Exploring the moderated mediation model of customer intention in omnichannel technology: a systematic literature review

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A B S T R A C T

This study systematically reviews literature to explore the Moderated Mediation Model of Customer Intention in Omnichannel Technology, particularly under the transformative influence of technologies like AI, AR, and big data analytics. Amidst evolving consumer expectations and the drastic shifts induced by the COVID-19 pandemic, the retail industry's shift from multichannel to omnichannel strategies has become crucial. This review analyzes 59 studies published between 2018 and April 2023 to discern the dynamics influencing customer intention within the omnichannel framework. Our research highlights the sparse but critical discourse on the mediating roles of perceived value and trust and the moderating effects of factors like age and product involvement. Although extensive, the literature reveals gaps, particularly in unified frameworks integrating these diverse insights. We propose a novel conceptual framework centered on these mediators and moderators to better understand and harness customer intentions toward omnichannel technology adoption. Key findings indicate that seamless integration across online and offline channels, responsive to consumer needs and behaviors, significantly enhances customer engagement and loyalty. This synthesis not only offers a consolidated view of the omnichannel retail landscape but also provides strategic pathways for retailers aiming to optimize customer interactions and satisfaction in a digitally dominated era. Our review contributes to the omnichannel retail literature by offering a structured overview of the factors driving customer intentions and suggesting directions for future research to bridge identified gaps, particularly through longitudinal studies and expanded demographic analyses.

INTRODUCTION

Amidst the emergence of technologies like artificial intelligence, augmented reality, and big data analytics, the retail industry has experienced significant metamorphosis (Brynjolfsson et al., 2013). This evolution has been further accelerated by consumers' changing preferences and expectations, influenced by increased global exposure and digital connectivity. The COVID-19 pandemic, an unprecedented global health crisis, added another layer to this transformation. It catalyzed significant shifts in consumer shopping behavior, leading to a surge in e-commerce activities. As lockdowns and social distancing measures became the norm, consumers increasingly turned to technology for their daily needs, ranging from grocery shopping to luxury purchases (Chimborazo-Azogue et al., 2022; Kopot & Cude, 2021).

Recognizing these shifts, both large and small retailers swiftly adapted by enhancing their online shopping services. As physical stores began to reopen in the post-COVID era, the importance of integrating online and offline channels became even more pronounced. This was not merely about adapting to the new normal; it was about ensuring business continuity, providing optimal customer service, and catering to consumers' convenience in these uncertain times (Brynjolfsson et al., 2013). This transition from...
multichannel to omnichannel approaches underscores the significance of seamless channel integration for modern businesses (Z. W. Y. Lee et al., 2019; Shi et al., 2020; Verhoef et al., 2015).

The academic discourse on this topic has been extensive and evolving. Numerous studies have explored the implications of omnichannel retailing on customer intentions, with pioneering works (Phang et al., 2021; Ieva & Ziliani, 2018). Additionally, there has been a focus on demographic subsets and regional nuances, especially the antecedents of omnichannel adoption among millennials in emerging markets like India and Thailand (Chaudhary et al., 2022; Jaengprajak & Chaipoopiratana, 2022).

The rise of innovative shopping methods, such as buy-online-pick-up-in-store (BOPS) and buy-in-store-home-delivery (BIHD), further exemplifies the dynamic nature of this retail transformation (Chai & Wang, 2022; Prassida & Hsu, 2022). Moreover, the omnichannel paradigm has a significant impact on customer loyalty, influencing repeat purchase behaviors and fostering positive word-of-mouth feedback (Chang & Li, 2022; Gibson et al., 2022). While there's a wealth of research on the topic, a discernible gap exists in the literature. Many studies (Le & Nguyen-Le, 2020; Mosquera et al., 2018; Zhang et al., 2018), have identified specific mediating and moderating roles in the relationship between omnichannel strategies and customer intentions. However, a comprehensive framework that integrates these diverse insights remains to be established.

Building on this, the primary objective of this research is to refine and bolster the theoretical understanding of customer intention within the realm of omnichannel technology, especially in the context of pandemic-induced shifts in consumer behavior. The aim is to elucidate the factors influencing various facets of customer intention. This involves a meticulous examination of the roles of mediators and moderators.

A mediator is conceptualized as a variable that clarifies the relationship between a predictor and a criterion variable, while a moderation effect suggests a conditional relationship contingent upon specific levels of the moderator variable (Baron & Kenny, 1986). By delving deeper into these theoretical constructs, this research aims to enhance our understanding of the intricate relationships at play. From a practical standpoint, this knowledge can inform the development of strategies that align closely with the determinants of customer intention in omnichannel technology. Concretely, this paper seeks to answer the following research questions (RQ):

i. What are the key factors that determine customer intention to adopt omnichannel technology?
ii. Which theoretical frameworks or models are most frequently employed in studies of customer intention in omnichannel technology, and how have they evolved over time?
iii. What are the key factors that determine customer intention in omnichannel technology?
iv. What are the primary mediators and moderators that influence the relationship between omnichannel technological factors and customer intention?

Literature Review

Theoretical and Conceptual Background

Omnichannel Technology

Omnichannel frameworks are crucial for providing a consistent and continuous retail experience across various platforms. The fundamental goal of this technology is to integrate digital and physical channels to facilitate convenience, flawless customer engagement, and smooth business functions. This integration encompasses everything from digitally enhanced brick-and-mortar stores to expansive e-commerce websites, user-friendly mobile apps, and active social media campaigns.

Omnichannel’s primary advantage lies in its ability to cohesively combine different shopping elements, catering to the modern shopper’s unique preferences. It overcomes the traditional barriers in single-channel retail, offering enriched shopping experiences that foster consumer interaction (Verhoef et al., 2015; Zhang, 2014). In the current retail landscape, where consumers are bombarded with choices and immediate access to information, omnichannel stands as the essential connector. It facilitates a smooth transition between the physical and virtual shopping realms. This integration is focused on consolidating channels while proactively understanding and anticipating customer tendencies and actions. As the lines blur between in-store and online shopping, retailers recognize the importance of an all-encompassing strategy that prioritizes customer needs. Thus, omnichannel is more than just a tool; it represents a strategic orientation towards customer-centricity, aiming to deliver unparalleled shopping experiences across all touchpoints (Cui et al., 2021; Yuruk-Kayapinar, 2020).

Customer Intention

In the ever-evolving landscape of retail and e-commerce, the concept of customer intent is pivotal, representing the propensity of consumers to interact with and utilize omnichannel platforms. This encompasses a spectrum of consumer behaviours and preferences, equipped with various choices and knowledge. Key factors such as personal attitudes, which reflect an individual’s positive or negative disposition towards a particular action; social influences, which are the perceived norms that encourage or discourage certain behaviours; and the individual’s assessment of the ease or difficulty of acting, play a significant role in shaping a customer’s proclivity for engaging with omnichannel solutions (Geng & Chang, 2022; Gibson et al., 2022). Manifestations of such intentions vary and may include brand allegiance, repeated purchases, and frequent visits, among other indicators. The research aims to illuminate the
core patterns, tendencies, and motivators behind customer intent, exploring the impact of interactions with omnichannel platforms on their behavioural propensities and subsequent choices. As the retail sector continues to transform with technological advancements, understanding the subtleties of customer intent becomes critical for businesses that aspire to stay ahead in the market and meet the changing needs of consumers (Chimborazo-Azogue et al., 2021).

**Research and Methodology**

**Data sources and searches**

In academic research, systematic reviews play a pivotal role in synthesizing vast amounts of information from various studies to understand a particular topic comprehensively. In this systematic review, this research employed the PRISMA flow diagrams (Moher et al., 2009) to depict the meticulous process of selecting and incorporating studies visually. As illustrated in Figure 1, the diagram provides a clear breakdown of the number of records initially identified, subsequently screened for their relevance and eligibility, and finally included or excluded based on predetermined criteria. This methodical approach culminated in including 57 study publications in our review.

The core objective of this review was to furnish a comprehensive understanding of the subject matter. To accomplish this, the study employed a systematic approach, highly regarded within the academic realm. Systematic reviews entail a concerted effort from experts who rigorously examine, analyze, and condense relevant secondary data pertinent to a particular topic. In the context of this research, the primary emphasis was on articles published from 2018 to April 2022. These articles were all retrieved from a distinguished academic database, Elsevier Scopus.

**Figure 1: Search strategy and sampling process; Source: Authors**

To uphold the rigor and pertinence of this study, specific inclusion criteria were established. This research targeted articles exploring the notion of "intention" within the realm of customer behavior. Specifically, the focus was on studies where 'intention' served as the dependent variable, manifesting in diverse ways such as patronage, repurchase intentions, and the propensity for revisits. The review encompassed quantitative or mixed-method researches, but these needed to be published in peer-reviewed journals during the stipulated timeframe, which spanned from 2018 to April 2023. A crucial component of the selection criterion was the presence of citations within these articles, validating the veracity of the data and providing an exhaustive overview of the existing literature on the topic.

However, certain studies were excluded to maintain the focus and relevance of our review. These included studies that did not pertain to customer intention, those that employed purely qualitative methodologies, publications that were not in English, and any articles published before the year 2019. Furthermore, any study papers that did not have accompanying citations were also left out of our review. Adhering to these inclusion and exclusion criteria ensured that our systematic review was thorough and reliable. It offers a synthesis of the current knowledge on customer intention, as reflected in the pertinent academic literature. Such a rigorous approach not only guarantees the robustness of our findings but also bolsters their credibility. We believe that our efforts will significantly contribute to the ongoing discourse and pave the way for further advancements in understanding customer intention.
Selection criteria and data extraction

In dynamic retail, grasping customer intention in the omnichannel retailing framework is crucial. To deeply investigate this subject and offer a detailed overview, this study accessed the Scopus database, a prestigious source of academic publications. A set of specific search terms aligned with the research goals was employed to ensure an exhaustive exploration. The selected keywords included "omnichannel," "omnichannel," "customer," "consumer," and "intention." These terms were foundational to the research query and anticipated to produce the most pertinent outcomes. To enhance the search and encompass a broader range of relevant literature, these keywords were methodically amalgamated using Boolean operators "AND" and "OR," resulting in the primary search strategy: "omnichannel OR omni-channel AND customer OR consumer AND intention."

However, an unrefined search can often produce many results, not all directly pertinent to the research query. To address this, specific filters were applied based on literature type, period, and language, essential in refining the results and ensuring the inclusion of studies strictly relevant to the topic. After the initial search, the subsequent vital stage was evaluation, commencing with a cursory review of the retrieved papers' abstracts. As abstracts offer a succinct research summary, they are vital in gauging a paper's applicability to this study. These abstracts were then cross-referenced with pre-established inclusion and exclusion criteria, ensuring uniformity and relevancy in the selection. A primary stipulation examined consumer intention as a dependent variable in the papers, reflecting its significance to the research objective.

With a curated list of articles, the full texts of these selected papers were retrieved. This allowed for a more detailed and nuanced assessment. The evaluation was not just a cursory glance; various aspects of each article were explored in depth. This included understanding the core topic of the study, the research methods employed, the characteristics of the sample used, the instruments chosen for data collection, and, most importantly, the key findings that emerged. The overarching aim of this meticulous evaluation was twofold. First, to ensure that the studies included aligned with the research question and the broader objectives of this systematic review. Second, to provide a holistic understanding of the research landscape on customer intention in the omnichannel retailing context.

By adhering to this rigorous search and evaluation methodology, this review synthesized the existing literature and ensured its relevance and applicability. Including pertinent studies, combined with a critical assessment of their methodologies and findings, fortified the reliability and validity of the conclusions. As a result, the recommendations and insights are grounded in a comprehensive understanding of the field, making them both actionable and impactful for stakeholders in omnichannel retailing.

Theoretical Overview

In the omnichannel retail landscape, various theoretical frameworks have been utilized to comprehend and interpret various phenomena. Table 1 provides a comprehensive breakdown of the different theories adopted. The most commonly utilized theory is the Stimulus, Organism, Response (SOR) Theory, with it being referenced in 8 journals. Following closely are The Diffusion of Innovation (DOI) Theory and the Technology Acceptance Model (TAM) Theory, both of which have been applied in 5 journals each. The Theory of Planned Behavior (TPB) and the Unified Theory of Acceptance and Use of Technology 2 (UTAUT2) have each been employed in 4 journals.

Several theories, including the Unified Theory of Acceptance and Use of Technology (UTAUT), Theory of Reasoned Action (TRA), Social Exchange Theory (SET), Prospect Theory, Engel Kollat Blackwell (EKB) Model, Flow Theory, Protection Motivation Theory (PMT), among others, have been cited in 2 journals each. A plethora of other theories, such as the Extending The Extended Parallel Process Model (E-EPPM), Value-Based Adoption Model (VAM), and the Idiosyncratic Service Experience (ISE), to name a few, have been referenced in a single journal each.

Interestingly, there are 15 journals in the omnichannel retail landscape that have not grounded their research in any specific theory. It is also important to note that some journals may be grounded in more than one theory, which could explain the cumulative total of 83 mentions. This highlights the diverse range of theoretical lenses through which researchers view the omnichannel retail environment, and the richness and complexity of the subject matter.

Having analyzed this diverse range, our research focus narrows down to delve deeper into the seven most prominent theories. These include the Stimulus, Organism, Response (SOR) Theory, The Diffusion of Innovation (DOI) Theory, Technology Acceptance Model (TAM) Theory, Theory of Planned Behavior (TPB) Theory, The Unified Theory of Acceptance and Use of Technology 2 (UTAUT2), The Unified Theory of Acceptance and Use of Technology (UTAUT), and the Theory of Reasoned Action (TRA). Each of these theories offers unique insights and perspectives that are paramount to understanding the intricacies and nuances of omnichannel retailing. By focusing on these predominant theories, this research aims to gain a more profound and comprehensive understanding of the key drivers, challenges, and opportunities within the omnichannel retail domain.
Table 1: List of theoretical frameworks

<table>
<thead>
<tr>
<th>Theory Used</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stimulus, Organism, Response (SOR) Theory</td>
<td>8</td>
</tr>
<tr>
<td>The Diffusion of Innovation (DOI) Theory</td>
<td>5</td>
</tr>
<tr>
<td>Technology Acceptance Model (TAM) Theory</td>
<td>5</td>
</tr>
<tr>
<td>Theory of Planned Behavior (TPB) Theory</td>
<td>4</td>
</tr>
<tr>
<td>The Unified Theory of Acceptance and Use of Technology 2 (UTAUT2)</td>
<td>4</td>
</tr>
<tr>
<td>The Unified Theory of Acceptance and Use of Technology (UTAUT)</td>
<td>2</td>
</tr>
<tr>
<td>Theory of Reasoned Action (TRA)</td>
<td>2</td>
</tr>
<tr>
<td>Social Exchange Theory (SET)</td>
<td>2</td>
</tr>
<tr>
<td>Prospect Theory</td>
<td>2</td>
</tr>
<tr>
<td>The Engel Kollat Blackwell (EKB) Model</td>
<td>2</td>
</tr>
<tr>
<td>Flow Theory</td>
<td>2</td>
</tr>
<tr>
<td>Protection Motivation Theory (PMT)</td>
<td>2</td>
</tr>
<tr>
<td>Extending The Extended Parallel Process Model (E-EPPM)</td>
<td>1</td>
</tr>
<tr>
<td>Value-Based Adoption Model (VAM) Theory</td>
<td>1</td>
</tr>
<tr>
<td>Idiosyncratic Service Experience (ISE)</td>
<td>1</td>
</tr>
<tr>
<td>The Expectancy-Disconfirmation Theory</td>
<td>1</td>
</tr>
<tr>
<td>Feelings-As-Information Theory</td>
<td>1</td>
</tr>
<tr>
<td>Regret Regulation Theory</td>
<td>1</td>
</tr>
<tr>
<td>Task-Technology Fit (TTF) Framework</td>
<td>1</td>
</tr>
<tr>
<td>The Commitment-Trust Theory (CTT)</td>
<td>1</td>
</tr>
<tr>
<td>Self-Construal Theory</td>
<td>1</td>
</tr>
<tr>
<td>The Service Encounter Model</td>
<td>1</td>
</tr>
<tr>
<td>Trust-Commitment Theory</td>
<td>1</td>
</tr>
<tr>
<td>Experiential Value Theory</td>
<td>1</td>
</tr>
<tr>
<td>Cost-Benefit Paradigm</td>
<td>1</td>
</tr>
<tr>
<td>Cognitive Evaluation Theory</td>
<td>1</td>
</tr>
<tr>
<td>Psychological Reactance Theory (PRT)</td>
<td>1</td>
</tr>
<tr>
<td>Theory of Fluency</td>
<td>1</td>
</tr>
<tr>
<td>Congruity Theory</td>
<td>1</td>
</tr>
<tr>
<td>Accessibility-Diagnosticity Theory</td>
<td>1</td>
</tr>
<tr>
<td>Environmental Psychology Theory</td>
<td>1</td>
</tr>
<tr>
<td>Theory of Consumer Empowerment</td>
<td>1</td>
</tr>
<tr>
<td>The Expectancy-Disconfirmation Theory</td>
<td>1</td>
</tr>
<tr>
<td>Feelings-As-Information Theory</td>
<td>1</td>
</tr>
<tr>
<td>Regret Regulation Theory</td>
<td>1</td>
</tr>
<tr>
<td>Customer Experience Quality Framework</td>
<td>1</td>
</tr>
<tr>
<td>Equity Theory</td>
<td>1</td>
</tr>
<tr>
<td>Means-End Chain (MEC) Theory</td>
<td>1</td>
</tr>
<tr>
<td>Trust Transfer Theory</td>
<td>1</td>
</tr>
<tr>
<td>Brand-Attitude Transfer Model</td>
<td>1</td>
</tr>
<tr>
<td>No Theory</td>
<td>15</td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td><strong>83</strong></td>
</tr>
</tbody>
</table>

Note. Some journals are grounded on more than two theories.

Source: Authors

Findings and Discussions

Thematic Categorization

The analysis of multiple studies has revealed consistent theory dimensions when examining the relationship between omnichannel strategies and customer intention. These dimensions represent recurrent themes that have emerged across various research efforts, underscoring their significance in the field of omnichannel strategy.
Table 2: Omnichannel customer intention theme table

<table>
<thead>
<tr>
<th>Themes</th>
<th>Customer intention as dependent variables</th>
</tr>
</thead>
<tbody>
<tr>
<td>Omnichannel Adoption Intention (Theme 1: OC Adoption)</td>
<td>Omnichannel shopping intention, omnichannel retailing use intention, omnichannel adoption intention, channel migration intention, omnichannel technology acceptance intention, omnichannel use intention, omnichannel continuous intention, reuse omnichannel intention</td>
</tr>
<tr>
<td>Omnichannel Shopping Method Intention (Theme 2: Shopping Method)</td>
<td>Delivery method intention, BOPI, BOCP, BIHD usage intention, BOPS usage intention, continuous BOPIS use intention, BOPS sustainable usage intention, BOPS reuse intention, showrooming intention, online shopping intention, webrooming intention, store preference intention, channel selection intention</td>
</tr>
<tr>
<td>Brick and Mortar Store Intention (Theme 3: B&amp;M)</td>
<td>Store visit intention, revisit intention, Smart mall omnichannel service usage intention, Location-based service usage intention, smartphone in-store use intention</td>
</tr>
<tr>
<td>Loyalty Intention (Theme 4: Loyalty)</td>
<td>Purchase intention, repurchase intention, word-of-mouth (WOM), electronic word-of-mouth (eWOM), patronage intention, repatronage intention, offline purchase intention, online purchase intention, mobile purchase intention, product review sharing intention, user-generated content creation (UGC), co-create value intention, and loyalty intention</td>
</tr>
</tbody>
</table>

Table 2 categorizes these theory dimensions into four overarching themes. The first theme, "Omnichannel Adoption Intention (OC Adoption)," explores customer intentions related to the adoption of omnichannel strategies, encompassing intentions such as omnichannel shopping, retailing use, and technology acceptance. The second theme, "Omnichannel Shopping Method Intention (Shopping Method)," delves into customer intentions regarding shopping methods, including delivery, BOPI, online shopping, and store preference intentions. The third theme, "Brick and Mortar Store Intention (B&M)," focuses on intentions related to physical stores, such as store visit and smartphone in-store use intentions. The fourth theme, "Loyalty Intention (Loyalty)," examines intentions like purchase, repurchase, and word-of-mouth, reflecting customer loyalty in omnichannel environments.

Table 3: Theory used in omnichannel customer intention

<table>
<thead>
<tr>
<th>Theory</th>
<th>Customer intention as dependent variables</th>
<th>Theme</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stimulus, Organism, Response (SOR)</td>
<td>Patronage intention, purchase intention, repurchase intention, revisit intention, omnichannel shopping intention, BOPI, BOCP, BIHD intention</td>
<td>Loyalty, B&amp;M, OC Adoption, Shopping Method</td>
</tr>
<tr>
<td>The Diffusion of Innovation (DOI)</td>
<td>Location-based service usage intention, omnichannel shopping intention, omnichannel use intention</td>
<td>B&amp;M, OC Adoption</td>
</tr>
<tr>
<td>Technology Acceptance Model (TAM)</td>
<td>Location-based service usage intention, omnichannel use intention, BOPS sustainable usage intention, webrooming intention, showrooming intention</td>
<td>B&amp;M, OC Adoption, Shopping Method</td>
</tr>
<tr>
<td>Theory of Planned Behavior (TPB)</td>
<td>Purchase intention, revisit intention, channel selection intention, continuous use intention, BOPI, BOCP, BIHD intention</td>
<td>Loyalty, B&amp;M, OC Adoption, Shopping Method</td>
</tr>
<tr>
<td>The Unified Theory of Acceptance and Use of Technology 2 (UTAUT2)</td>
<td>Smartphones in-store use intention, omnichannel technology acceptance intention, continuous BOPIS use intention, showrooming intention</td>
<td>B&amp;M, OC Adoption, Shopping Method</td>
</tr>
<tr>
<td>The Unified Theory of Acceptance and Use of Technology (UTAUT)</td>
<td>Patronage intention, BOPS usage intention</td>
<td>Loyalty, Shopping Method</td>
</tr>
<tr>
<td>Theory of Reasoned Action (TRA)</td>
<td>Purchase intention, showrooming intention</td>
<td>Loyalty, Shopping Method</td>
</tr>
</tbody>
</table>

Table 3 further categorizes these theory dimensions based on the theoretical frameworks employed in research. The "Stimulus, Organism, Response (SOR)" theory dimension covers intentions related to patronage, purchase, repurchase, and omnichannel shopping across multiple themes. "The Diffusion of Innovation (DOI)" dimension pertains to location-based service usage and omnichannel shopping intention, mainly within the B&M and OC Adoption themes. "Technology Acceptance Model (TAM)" dimensions align with location-based service usage, omnichannel use, and various shopping intentions across B&M, OC Adoption, and Shopping Method themes. "Theory of Planned Behavior (TPB)" dimensions include purchase, revisit, and channel selection intentions spanning Loyalty, B&M, OC Adoption, and Shopping Method themes.

"The Unified Theory of Acceptance and Use of Technology 2 (UTAUT2)" covers intentions related to in-store smartphone use, omnichannel technology acceptance, and BOPIS, mainly within B&M, OC Adoption, and Shopping Method themes. "The Unified Theory of Acceptance and Use of Technology (UTAUT)" dimensions relate to patronage and BOPS usage intentions, primarily...
associated with the Shopping Method theme. Finally, "Theory of Reasoned Action (TRA)" dimensions include purchase and showrooming intentions, aligning with Loyalty and Shopping Method themes, respectively. These theory dimensions and their categorization provide valuable insights into the complex interplay between omnichannel strategies and customer intention, offering a nuanced understanding of how various theoretical frameworks help elucidate this relationship.

**OC Adoption**

Through a meticulous systematic literature review on omnichannel services adoption, a comprehensive array of variables has emerged, elucidating the multifaceted nature of this domain. As illustrated in Figure 2, the current study delved deep into the diverse customer intentions associated with channel usage and adoption, shedding light on underlying mediators and moderators. Channel migration intention emerged as a focal point, where customer perceived value of a particular channel assumed a mediating role, while the costs associated with switching channels act as a moderator (Wang et al., 2023). Continuous use intention is also mediated by emotional and functional value, as well as attitude, with product involvement moderating the relationship (Geng & Chang, 2022; Lee & Kim, 2021).

Omnichannel adoption intention, driven by use intention, seeks the need for cognition (NFC) group operating as a moderator (Park & Kim, 2019). In the retailing landscape, intentions to use omnichannel are shaped by perceived compatibility, risk, and protection motivation. The vast domain of omnichannel shopping intentions encompasses factors like usefulness, ease of use, compatibility, risk, attitudes, and perceived values of showrooming and webrooming, acting as mediating forces (Jaengersprejek & Chaipoompiratana, 2022; Kang, 2019). The propensity to accept omnichannel technology is steered by personal innovativeness and purchase intentions (N. M. H. Nguyen & Borusiak, 2021). Additionally, feelings of surprise, discontent, and anticipated regret shape the intention to use omnichannel services, with product involvement serving as a moderating influence (Quach et al., 2023). The intent to reuse omnichannel services is mediated by the quality of channel integration (Son et al., 2021).

This synthesis not only offers a consolidated view of the current knowledge landscape but also underscores the importance of understanding customer perceptions, values, attitudes, and other pertinent factors. Such insights are instrumental for the effective management of channels and the formulation of customer engagement strategies. As the omnichannel domain continues to evolve, these systematic findings, grounded in established research, serve as foundational pillars for both academic inquiry and industry strategies.

**Shopping Method**

As delineated in Figure 3, the research delved deep into various facets of shopping method customer intention, moderated and mediated by a range of factors. One pivotal area centered around delivery method intention, where customer attitudes and perceived costs emerged as influential mediators. According to Klein and Popp (2022), customers’ overarching perceptions and evaluations of
delivery methods significantly steered their intentions, underscoring the importance of aligning delivery strategies with customer evaluations.

Note. CIQ dimension includes breadth of channel-service choice, transparency of channel-service configuration, content consistency and process consistency. CPCL dimension includes integrated product & price, integrated promotion, integrated order fulfillment, integrated information access, integrated transaction information, integrated consumer service, perceived usefulness, perceived ease of use, perceived economic sustainability, perceived social sustainability, UTAUT 1 (Performance Expectancy, Effort Expectancy, Social Influence, Compatibility), UTAUT 2 (Performance Expectancy, Effort Expectancy, Social Influence, Compatibility), Personal Innovativeness, Performance Expectancy, Effort Expectancy, Social Influence, Facilitating Conditions, Hedonic Motivation, Value Consciousness, Purchase Involvement, Perceived Usefulness, Perceived Ease of Use, Exploratory Information Seeking, Exploratory Acquisition, Channel Transparency, Channel Conveniences, Channel Uniformity, Self Image Congruence, Functional Congruence, Financial Risk, Product Risk, Time, Convenience Risk, Showrooming.

Figure 3: Moderated Mediation Model of Shopping Method; Source: Authors

Another salient dimension revolved around the reuse intention of the Buy Online, Pickup in Store (BOPS) service. This intention was intricately linked with factors like perceived usefulness, service quality, and overall BOPS satisfaction (Lee, 2020). Evidently, the perceived value and satisfaction derived from BOPS were instrumental in driving customers to reuse the service. Chai and Wang (2022) further spotlighted the sustainable usage intention of BOPS, emphasizing the pivotal roles of perceived usefulness and ease of use as mediators. These findings suggest that customers’ perceptions of the benefits and convenience associated with sustainable BOPS significantly shape their intentions.

Kim et al. (2020) explored the continuous use intention of BOPIS, highlighting previous behavioral intention as a mediator and identifying generational differences as a moderator. Intention dynamics related to BOPIS, BOPC, and BIHD were also dissected, with perceived hedonic value, utilitarian value, perceived risk, and behavioral control acting as mediators. Intriguingly, the overarching cloud of perceived COVID-19 vulnerability moderated these intentions (Chen & Chi, 2021). The research by Kim et al. (2020) underscored the role of task-technology fit as a mediator for BOPS usage intention, with gender, age, and income surfacing as significant moderators.

Other noteworthy findings include the association of showrooming intention with mobile dependency (Chimborazo-Azogué et al., 2022) and the mediation of channel selection intention by perceived behavioral control, perceived risk, and channel price advantage, moderated by product price (Xu & Jackson, 2019). Additionally, the interplay of pleasure and satisfaction was evident in mediating store preference intention (Dai & Pelton, 2018). Cumulatively, these findings shed light on the intricate dance of mediators and moderators in deciphering the nexus between omnichannel strategies and customer intentions. This rich tapestry of insights not only illuminates the academic understanding of customer intention but also offers invaluable guidance for retailers. By harnessing these insights, retailers can craft effective strategies that resonate with customer preferences and behaviors in the ever-evolving omnichannel retail landscape.
Brick and Mortar

Through an extensive systematic literature review focused on retail and consumer behavior, the study yielded profound insights into customer intention within brick-and-mortar stores. The review meticulously identified and categorized pivotal variables, as illustrated in Figure 4. These independent variables span a broad spectrum, from subjective norms and perceived usefulness to the intricacies of physical and virtual shopping environments. Such findings underscore the multifaceted nature of consumer decision-making processes.

For instance, concerning location-based service usage intention, customer attitude and perceived value emerged as significant mediators. The presence of flow was pinpointed as a vital moderator, influencing the relationship between intention and its mediators (Lee & Kim, 2021; Schrage et al., 2022). When exploring revisit intention, hedonic and utilitarian experiences, along with customer satisfaction, were identified as key mediators. In this context, perceived convenience was established as a salient moderator (Gibson et al., 2022; Lee, 2020).

Furthermore, smart mall omnichannel service usage was deeply influenced by mediators such as smart mall shopping intention and various facets of flow, encompassing control, concentration, skill, challenge, and enjoyment (Ameen et al., 2020). For smartphones’ in-store use intention, behavioral intention played a mediating role, with age acting as a distinguishing moderator, particularly separating millennials from non-millennials (Mosquera et al., 2018). Notably, store visit intention was mediated by brand equity, as highlighted by Baek et al. (2020).

Figure 4: Moderated Mediation Model of Brick and Mortar; Source: Authors

The culmination of this systematic review provides a granular understanding of the retail landscape, offering a robust foundation for both academics and practitioners. These distilled insights have not only deepened the comprehension of customer behavior but also furnished invaluable insights for devising potent retail strategies.

Loyalty Consumer Intention

In our comprehensive systematic literature review, a detailed analysis revealed a range of critical variables central to the omnichannel retail domain (Figure 5). This intricate fabric reveals profound insights into the dynamics and nuances of various customer intentions within this multifaceted context. Central to this exploration is patronage intention, a foundational cornerstone of consumer behaviour. Influenced by many mediating factors like customer empowerment, trust, and perceived value, this intention sets the stage for deeper consumer engagement. These mediators themselves are swayed by various moderating variables, such as internet usage and retail types (Cheah et al., 2020; Le & Nguyen-Le, 2020; Lim et al., 2022; Mimoun et al., 2022; Mishra et al., 2022; Nguyen, 2021; Quach et al., 2023; Zhang et al., 2018).

The intricate fabric of purchase intention, essential for businesses, is spun with threads of mediators like perceived fluency and brand attitude. Seminal works have delved into these associations, highlighting the moderating role of gender and omnichannel integration quality (Cattapan & Pongsakornrungsilp, 2022; Dai & Pelton, 2018; Kopot & Cude, 2021; Mosquera et al., 2018; Sombultawee &...
Wattanatorn, 2022; Tjhin et al., 2018). Repurchase intention, indicative of enduring loyalty, is intricately woven with factors like customer engagement and cumulative satisfaction, as underscored by various studies (Chang & Li, 2022; Gao & Fan, 2021; Phang et al., 2021; Kim et al., 2020; Lee et al., 2019; Prassida & Hsu, 2022). As this study traverses the intricate landscape, the significance of Word of Mouth (WOM) and e-WOM is evident. Both are deeply influenced by mediators like customer engagement and satisfaction (Chang & Li, 2022; Dai & Pelton, 2018; Gao & Fan, 2021; Phang et al., 2021; Lee et al., 2019; Siqueira et al., 2019). Delving further, this research encounters a plethora of intentions, from offline and online purchases to repatronage and user-generated content creation, each sculpted by its unique constellation of mediators and moderators.

Amidst this intricate narrative, the dichotomy between hedonic and utilitarian values stands out. Hedonic value, emphasizing emotional and experiential aspects, often plays a crucial role in shaping loyalty intentions, especially when shopping is seen as entertainment or self-expression. On the contrary, utilitarian value, rooted in functionality and efficiency, can be pivotal in scenarios where consumers prioritize practical benefits and task-oriented shopping experiences. These two consumer orientations, each with distinct nuances, can mediate or moderate the relationship between various retail attributes and loyalty intentions, making them invaluable in understanding and fostering consumer loyalty. Further exploring the depth of omnichannel retail dynamics, offline purchase intention has emerged as a prominent facet. Studies have indicated the significant role of perceived quality of offline offerings in shaping these intentions. Notably, the influence of the consumer's online shopping experience and perceived channel congruence cannot be understated in this context (Rhee & Lee, 2021; Swoboda & Winters, 2021). While mirroring some of the considerations of offline intent, online purchase intention places a heightened emphasis on the perceived quality of online offerings (Swoboda & Winters, 2021). Meanwhile, mobile purchase intention, a rapidly growing segment in the digital age, is significantly influenced by brand advocacy, highlighting the power of brand resonance in driving purchases through mobile platforms (Rhee & Lee, 2021).

Patronage intention, a testament to a brand's sustained appeal, is significantly shaped by the experienced value and overall customer satisfaction. This intention reflects a one-time purchase decision and a continuous commitment to a brand, as highlighted in critical studies (Iyer et al., 2018; Terblanche & Kidd, 2021). In the age of digital discourse, e-WOM has assumed a paramount role. Both customer satisfaction and the overall customer experience are primary drivers for e-WOM, influencing potential consumers' perceptions and purchase decisions (Chang & Li, 2022; Siqueira et al., 2019). The modern retail landscape has also seen a surge in user-generated content creation intention. Factors such as showrooming, webrooming, and mobile showrooming attitudes play pivotal roles here, indicating the blending of online and offline experiences in shaping consumer behaviour (Chang & Li, 2022; Siqueira et al., 2019). Loyalty intention, a cornerstone of sustained business success, draws heavily from utilitarian and hedonic values. The balance between functional benefits (utilitarian) and experiential pleasures (hedonic) can significantly impact loyalty intentions, especially when factoring in variables like deal proneness (Flacandji & Vlad, 2022).

The intention to share product reviews, an extension of e-WOM, hinges on the perceived value of showing and webrooming, reflecting the omnichannel nature of modern retail (Kang, 2018). Co-creation value intention, a relatively newer domain, emphasizes the importance of perceived trust and risk in co-creation, with perceived value as a potential moderating factor (Alimamy & Gnoth, 2022). Lastly, online shopping intention, especially among millennials, showcases the interplay between generational traits and evolving retail practices. The impact of showrooming on this intention underscores the convergence of physical and digital retail experiences (Johnson & Ramirez, 2021). The omnichannel retail landscape is a complex web of intertwined intentions, mediators, and moderators.
Note. TPB dimension includes attitude, social norm and perceived behavioral control. CIQ dimension includes breadth of channel-service choice, transparency of channel-service configuration, content consistency and process consistency. CPCI dimension includes integrated product & price, integrated promotion, integrated order fulfillment, integrated information access, integrated transaction information and integrated consumer service. SE dimension includes availability of links, consistency of sales strategies, information visibility, simplicity of payment, flexibility of fulfillment, convenience of sharing. BOPS means buy online pick up in-store. BSSD means buy in store ship direct.

Figure 5: Moderated Mediation Model of Loyalty Consumer Intention; Source: Authors

Discussions

The retail industry, a cornerstone of global commerce, has undergone seismic shifts in recent years. These transformations have been propelled by the whirlwind of technological advancements in domains like artificial intelligence, augmented reality, and big data analytics. These technologies, while providing a plethora of opportunities for retailers, have also introduced complexities in the landscape. For instance, artificial intelligence now enables personalized shopping experiences, augmented reality facilitates virtual try-ons, and big data analytics offers insights into consumer behavior like never before. These technological changes, however, did
not occur in isolation. The global consumer base, with its ever-evolving preferences and increased exposure to international markets, has played a pivotal role in driving these shifts. Their growing inclination towards digital platforms, especially during the restrictive phases of the COVID-19 pandemic, witnessed an unprecedented surge in e-commerce activities. This period underscored the inherent vulnerabilities in relying solely on traditional brick-and-mortar models and underscored the importance of flexible and adaptive business strategies. In tandem with these developments, the concept of retailing has metamorphosed from a simplistic multichannel approach to a more nuanced omnichannel strategy.

The essence of omnichannel retailing is not just about having multiple channels but ensuring their seamless integration. This integration ensures that customers experience consistent and complementary service across all touchpoints, in-store, online, or mobile apps. Recognizing these shifts, the academic sphere has delved deep into the intricacies of omnichannel retailing, particularly its impact on customer intentions. This study aimed to offer a more granular perspective on this subject, especially against the pandemic-induced changes. A focal point of the research was understanding the nuanced roles played by mediators, such as perceived value and trust, in influencing customer intentions. Furthermore, the importance of moderators like age demographics and the degree of product involvement in the purchasing decision was explored. The research also acknowledged and highlighted the significance of established theoretical frameworks in this domain. For instance, the Stimulus, Organism, Response (SOR) Theory, which provides insights into how environmental cues influence customer behavior, and the Technology Acceptance Model (TAM) Theory, which sheds light on the acceptance and use of technology, are both instrumental in understanding the omnichannel context. By comprehensively understanding these dynamics, retailers are better positioned to craft well-informed strategies. These strategies, rooted in both empirical data and theoretical foundations, can enhance customer engagement, loyalty, and overall satisfaction, ensuring retailers not only survive but thrive in this competitive and ever-changing market.

Conclusions

Our study delves deeply into the critical theoretical dimensions of omnichannel retailing, utilizing established models such as TAM (Technology Acceptance Model), UTAUT (Unified Theory of Acceptance and Use of Technology), UTAUT2, CIQ (Customer Interaction Quality), CPCI (Customer Perceived Channel Integration), and SE (Service Excellence). These models provide an essential foundation for understanding the complex factors influencing customer behaviour in the multifaceted omnichannel landscape. This landscape is undergoing significant transformation, driven by technological advancements, shifting global market dynamics, and a radically altered consumer psyche. The change is profound, marking a seismic shift in businesses’ methods to approach, engage, and retain customers in a digitally driven world.

In this rapidly evolving retail environment, understanding customer behaviour becomes paramount, and our research contributes actionable insights beneficial for both academic research and practical industry applications. By leveraging these insights, businesses can develop more effective strategies for sustainable growth. Central to this transformation is the role of cutting-edge technologies like artificial intelligence, augmented reality, and big data analytics. These technologies are more than trendy concepts; they are pivotal tools that empower modern retailers to unravel consumer behaviours, tailor shopping experiences to individual preferences, and optimize various operations. For instance, augmented reality bridges the digital and physical realms, enabling consumers to visualize products in their actual environments before making a purchase decision. Similarly, big data analytics provides retailers invaluable insights, from predicting shopping trends to enhancing supply chain efficiencies. The transition from a multichannel to an omnichannel approach signifies a crucial change in business philosophy, focusing on delivering a seamless and integrated customer experience regardless of the platform - in a physical store, on a desktop browser, or via a mobile app. This approach is about crafting a cohesive brand narrative and ensuring consumers receive consistent value at every interaction point. Our exploration into omnichannel retailing extends beyond academic exercise; it aims to untangle the intricate interplay of factors like perceived value, trust, age demographics, and product involvement that shape customer intentions. By integrating theories such as SOR (Stimulus-Organism-Response) and TAM, our research offers a comprehensive perspective to view and interpret the complex omnichannel ecosystem.

Despite its significant contributions, our study acknowledges inherent limitations. We provide a broad overview of the omnichannel landscape but recognize the need for future research to delve into specific aspects of omnichannel retailing for a more detailed and nuanced understanding. In summary, the future of retail lies at the crossroads of innovative technology, strategic planning, and profound consumer insight. As businesses navigate this complex terrain, they must remain agile, well-informed, and customer-centric. The insights from this research are not just academic; they serve as a practical compass and roadmap, guiding retailers towards achieving sustainable success in a constantly evolving marketplace.

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References


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