. Since mediation analysis requires continuous data, using the mean allows for a more accurate estimation of direct and indirect effects, enhancing the statistical validity of the analysis.

Table 4: Direct and indirect effects of independent variables on customer behaviour and engagement in multi-channel retail via consistent multi-channel experience.

Path	Direct Effect	Indirect Effect
Channel Availability → Consistent Multi-Channel Experience → Customer Behaviour	0.5630 (p = 0.0000)	0.0457 (BootSE = 0.0147, BootCI = [0.0194, 0.0771])
Marketing Strategies → Consistent Multi-Channel Experience → Customer Behaviour	0.4029 (p = 0.0000)	0.0483 (BootSE = 0.0197, BootCI = [0.0149, 0.0917])
Customer Experience → Consistent Multi-Channel Experience → Customer Behaviour	0.3928 (p = 0.0000)	0.0452 (BootSE = 0.0163, BootCI = [0.0179, 0.0814])

Considering the mediating factor of consistent multi-channel experience, *Table 4* shows that all independent variables, namely channel availability, marketing strategies, and customer experience quality, have significant direct effects (p = 0.0000), with channel availability exhibiting the strongest impact (0.5630). The indirect effects for channel availability (0.0457), marketing strategies (0.0483), and customer experience quality (0.0452) are also significant, as their confidence intervals do not include zero. These results indicate that a consistent multi-channel experience mediates the relationship between these factors and consumer behaviour and engagement in multi-channel retailing.

Table 5: Direct and indirect effects of independent variables on customer behaviour and engagement in multi-channel retail via discount codes or coupons

Path	Direct Effect	Indirect Effect
Channel Availability → Discount Codes or Coupons → Customer Behaviour	0.5889 ($p = 0.0000$)	0.0198 (BootSE = 0.0132, BootCI = [-0.0025, 0.0484])
Marketing Strategies → Discount Codes or Coupons → Customer Behaviour	0.4153 ($p = 0.0000$)	0.0359 (BootSE = 0.0188, BootCI = [0.0047, 0.0787])
Customer Experience → Discount Codes or Coupons → Customer Behaviour	0.4127 ($p = 0.0000$)	0.0253 (BootSE = 0.0135, BootCI = [0.0049, 0.0566])

Considering another plausible mediating factor, which is the availability of discount codes or coupons, *Table 5* shows that all independent variables have significant direct effects (all $p = 0.0000$), with channel availability having the strongest effect (0.5889). The indirect effects for marketing strategies (0.0359) and customer experience quality (0.0253) are significant (with confidence intervals not including zeros), indicating that discount codes or coupons mediate the relationship between these factors and consumer behaviour and engagement in multi-channel retail. However, the indirect effect for channel availability remains non-significant, suggesting that discount codes or coupons do not mediate their effect on consumer behaviour and engagement in multi-channel retail. This may be because channel availability represents a structural or access-related factor, which directly affects customer behaviour regardless of promotional incentives. Unlike marketing campaigns, channel accessibility itself may not rely on discount strategies to influence customer engagement.

5. Conclusion

This study investigated the relationships between channel availability, marketing strategies, and customer experience quality, and their influence on customer behaviour and engagement in Malaysia's multi-channel retail environment. The findings indicate that channel availability plays the most significant role in driving customer engagement, underscoring the necessity for retailers to ensure seamless and accessible platforms. Customer experience quality also emerged as a key determinant, emphasising the importance of delivering exceptional service, intuitive interfaces, and fostering emotional connections with consumers. While marketing strategies positively influence engagement, their impact was comparatively lower, suggesting that while promotional efforts are valuable, they must be complemented by strong platform integration and service excellence.

A key contribution of this study is the mediation analysis, which demonstrates that a consistent multi-channel experience strengthens the relationships between channel availability, marketing strategies, customer experience quality, and customer engagement.

While seamless integration across retail touchpoints enhances consumer behaviour and engagement, promotional incentives like discount codes or coupons further reinforce these effects, particularly for marketing strategies and customer experience quality. However, channel availability's impact on engagement remains direct rather than mediated by promotions. These findings highlight the importance of both structural consistency and targeted incentives in shaping consumer behaviour. Retailers should prioritise seamless multi-channel integration, enhance customer experience quality, and strategically implement promotions to maintain competitiveness in the evolving retail landscape.

For small and medium-sized enterprises (SMEs) in Malaysia, the findings offer practical guidance on how to remain competitive in an increasingly digital retail environment. SMEs are encouraged to enhance channel availability by utilising cost-effective digital platforms such as social media and mobile applications. They should also prioritise delivering consistent and high-quality customer experiences, as these elements play a significant role in influencing consumer engagement. The use of targeted promotions such as discount codes can further strengthen customer loyalty, especially when applied consistently across both physical and digital retail channels.

In addition, technological disruptions are rapidly reshaping the retail landscape. The integration of artificial intelligence (AI) in retail operations can support SMEs in improving customer service and marketing effectiveness. Tools such as chatbots, personalised product recommendations, and predictive analytics can help retailers better understand consumer preferences and respond to market trends more efficiently. By embracing these technologies, SMEs can create more seamless and engaging experiences for their customers and improve their ability to adapt to future challenges.

Despite its contributions, this study has several limitations that should be addressed in future research. The focus on younger, digitally inclined participants limits the generalizability of the findings to other demographic groups, such as older consumers or those less familiar with digital platforms. This sampling bias, introduced by distributing the survey via WhatsApp and Instagram, may skew the findings toward the experiences and preferences of tech-savvy users. As such, the validity of the conclusions may be affected when extrapolating to less digitally engaged populations. Additionally, the study's geographic scope, being confined to Malaysia, restricts its applicability to other cultural and economic contexts. The cross-sectional research design provides only a snapshot of consumer behaviour, limiting insights into how these dynamics evolve.

Future research should examine shifting consumer preferences and behaviours through longitudinal studies, considering the link between business models and technological innovation (Baden-Fuller & Haefliger, 2013). Investigating multi-channel strategies in evolving business models, cross-cultural comparisons, and emerging technologies like AI, blockchain, and AR could provide valuable insights. Additionally, segmenting consumers by demographics and purchasing behaviours would help refine targeted retail strategies.

In conclusion, this study highlights the critical importance of adapting to consumer demands for seamless channel integration, personalised experiences, and innovative marketing approaches. While the findings offer significant insights into multi-channel retail dynamics, they also provide a foundation for future exploration of emerging trends and evolving

consumer behaviours. Retailers must remain proactive in aligning their strategies with changing market conditions to sustain success and foster long-term customer engagement.

Acknowledgement

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