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The impact of omnichannel integration towards customer interest in alternatives: retailer uncertainty and web rooming in retailing

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ABSTRACT

This current study delves into the quality of consumer perception regarding brand channel integration that adopts the omnichannel approach. It specifically explores the impact of process consistency, breadth of the channel service choice, transparency of the channel service configuration, and content consistency, on customers' inclination towards alternatives. The research incorporates the mediating role of retailer uncertainty and introduces the moderating factor of web-rooming. The analysis, based on data from 319 customers engaged with various omnichannel brands, revealed that the breadth of channel-service choice and process consistency emerged as the most influential factors. These factors contribute significantly to reducing retailer uncertainty and deterring customers from exploring alternative options. The implications of these findings are particularly valuable for industry practitioners, offering insights to shape effective omnichannel business strategies. By prioritizing the breadth of channels and ensuring process consistency, retailers can mitigate uncertainties in customers' minds, thereby fostering retention and satisfaction.

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1. Introduction

The current advances and innovations in various fields of technology are transforming the retail customer experience, as these technologies provide multiple touchpoints to them (Blom et al., 2021; Salvietti et al., 2022; Solem et al., 2023). After realizing the value of integrated information and services, retailers have now moved towards an omnichannel strategy (Shen et al., 2018). Omnichannel retailing strategy is 'a synergistic amalgamation of customer touchpoints and communication opportunities to create a unified experience of a brand irrespective of the channel, platform the stage where you are in, in the process of selling' (Cummins et al., 2016, p. 4). Even though numerous vendors have realized the significance that omnichannel strategies possess, still, there is a difference in customer demand and the capacities of omnichannel vendors (Hansen & Sia, 2015).

Omnichannel strategies allow customers not only to buy things online but also to see if they are available in a physical store (Hiraishi et al., 2016). This behavior, called webrooming, is when people look for a product on the internet and then go to a real store to buy it. It's a big part of omnichannel shopping. In omnichannel retailing, both web rooming and showrooming activities consist of 'mobile and online channels, and brick and mortar retail opportunities' (Kang, 2018; Li, Guan, et al., 2023).

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Omnichannel retailing operates in such a world where omni shoppers or customers have access to vast information, based on which it can be said that omnichannel exists in a competitive business environment. Omnichannel customers can easily think about or find alternatives, Therefore, an omnichannel retailer, along with acquiring and retaining customers should also consider the risk of losing customers to alternatives (Aurier & N'Goala, 2010). For this reason, considering the interest in alternatives by customers is of vital importance when implementing cross-clihannel integration (Asmare & Zewdie, 2022; Li et al., 2018; Thaichon et al., 2022).

Due to their focus on customers, efforts to integrate channels have caught the interest of both academics and management. Research indicates that customers using omnichannel services sometimes face challenges because companies struggle to meet their specific needs with their existing channel arrangements. (e.g. Hoogveld & Koster, 2016; Lin et al., 2023).

As a result, it has been recognized that the success of omnichannel businesses relies on the quality of various factors that can influence customers' intentions (Saghiri et al., 2017). Furthermore, understanding customers' attitudes toward omnichannel strategies is considered essential. While many studies have described omnichannel strategies (Kazancoglu & Aydin, 2018; Picot-Coupey et al., 2016), there remains a need to provide theoretical and empirical insights into the customer experience of omnichannel strategies. Studies focusing on specific aspects of omnichannel understanding may not offer a complete perspective on certain crucial factors of omnichannel quality (Shi et al., 2020).

The studies on omnichannel, which have only lately begun to appear are limited as they do not take into account the new omnichannel setups (Lee, 2020; Ren et al., 2023). Moreover, previous researchers have focused on the impact of cross-channel integration on customer retention and they have not studied its effect on reducing other opposing results such as 'customers' interest in alternatives' (Li et al., 2018). The research on omnichannel, is limited since it does not take into account the new omnichannel unique traits and possible benefits (Cocco & Demoulin, 2022; Gasparin et al., 2022; Sousa et al., 2021), such as interest in alternatives, retailer uncertainty and webrooming.

While existing literature provides insights into omnichannel service characteristics (e.g. Lee et al., 2019) and retailer uncertainty (Li et al., 2018) independently, there is a gap in understanding how these factors interact to influence consumer choices. By exploring the mediating role of retailer uncertainty, and moderating role of webrooming, this research seeks to contribute a more holistic view of the dynamics between omnichannel and consumer behavior, providing actionable insights for retailers in an increasingly competitive market. While current literature acknowledges the influence of webrooming on consumer behavior, its interplay with omnichannel characteristics, retailer uncertainty, and interest in alternatives remains underexplored. Investigating webrooming as a moderator provides a more nuanced understanding of how consumers navigate the online and offline retail spheres and make choices based on the perceived channel service quality and retailer uncertainty.

Hence, the aim of this study is to assess how the quality of omnichannel integration impacts customers' inclination towards alternative brands, considering the mediating influence of retailer uncertainty and the moderating effect of webrooming. The study seeks to provide answers to the following questions:

RQ1. To what extent does the quality of omnichannel integration influence customers' interest in exploring alternative brands?
RQ2. How does retailer uncertainty mediate the relationship between the quality of omnichannel integration and customers' interest in brand alternatives?
RQ3. In what ways does webrooming moderate the association between the retailer uncertainty and customers' interest in alternative brands?
RQ4. How do the combined effects of omnichannel integration quality, retailer uncertainty, and webrooming contribute to shaping customer perceptions and decisions regarding brand alternatives?

By addressing the identified research gap, this study holds substantial implications for both managerial practices and consumer research. It adds value to the current body of literature by establishing a theoretical framework that illuminates the attributes of omnichannel integration and its impact on

mitigating retailer uncertainty, influencing customer perceptions of alternative brands. The insights gleaned from this research can be instrumental in formulating efficient omnichannel strategies for retailers, thereby enhancing their ability to meet customer expectations and navigate the evolving retail landscape effectively.

2. Literature review and Hypotheses development

Omnis is a word of Latin origin and means 'wholly' or 'universal', therefore the term omnichannel can be said to be a grouping of all channels (Lazaris & Vrechopoulos, 2014). Omnichannel retailing refers to 'the synergetic management of the numerous available channels […] in such a way that the customer experience across channels and the performance over channels is optimized' (Verhoef et al., 2015 p. 176). It refers to extended multi-channel retailing and comprises the utilization of various channels in a particular transaction (Cicea et al., 2022; Kaczorowska-Spychalska, 2017). Therefore, it involves employing various channels to engage with customers and meet their requirements (Lee, 2020). From the customer's perspective, omnichannel not only facilitates the buying of products across various e-commerce platforms but also allows them to check the availability of items in physical stores (Indiani & Febriandari, 2021; Majeed et al., 2022).

The expansion into omnichannel retailing poses a significant challenge for retailers, necessitating adjustments to their business models and the integration of core elements. This involves understanding how customers simultaneously utilize digital and physical touchpoints in making purchasing decisions (Hoogveld & Koster, 2016). Existing research on omnichannel retailing has predominantly focused on aspects related to both company initiatives and consumer responses, such as satisfaction, loyalty, and overall experience (Chen et al., 2018). The key perspectives in omnichannel are data coherence and cross-channel experience (Burford & Resmini, 2017; Nguyen et al., 2023). A new wave of consumer-driven analytical research is addressing questions about the adoption and experience of omnichannel services. Recent studies emphasize the necessity for further exploration into aspects that can enhance the operational capabilities of omnichannel retailing (Chen et al., 2018; Li, Tan, et al., 2023). Consequently, it can be asserted that omnichannel is poised to revolutionize the global retail landscape.

2.1. Interest in alternatives and retailer uncertainty

With each passing day, consumers are becoming more conscious of their choices and seeking alternatives to products and services for various reasons (Fuentes et al., 2019; Jones et al., 2000; Srinivasan et al., 2002). Companies recognize the customer's demand for sustainable alternatives, which may push them to seek out sites that can provide them with extra knowledge (Li et al., 2018; Yim et al., 2007). Omnichannel retailers face many challenges along with managing and integrating information across various channels. Research has emphasized customers' perception and experience aspect in all marketing-related activities. Hence, they found that companies' marketing (Melis et al., 2015) and strategies regarding channel management (Ailawadi & Farris, 2017) impact consumer perception. Li et al. (2018) argued that when retailer uncertainty is high, customers are more likely to take interest in alternatives. Customers' perception of a retailer's risk would increase their likelihood of switching retailers in omnichannel commerce (Chou et al., 2016). These authors also argued that a customer's risk perception related to a retailer will result in increasing the probability of switching from one retailer to another. This is because doubts are initiated among customers when they have retailer uncertainty and they start searching for different alternatives.

As indicated by Melis et al. (2015), the allure of a retailer stands out as a crucial factor in the impact of channel integration on customer retention. When customers find a retailer attractive, their uncertainty diminishes, making it less likely for them to explore alternative options. Recently, scholars have highlighted retailer uncertainty as a potential challenge for numerous omnichannel retailers (Li et al., 2018). Retailer uncertainty can play a detrimental role in a company's ability to retain customers (Chiu et al., 2011; Chou & Hsu, 2016). Previous research indicates that retailer uncertainty correlates with reduced customer satisfaction (Luo et al., 2012) and lower retention levels (Rust & Zahorik, 1993). In situations where there is elevated risk and

diminished trust among customers (Pavlou, 2003), retailer uncertainty can prompt customers to switch from their current retailers (Bansal et al., 2005), sparking an interest in alternative options. Therefore, it can be argued that;

Hypothesis 1. *Retailer uncertainty has a positive effect on customers' interest in alternatives.*

2.2. Channel integration quality

Channel integration quality is a way of organizing the use of different channels like retail stores, websites, media, and physical stores. It's about how aware customers are of the services available to them and how the features of services are different across these channels. The goal is to make the most of each channel, avoid competition between them, promote cooperation, and ultimately improve how well the business performs (Neslin et al., 2006). To understand and manage both online and offline channels together, a new concept called multi-channel service quality was needed. Sousa and Voss (2006) were the first to use the term 'multi-channel integration quality' for this purpose. Previous researchers suggest that the quality of integration is crucial for providing a seamless experience to customers (Banerjee, 2014; Falk et al., 2007).

In a setup where different channels work together, service quality has three main parts: physical, virtual, and integration quality. The physical part is about face-to-face interaction and support for things like delivery. The virtual part is about online interactions through websites or devices. Integration quality is about combining both physical and virtual aspects to give customers a seamless experience across all channels (Sousa & Voss, 2006). Sometimes, a company might be doing well in providing good quality through physical and virtual channels separately. But if there are differences or issues between these channels, the overall perception of quality might not be that good. This is where channel integration quality comes in. It means making sure that the service standards is high across all the different channels. Making sure both physical and virtual channels work well together is crucial for delivering a great customer experience in a setup with many channels (Banerjee, 2014). If the management can effectively bring all these channels together, it can give the company a competitive advantage (Wakolbinger & Stummer, 2013).

Channel integration provides customers with more data and an incorporated correspondence system, which helps them to lessen their perceived uncertainty and confusion. Various channels give various sorts of data. For instance, numerous online stores now give customers surveys, in which customers share their purchases of products, services, and experiences (Zhang et al., 2014). Sousa and Voss (2006) argued that channel integration quality is measured in two ways: channel service configurations and integrated interactions. Both the breadth of channel service choice and transparency of channel service configuration are the dimensions of channel service configuration, whereas both process and content consistency are the sub-dimensions of integrated interactions (as cited in Lee et al., 2019). Lee et al. (2019) also emphasized the significance of providing a seamless and consistent customer experience across multiple channels and that by providing a seamless and consistent experience, retailers can foster stronger relationships with customers and encourage their active participation in the brand.

Existing literature shows that consumer evaluation of a brand is significantly influenced by channel integration quality, which further results in positive outcomes for the retailer (Seck, 2013). Channel integration also enhances customer perception of service quality which eventually leads to a high intention to purchase and also an increased willingness to spend (Herhausen et al., 2015). Channel integration quality prominence in omnichannel retailing has also been highlighted by marketing practitioners (e.g., Bianchi et al., 2016; Melsted, 2015). Therefore, it can be said that channel integration quality can assist in reducing retailer uncertainty in the omnichannel retailing context because of which customers will be less likely to have an interest in alternatives.

To address this study's aims, guidance from the accessibility-diagnosticity theory was taken (Feldman & Lynch, 1988). According to the accessibility diagnosticity theory, the probability that a person will use information about an object for decision-making is determined by the accessibility (easiness of recovering specific information) and diagnosticity (competence of inferences based on this information to make

a decision) of the information (Lynch et al., 1988, as cited in Winters & Swoboda, 2019, p. 3.). In the context of omnichannel, integration quality can be used as a tool for accessibility and diagnosticity to evaluate a retailer's position and then decide where to buy. Omnichannel provides multiple cues to customers that help them to make a purchase decision. Previous studies used this theory to understand the influencing mechanism of judgment and decision-making. For example, Winters and Swoboda (2019) used the accessibility-diagnosticity theory to understand consumer assessments of top omnichannel fashion retailers.

The accessibility-diagnosticity theory highlights that people make decisions based on their prior memories and the sequence in which memories are retrieved is determined by both the accessibility of the information and the diagnosticity of the input (Herr et al., 1991). To put it another way, people may only recall unfavorable information about an omnichannel retailer i.e., retailer uncertainty or low channel integration quality. Previous research on the accessibility-diagnostic model emphasized how people react to different types of information and how convincing some information can be (Niu et al., 2021). Sufficient evidence was found that information with variable convenience and diagnosticity can have diverse effects on the evaluation of products, advertisement persuasion, and organizational attractiveness.

2.3. Breadth of channel service choice

The degree to which customers can choose from various channels for a given service or complete preferred tasks through individual channels is characterized by the breadth of channel service options (Lee et al., 2019, p. 10). In the case in which the breadth of channel service choice is widespread then customers will have a choice of multiple channels to avail services. The breadth of the channel service allows retailers to show superiority to the customers such that they are allowed to place orders either offline or online. Such retailers are offering value exchange to their customers when comparing this with those retailers who only allow making orders in one of these online or offline modes (Lee et al., 2019). In omnichannel retailing, the availability of wide-ranging channel choices suggests that channels are strongly interrelated and connected such that customers will have the liberty of selecting channels of their choice to full filling their needs (Banerjee, 2014). Furthermore, the breadth of the channel service choice will also assist in the steadiness of channel transition in the context of omnichannel services. Previous studies also confirm that the breadth of channel service choice can significantly influence customer's shopping experience and it also further helps in the maintenance of both service and information (Lee & Kim, 2010; Madaleno et al., 2007). As the breadth of channel service widens the customer touchpoint in omnichannel, it helps to build brand repute which would reduce the uncertainty. Hence, we hypothesize the following;

Hypothesis 2. *The breadth of channel service choice negatively affects an interest in alternatives through the mediating role of retailer uncertainty.*

2.4. Transparency of the channel service configuration

The corresponding role of offline and online stores has been emphasized multiple times in the literature. For instance, customers can search for their favorite products online and also visit the physical store just to try out the merchandise and get additional guidance from sales individuals. Both the offline and online channels sort of complement and balance each other and this leads to creating a superior service experience for the customer in their every purchase (Loras, 2016). In omnichannel retailing, customers will be more engaged in the shopping process when they will have increased flexibility in selecting from multiple alternative channels, and also there will be a high probability of customers making reciprocated attempts (Hollebeek, 2011; Pervan et al., 2009).

Retailers' inability to effectively integrate their channels results in customer confusion regarding the availability and differences between services obtainable at different channels. This confusion also inflicts difficulty on purchasing journey of the buyers (Bitner et al., 2002). Vendors who provide options to their

clients for channel service integration can deliver a value exchange to their customers and reduce the retailer's uncertainty, thus decreasing the risk of customers' interest in brand alternatives. Hence, we hypothesize that;

Hypothesis 3. *Transparency of channel service significantly affects an interest in alternatives through the mediating role of retailer uncertainty.*

2.5. Content consistency

Content consistency is the extent to which content is consistent as put forward by vendors at multiple channels (Sousa & Voss, 2006). This channel integration quality permits customers to have the same response to a query that is posted either offline or on online channels. Consistency of content assists in eliminating resistance in the shopping journey of customers. Their shopping transaction process will also be less time taking and eventually, they will become more engaged in buying from that channel. Retailer uncertainty seemed to be significantly reduced when they can provide consistent content across multiple channels (Jafari et al., 2022). Consistency of content refers to the different product specifications, pricing contents warranty services, etc. For example, Apple proves to provide consistent content by providing product specifications that are the same for both offline/physical and online customers. Content consistency is also one of the crucial aspects of providing customers with a smooth shopping experience (Cox, 2016). If retailers fail to provide consistent content across all the multiple channels available then this scenario will result in customer frustration because of which they are most likely to move from channel to channel (Matt, 2016). Thus, we hypothesize that;

Hypothesis 4. *Content Consistency significantly affects an interest in alternatives through the mediating role of retailer uncertainty.*

2.6. Process consistency

Process consistency is *the extent to which important and comparable process attributes are consistent across channels* (Lee et al., 2019, p. 10). Process features across different channels include the visual representation, the overall feel of the product, how easy it is to place an order, and the speed of delivery services. A study conducted by Gilles (2015) found that approximately 59% of participants experienced an inconsistent shopping journey, leading to frustration. Therefore, it can be concluded that reducing retailer uncertainty is possible when retailers maintain consistent processes across various omnichannel platforms. Customers are more likely to stay engaged, and the chances of them seeking alternative options decrease when there is consistent visual aesthetics and a smooth, reliable experience across different channels. Process consistency ensures a seamless and effortless transition between channels. When service processes are consistent across various channels, customers' perception of the service doesn't change even when they switch channels (Banerjee, 2014). This results in customers having a positive and smooth feeling about the retailer (Majrashi & Hamilton, 2015). Thus, it can be said that;

Hypothesis 5. *Process Consistency significantly affects an interest in alternatives through the mediating role of retailer uncertainty.*

2.7. Web rooming

Web rooming refers to *a two-part decision-making step in a cross-channel procedure. In the first stage, the customer searches for and finals an alternative product on the internet that will most probably satisfy his or her needs; whereas in the second stage, the consumer verifies the information in a physical store before making a purchase* (Flavián et al., 2019, p. 2).

The concept of webrooming can be extended as a type of omnichannel shopping where the buyer searches for online information before going to the physical store to make a purchase. Additionally, they

use their smartphones to access the internet while in the store to look for more information. This form of shopping is considered influential, and businesses can enhance the shopping experience by providing tablets and mobile devices in the store for customers to search for information about products they want to buy and eventually place an order (Cattapan & Pongsakornrungsilp, 2022; Fernandes & Barfknecht, 2020; Verhoef et al., 2015). Webrooming allows customers to reduce uncertainty related to a purchase and make decisions with a high level of confidence (Flavián et al., 2019). It is an effective cross-channel integration that contributes to increased customer satisfaction, reinforcing their loyalty, a critical factor for a firm's long-term survival (e.g., Jang et al., 2017). In the omnichannel context, buyers combine channels based on their information needs, creating personalized information that enhances their perceived control over the process. Webrooming behavior has garnered attention in both academia and the business world, particularly in the context of omnichannel retailing (Figure 1).

Flavián et al. (2016) recognized that in the web rooming purchase process, blending both online and offline channels for purchase helps in positive purchase experiences such as their confidence, choice, satisfaction, and purchase intentions. This web rooming behavior helps customers to get more information about a retailer, which helps in reducing the retailer's uncertainty. Similarly, web roomer customers have more a piece of clear information and are less likely to take an interest in alternatives. Thus, it can be hypothesized that

Hypothesis 6. *Web rooming moderates the relationship between retailers' uncertainty and customers' interest in alternatives such that the relationship between retailer uncertainty and interest in alternatives will be weaker in the presence of web rooming behavior.*

3. Research methodology

The research is quantitative and aims to investigate omnichannel integration quality characteristics, and highlights whether omnichannel integration affects retailer uncertainty and develops consumers' interest in alternatives or not. This study also investigates whether web roomer customers have a moderating effect between retailer uncertainty and their interests in alternatives or not. The survey methodology was employed by researchers to administer online questionnaires to the respondents. Due to the nature of the research problem, omnichannel shoppers were targeted. 'Shoppers that use at least two channels from the same vendor during their spending journey are referred to as omnichannel shoppers' (Juaneda-Ayensa et al., 2016). In this study, no specific brand was singled out. Instead, participants were prompted in the initial section of the questionnaires to name the brand they use, provided that it is available through at least two shopping channels. This approach enabled the collection of opinions from various respondents regarding multiple brands, thereby enhancing the study's relevance across various categories.

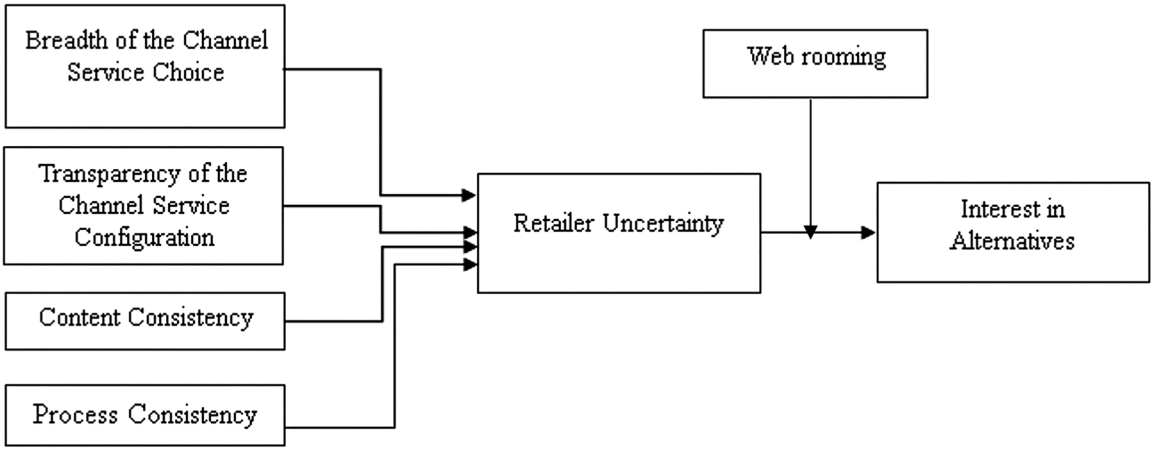


Figure 1. Proposed research model.

In the first stage of the survey, a small-scale pilot study ($N = 20$) was conducted to get insights about the questionnaire's scale item's feasibility and reliability of responses. After analyzing the pilot test study, a further survey was carried out. Before starting the main questionnaires, respondents were asked about their favorite brand name, brand category, and the question 'Do you see products of your favorite brand on its website?'. They were also asked 'Do you sometimes buy products of your favorite brand from multiple channels (e.g., retail store, brand outlet, and online channel, etc.)?' Respondents who fulfilled this criterion of being omni-shoppers were better able to fill out the remaining questionnaire's part. Hence, purposely, only those respondents were selected who were omni shoppers.

The questionnaire was created using Google form and the link was shared with respondents via WhatsApp groups, emails, and other social media platforms. Some respondents returned the questionnaire on the same day, while some of them were sent reminders after a few days to fill out the questionnaires. The sample size was calculated by the rule of 10% (Griner, 2023). This rule is often applied when the population size is relatively small. Initially, the questionnaires were sent to 350 respondents, after analyzing the returned questionnaires, only 319 useful responses were selected for further analysis.

3.1. Measures

Information was gathered through online questionnaires. The first section of the survey covered demographic details, such as age and gender. Subsequently, participants were asked to identify their preferred brand and its category. They were also queried about the availability of their favorite brand's products on various channels, such as websites. Measurement items for the current study were adapted from previous research. For the next step, defined constructs and associated items were sent to a group of academicians to test face validity. Channel integration quality (content and process consistency, transparency of the channel service configuration, and breadth of channel service integration) items were adopted from Sousa and Voss (2006) and Lee et al. (2019). For measuring retailer uncertainty, nine items were adapted from Dimoka et al. (2012) and (Li et al., 2017), while four items were adapted from Jones et al. (2000) and (Li et al., 2017) for measuring customers' interest in alternatives. Moderator of this study, web rooming was measured via four items by Rapp et al. (2015). All the responses were gathered on a five-point Likert scale ranging from 1= 'strongly disagree' to 5 = 'strongly agree'.

4. Data analysis and results

The collected data were analyzed using IBM SPSS Statistics. Before testing the theorized relationships among variables, descriptive statistics were calculated. The demographic details of the participants are shown in Table 1. A total of 319 responses were collected, out of which 60% of respondents were female and 40% were male. A majority of the study participants (91.2%) were young adults aged between 18 and 25, 5.9% were between 26 and 35, 1.8% were between 36 and 45, and the remaining 0.9% were above 45 years of age. Respondents were also inquired about their favorite brand category. Clothing was

Table 1. Demographic information.

	Frequency	Percentage
Age		
18–25	291	91.2
26–35	19	5.9
36–45	6	1.8
above 45	3	0.9
Gender		
Female	192	60
Male	127	40
Your favorite brand category		
Automobile	8	2.5
Clothing	184	57.6
Laptops	10	3.1
Mobile	78	24.4
Shoes	19	5.95
TV and other electronics	2	0.62
Any other	18	5.6

Table 2. Pearson correlation, mean and standard deviation.

		1	***2***	*3*	*4*	*5*	*6*	*7*	*M*	*S. D*	*α*
1	BCSC	–							2.16	.648	.70
2	TCS	.627**	–						2.08	.634	.82
3	CC	.563**	.684**	–					2.14	.607	.74
4	PC	.535**	.595**	.729**	–				2.14	.656	.81
5	RU	.417**	.584	.499	.619*	–			2.85	.680	.77
6	WebR	.474**	.329**	.318**	.333**	.360**	–		2.88	.644	.66
7	IA	.353**	.280	.218	.230	.529**	.360**	–	2.85	.680	.68

**Correlation is significant at the 0.01 level (2-tailed).
*Correlation is significant at the 0.05 level (2-tailed). $N = 319$.

the favorite brand category of 57.6% of respondents, automobiles of 2.5%, laptops of 3.1%, mobile of 24.4%, shoes of 5.95%, TV and electronics of 0.62%, whereas the remaining 5.6% of respondents had other favorite brands.

4.1. Correlation analysis

Table 2 contains the values of Pearson's correlation, mean, standard deviation, and Cronbach's alpha values for the variables. The correlation values indicate that the highest correlation value was between process consistency and content consistency ($r = .729^{**}$, $p < 0.01$), and the lowest correlation was between interest in alternatives and content consistency ($r = .218$). A multicollinearity check was performed by calculating values of variance inflation factor (VIF) in SPSS to ensure there was no multicollinearity in the self-reported data. The results revealed that all variables had VIF values of less than 5 and greater than 1, indicating that there was no evidence of multicollinearity (Diamantopoulos & Winklhofer, 2001; Wiedmann et al., 2011).

4.2. Validity and reliability

4.2.1. Measurement model

To assess the reliability of the measurement model, Cronbach's Alpha was calculated. The Cronbach's alpha values in Table 2 show that all values are above 0.6. Thus, indicating a good level of confidence in the reliability of constructs. The validity of the measurement model was calculated using confirmatory factor analysis (CFA) in AMOS. The results of CFA revealed that all factor loadings were above 0.6, indicating satisfactory convergent validity of the measurement model. The CFA results also showed that the seven-factor model yielded a good fit for the data. The absolute fit index results of RMSEA = 0.05, GFI = 0.80, NFI = 0.85, and CFI = 0.96 were found. In addition to these indices, the ratio of $\chi 2/df$ was 2.86, which was within the accepted threshold ($\chi 2/df < 3.0$) (Schreiber et al., 2006).

These goodness-of-fit indices strengthen that the model sufficiently fits the data and that no additional improvement is required. The collinearity test was also conducted to rule out the presence of multicollinearity. The values of VIF were below <5, and > 1 for all variables. Thus, no multicollinearity was found in the self-reported data.

Hypotheses testing was done to confirm the relationship between the theoretical variables. The statistical values in Table 3 show that retailer uncertainty has a significant positive effect on the interest in alternatives ($b = 0.549$, $p < 0.01$, CI.95 = 0.447, 0.650) confirming hypothesis 1 of the study.

The mediation path was checked by running model 4 in PROCESS macro. The results show that the mediating role (which is an indirect effect) of retailer uncertainty in the relationship of the breadth of channel service choice (BCSC)- interest in alternatives was significant ($b = 0.118$, $p < 0.01$, CI.95 = 0.0500, 0.1982). Thus, supporting hypothesis H 2. Similarly, the mediation effect of retailer uncertainty in the relationship between process consistency *(PC)*- interest in alternatives was also proven ($b = 0.064$, $p < 0.01$, CI.95 = 0.0010, 0.1365). The results show support for a full mediation model for both H2 and H5. Full mediation occurs when the relationship between the independent variable and the dependent variable is completely explained by the mediating variable. In other words, the independent variable no longer has a direct effect on the dependent variable once the mediating variable is included in the model. In this the direct effect of breadth of channel service choice and process consistency on dependent variable were insignificant, however, the mediation path was significant.

Table 3. Direct and mediation effects of BCSC, TCSC, CC, and PC.

	IV	DV	β	t value	P	95% C	
	Mediation model					LLCI	ULCI
				Direct effects			
1	RU	IA	.549	10.6	.000	.447	.650
2	BCSC	IA	.041	0.81	.416	−.059	.142
3	TCSC	IA	.038	0.75	.452	−.062	.139
4	CC	IA	.073	1.37	.171	−.031	.178
5	PC	IA	.070	1.42	.155	−.026	.168
	Indirect effects			Effect	SE	LLCI	ULCI
1	BCSC→RU→IA			.1185	.0378	.0500	.1982
2	TCSC→RU→IA			.0476	.0360	−.0199	.1201
3	CC→RU→IA			.0582	.0411	−.0204	.1414
4	PC→RU→IA			.0643	.0339	.0010	.1365

Note: BCSC = breadth of channel service choice, TCSC = transparency of channel service configuration, CC = content consistency, PC = process consistency, RU = retailer uncertainty, IA = interest in alternatives, WebR = web rooming, SE is standard error; LLCI is lower limit CI; ULCI is upper limit CI; $N = 319$.

Table 4. Moderation effect of webrooming.

Moderation effect	Effect	SE	Bootstrap 95% CIs		R^2
			LLCI	**ULCI**	.322
WebR	.1957	.0509	.0956	.2959	
RU	.4632	.0535	.3579	.5684	
RU*WebR	−.1419	.0619	−.2637	−.0200	
R^2 change: .0113 *F:* 5.2491(1,315), $p < 0.05$					
Index of moderated mediation					
	Moderator	Index	SE	LLCI	ULCI
BCSC→RU→IA	WebR	−.0306	.0196	−.0741	.0026
TCSC→RU→IA	WebR	−.0128	.0127	−.0436	.0051
CC→RU→IA	WebR	−.0150	.0141	−.0484	.0056
PC→RU→IA	WebR	−.0166	.0132	−.0476	.0027

Note: BCSC = breadth of channel service choice, TCSC = transparency of channel service configuration, CC = content consistency, PC = process consistency, RU = retailer uncertainty, IA = interest in alternatives, WebR = web rooming, SE is standard error; LLCI is lower limit CI; ULCI is upper limit CI; $N = 319$.

Contrary to expectations, the analysis did not yield significant results for the relationship of content consistency (CC)-retailer uncertainty-interest in alternatives (CI.95 = −.0199, 0.1201) and transparency of channel service configuration (TCSC)-retailer uncertainty-interest in alternatives (CI.95 = −.0204, .1414). The lower and upper confidence intervals indicated zero between the range. Hence, hypotheses H3 and H4 were not proven.

4.3. Moderation effect of webrooming

As hypothesized, the moderating effect of webrooming was examined on the relationship between retailer uncertainty and interest in alternatives. PROCESS model 1 was used to estimate the moderating impact of Webrooming. The results show that the interaction term RU*WebR was negative and significant ($b = -.1419$; $p < 0.05$, *CI*.95 = −.2637, −.0200) indicating thereby that WebR does moderate the relationship between both retailer uncertainty and interest in alternatives. This provides support to hypothesis 6 which stated that web rooming moderates the relationship between retailer's uncertainty and customer's interest in alternatives such that the relationship between retailer uncertainty and interest in alternatives will be weaker in the presence of web rooming behavior (see Table 4).

As shown in Figure 2, the results show that retailer uncertainty has a more significant impact on interest in alternatives when webrooming is low rather than high. It can be inferred that, as webrooming behavior among customers increases, the strength of the relationship between retailer uncertainty and interest in alternatives decreases. It means that among customers who are having high webrooming behavior, the effect of retailer uncertainty on interest in alternatives is weaker, than those who are having low webrooming behavior.

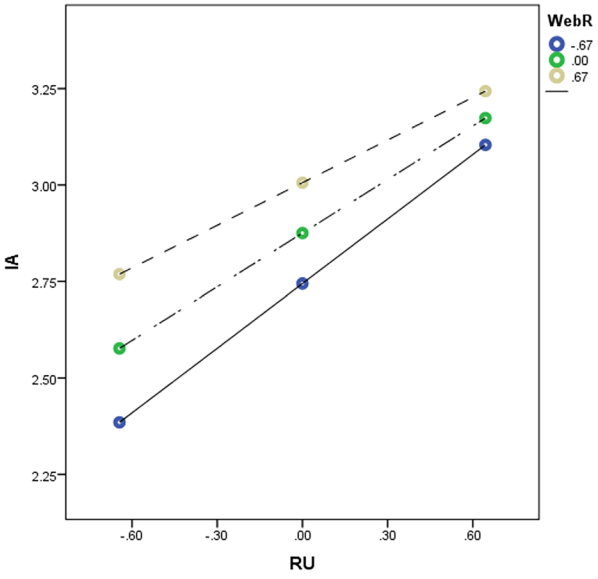


Figure 2. Moderation effect of WebR.

The PROCESS model 14 was also used to check if each mediation path of each independent variable BCSC, TCSC, CC, and PC is moderated by webrooming. The index of moderated mediation did not yield any significant values for this test. Hence, it can be said that the mediation path of independent variables does not depend on the moderation level of webrooming.

5. Discussion

In the context of omnichannel retailing, the goal of this research is to learn more about how customers respond to the four dimensions of cross-channel integration. The study investigated the effect of the breadth of channel service choice, transparency of channel service configuration, content consistency, process consistency, and retailer uncertainty on customers' interest in alternatives. The findings have mixed results from the statistical results of the current study. At first, it was confirmed that retailer uncertainty has a significant positive effect on customers' interest in alternatives. These findings are consistent with the study of Ma (2017) and Li et al. (2017) who found that in customers' switching tendency, retailer uncertainty plays a major role in omnichannel retailing. The customers may become uncertain about the performance of the retailer e.g., they doubt their brand retailer's website description may have misrepresented the product or their well-known retailer would not keep all of his or her commitments. If this scenario continues, buyers will most likely be satisfied with the items and services of a different brand retailer. Retailer uncertainty has been cited as a major limitation in the omnichannel setting (Flavián et al., 2016). Retailers operating in omnichannel settings need to prioritize strategies that mitigate retailer uncertainty, including transparent communication, accurate product representations, and fulfillment of commitments.

In the study, the effect of retailer uncertainty on interest in alternatives was assumed to be moderated by the webrooming of customers. The results confirmed that when webrooming is high, the effect of retailer uncertainty on interest in alternatives becomes weak. When a consumer spends time and cognitive resources searching for a product online before traveling to the store to check it out and buy it, it helps in reducing uncertainty. Consumers may access, search, select, compare, and assess options using the Internet, which provides a wealth of information and decision-making tools to them. This may help customers to purchase a product with confidence. Thus, webrooming plays an important role in the omnichannel retailing environment. The finding is consistent with the study of Flavián et al. (2016), who stated that 'webrooming is used by consumers to reduce the amount of ambiguity connected with a purchase and to help them make confident selections' (p. 470).

The impact of a specific aspect of cross-channel integration quality, namely the breadth of channel service choice, was observed to be noteworthy when considering the mediating influence of retailer uncertainty. The breadth of channel service choice provides customers with the flexibility to choose from various channels when selecting a particular product or service. This allows customers the option to place orders through both online and offline channels, enabling retailers to showcase excellence in channel-service configuration. Thus, the breadth of channel service choice in omnichannel retailing provides a valuable exchange to clients as compared to others who just allow orders to be placed online or offline (Lee et al., 2019). In the study, it was found that the breadth of channel service choice will help to reduce retailer uncertainty which ultimately helps to diminish the risk of customers' interest in alternatives. Thus, the more the omnichannel retailer offers the choices of the channel to customers, the less likely to switch to other brands helping in customer retention.

The other dimension of cross-channel integration quality i.e., process consistency was also found to be a significant predictor of interest in alternatives via mediating role of retailer uncertainty. Process consistency denotes the integrated interactions across channels and is the uniformity of important and comparable process aspects, such as service feel, image, and delivery speed, across channels (Sousa & Voss, 2006). Consistency offers many outcomes such as the cognitive work required for channel transitions would be reduced if there was consistency across channels (Mosteller et al., 2014). Similarly, during omnichannel shopping, continuous responses from several channels weaken task ambiguity and transition channel risk (Rodríguez-Torrico et al., 2017) reducing retailer uncertainty in omnichannel and in turn reducing customers' interest in other substitute brands.

Unexpectedly, both transparency of channel service configuration and content consistency was not significant. Fashion departmental store setting, in the context of omnichannel, there is no transparency in the channel service (Kopot & Cude, 2021). According to them 'a shopper in a fashion department store may already expect to have a variety of channel options from which to pick. Customers in omnichannel fashion department shops may not realize there is a distinction between channel choice breadth and channel service transparency because the two may have comparable meanings to them' (p. 12). Given that the majority of respondents (56%) expressed their opinions about clothing brands and that the majority of respondents were females, we can assume that customers could not differentiate between the breadth of channel service choice and transparency of channel service configuration.

5.1. Theoretical implications

Recently, there has been a significant movement from multichannel to omnichannel service, that has attracted many academic areas of interest. In this regard, the current study has provided a significant contribution to previous literature on this emerging phenomenon by providing empirical evidence of a research model consisting of valuable factors. The current study has investigated the effect of four dimensions of integrated channel quality by considering the customers' evaluation and perception of the omnichannel retailer. The accessibility–diagnosticity framework states that to make a decision, consumers rely on more diagnostic and accessible cues. (Langan et al., 2017). The current study has identified certain clues that are likely to drive customers' choice of a particular brand or its alternative in omnichannel retailing. The results add to the theory by identifying that breadth of channel service choice and process consistency are important diagnostic informational clues that can exert a positive influence in reducing retailer uncertainty and thus, refraining customers to give preference alternative retailers.

Furthermore, the existing studies have only investigated the impact of channel integration on customer retention as well as satisfaction and have not examined its influence on reducing negative outcomes, such as customer interest in alternatives (Li et al., 2018). The current study has filled this theoretical gap by studying customers' interest in alternatives as the main dependent variable. This helps to understand another dimension or impact of omnichannel retailing, as the study has identified those facets which can affect customer decisions to purchase from a brand's competitors. Studies are scarce on customers' interest in alternatives in omnichannel retailing.

Additionally, the study has taken retailer uncertainty as a mediating variable in the research model. With a better knowledge of the mediating function of retailer uncertainty, omnichannel can take steps

to reduce customers switching behavior. Any remedial efforts would have to lessen uncertainty because it is through this way that the omnichannel strategy can better offer customer outcomes. The study sheds light on the aspect of retailer uncertainty, focusing on which can aid omnichannel retailers to maintain a long-term relationship with customers. This also supports the accessibility–diagnosticity theory, as after accessibility, consumers are involved in the diagnosticity, determining whether the information offered by the retailer aids them in comprehending and evaluating the retailer's or product's quality and performance.

Moreover, as Flavián et al. (2016) highlighted 'there is a scarcity of individual-level studies that can help us better understand webrooming behavior', the current study also makes another contribution to the body of knowledge on the role of webrooming in the relationship between retailer uncertainty and customers' interest in alternatives. According to the accessibility–diagnosticity theory, a piece of information's impact on the decision-making process is defined by its relative availability in a consumer's memory and diagnosticity during the decision-making process (Feldman & Lynch, 1988). Therefore, webroomers may have certain information obtained from online stores, vlogs, blogs, or any other customer review channel that may influence them to purchase or not from the current retailer.

5.2. Practical implications

The study yields important insights for omnichannel retailers who aim to improve channel integration quality. The omnichannel retailers must realize that any part of uncertainty or ambiguity on their part could cost them in the form of customer switching behavior or customer loss, as they may find their alternatives more attractive and clearer in information. Similarly, the omnichannel retailer must also emphasize the linkage between the breadth of channel service choice, their transparency, process consistency, retailer uncertainty, and the resulting interest in alternatives in omnichannel retailing.

Furthermore, given the importance of webrooming in this study, omnichannel retailers can merge physical and digital channels to not only improve their 'customer reach', but also decrease the ambiguity thus decreasing the risk of customers' interest in alternatives. The webrooming takes customers from online to offline physical stores. Hence, along with physical stores, omnichannel retailers need to focus on online searches or word of mouth. As the electronic word of mouth literature (eWOM) literature supports the effect of online reviews on offline purchase decisions made by customers. When customers are uncertain about a purchase, they look for other customers' opinions and ratings to help them make a decision. Therefore, omnichannel retailers should also take steps to create positive eWOM as customers rely on this positive information because it assists them to lessen the amount of uncertainty they have when making a purchase.

The breadth of channel service choice and process consistency also offers insights to omnichannel retailers. As a result, retailers should make it possible to provide a wide choice of channels as well as consistent services regardless of which channel customers choose. Consumers will be willing to stay with their current retailers if they meet these objectives. Omnichannel retailers should optimize rather than simply consolidate their present channel setups to provide greater value to their customers. The process should be so consistent that every channel should be interlinked to avoid consumer misperception and ambiguity during the process of purchase.

5.3. Limitations and future research

This study has a few limitations which point to areas where more research should be done. Firstly, the study used a cross-sectional design which may limit to establish the causal correlations comprehensively. Therefore, future studies adopting the longitudinal design may be better able to draw the causality between factors of customer outcomes. Secondly, the data in this study came from only one country, therefore, to improve generalizability, it could be beneficial to duplicate the study in different geographical regions. Thirdly, the study looked at only a few variables to understand how customers perceive omnichannel commerce, but future studies could include other variables such as culture, innovation diffusion, and so on to provide more information.

Disclosure statement

No potential conflict of interest was reported by the author(s).

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