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South Asian Journal of Management Research (SAJMR), is a scholarly journal that publishes scientific research on the theory and practice of management. All management, computer science, environmental science related issues relating to strategy, entrepreneurship, innovation, technology, and organizations are covered by the journal, along with all business-related functional areas like accounting, finance, information systems, marketing, and operations. The research presented in these articles contributes to our understanding of critical issues and offers valuable insights for policymakers, practitioners, and researchers. Authors are invited to publish novel, original, empirical, and high quality research work pertaining to the recent developments & practices in all areas and disciplined.

Cross-functional, multidisciplinary research that reflects the diversity of the management science professions is also encouraged, the articles are generally based on the core disciplines of computer science, economics, environmental science, mathematics, psychology, sociology, and statistics. The journal's focus includes managerial issues in a variety of organizational contexts, including for profit and nonprofit businesses, organizations from the public and private sectors, and formal and informal networks of people. Theoretical, experimental (in the field or the lab), and empirical contributions are all welcome. The journal will continue to disseminate knowledge and publish high-quality research so that we may all benefit from it.

Dr. Pooja M. Patil
Editor

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C O N T E N T S

What Drives Omni-Channel Customer Experience? An Empirical Study of the Key Antecedents in the Technical Goods Sector

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Abstract

This study explores the key antecedents of omni-channel customer experience (OCCE) in the technical goods sector and examines their impact on customer satisfaction. While existing research primarily focuses on low-involvement products such as apparel and groceries, this study sheds light on high-involvement technical goods, where purchase decisions are more complex and information-intensive. The study aims to bridge the gap between theoretical frameworks and real-world retail challenges by identifying critical antecedents that shape the OCCE. A comprehensive literature review highlights six key factors influencing OCCE: integrated product, pricing, and promotion; integrated information; integrated customer service; perceived trust; perceived risk; and hedonic motivation. To empirically assess their effects, this study employs Partial Least Squares Structural Equation Modeling (PLS-SEM) on data collected from 703 respondents who have engaged with at least two retail channels in the technical goods sector. The findings reveal that all antecedents play a significant role in shaping OCCE, with integrated product, pricing, and promotion exerting the strongest influence. However, perceived risk negatively impacts OCCE, indicating that uncertainty in omni-channel interactions can diminish customer experience. Importantly, the results confirm that a positive OCCE significantly enhances customer satisfaction, underscoring its importance in competitive retail markets. This study provides valuable insights for technical goods retailers seeking to refine their omni-channel strategies. By fostering seamless integration of offerings, real-time information access, consistent service quality, and trust-building mechanisms, businesses can create a superior customer experience that translates into greater satisfaction and long-term loyalty. This research contributes to the growing body of omni-channel retail literature by offering a novel perspective on high-involvement consumer goods, where decision-making processes are more intricate and require a deeper level of customer engagement.

Keywords: Customer Experience, Omni-Channel Retail, Antecedents, Technical Goods Sector, Customer Satisfaction

Introduction

The world of marketing, and especially retail, has experienced a digital proliferation in the last few years (Stanhope, 2024). Retail in its earliest form was restricted to a physical channel that is a brick-and-mortar establishments; however, technological advancements facilitated the emergence of online or virtual stores in the retail sector (Iglesias-Pradas, Acquila-Natale and Del-Río-Carazo, 2022). With markets becoming increasingly competitive and the ever-growing consumer needs, the retail industry saw the development of multi-channel retail, which involved a single brand/manufacturer offering more than one platform to purchase its products (Neslin et al., 2006; Li et al., 2018). Multi-channel retail witnessed options of platforms of a single brand being made available to the consumer either in the form of a physical store or a virtual store; both platforms however operating independent of each other (Beck and Rygl, 2015; Pophal, 2015; Yrjölä, Saarijärvi and Nummela, 2018). However, presently, manufacturers and retailers operating online and offline channels have evolved from competing with each other to building collaborations to integrate operations and co-exist (Ameen et al., 2021; Rahman et al., 2022). As a result, omni-channel frameworks have emerged, which are designed to seamlessly integrate processes across all channels and provide a singular view of the brand to the customer. As per the India Phygital Index (Indiaretailing, 2024), omni-channel sales in India are expected to reach $55 billion by 2027 from the present $11.2 billion, representing a significant growth potential. To optimize the customer experience across all channels, it is essential to implement an integrated management system for all accessible channels and existing customer touchpoints (Verhoef, Kannan and Inman, 2015). Both academic researchers and industry professionals have recognized that the overall quality of customer experience is a crucial factor influencing customers' purchasing intentions and is decisive in the success of omni-channel businesses (Saghiri et al., 2017). Therefore, in order to serve customers successfully, it is crucial for organizations to comprehend and fulfill their expectations regarding the omni-channel experience.

The global market is currently witnessing the emergence of omni-channel brands across various sectors. Many retailers and brands are yet to integrate the entire spectrum of activities (pre-purchase, purchase and post-purchase) and are still in the process of building fully integrated omni-channel platforms (Joseph, 2015). Omni-channel retailers are ineffectively meeting customer needs and expectations with their present omni-channel systems (Hoogveld and Koster, 2016). This study examines the selected antecedents influencing customer experience in an omni-channel framework related to the technical goods sector and its role in increasing customer satisfaction. Previous studies have empirically researched the factors/determinants of purchase intentions towards omni-channel frameworks in sectors such as fashion (Jaengprajak and Chaipoopiratana, 2022; Kaur and Sandhu, 2022; Kazancoglu and Aydin, 2018; Riaz et al., 2022), grocery (Yen, 2023) and sporting goods (Jayasingh, Girija and Arunkumar, 2022). Therefore, it is essential to cultivate a thorough understanding of the various omni-channel elements that contribute to a cohesive customer experience.

The present study employs a quantitative research approach to explore the antecedents associated with omni-channel retailing that contribute to an enhanced customer experience. This study has chosen the technical consumer goods (Lynn and Gelb, 1996) sector, which includes consumer electronics and home appliances. These are high-involvement products as the consumer is highly engaged in the purchase decision and desires to purchase the most appropriate variant in terms of quality, price, service, etc (Amarasinghe Arachchige et al., 2022). The key characteristics of these goods are that they are expensive and are not purchased very often by an individual (Nayeem and Casidy, 2013). Hence, the buying decision-making process is lengthy (Arora and Sharma, 2018) and much research is undertaken by the consumer to make the ideal final choice. The consumer expects that the product variants, information, prices and service procedures across channels are consistent and that the brand has a unified view of the consumer (Cui et al., 2021) irrespective of the channel employed by the consumer for search, purchase and post-purchase interactions. Both academic researchers and industry-wide practitioners have acknowledged that customer experience is an important differentiating factor (Palmer, 2010; Rose et al., 2012; Kriss, 2014; Lemon and Verhoef, 2016) influencing the customer decision-making process and is the crux of the success of a retailer's omni-channel strategy (Picot-Coupey, Huré and Piveteau, 2016). The constant evolution in customer behaviour encourages retailers to address the needs and desires of such emerging customers by delivering a unified retail experience that transcends beyond traditional offline and online limitations, culminating in a cohesive omni-channel experience.

The paper is structured as follows: The next section reviews the extant literature on the antecedents of OCCE and develops appropriate hypotheses. Detailed descriptions of the research methodology, data analysis, and interpretation are provided in the subsequent sections. Finally, the study concludes with a discussion of the findings, implications, limitations, and potential for future research.

Literature Review

This section reviews the literature on customer experience and omni-channel frameworks, followed by a review of the antecedents as identified in the literature leading to the framing of the hypotheses.

Academicians and Practitioners have begun to agree that we no longer live in a product or service-dominated economy but in an experience economy (Pine II and Gilmore, 2017) which will be the key to sustain in this competitive marketing environment. Retailers intending to be sustainable have to set themselves apart from their competitors by providing customers a positively differentiated shopping experience throughout their journey that will keep bringing customers back for more (Herhausen et al., 2015). The outcome of customer experience is satisfaction (Verhoef et al., 2009; Rahman et al., 2022), loyalty (Tyrväinen, Karjaluoto and Saarijärvi, 2020; Quach et al., 2022), re-purchase intention (Lee et al., 2019) and word of mouth intention (Rodríguez-Torrico et al., 2021; Natarajan and Veera, 2023) which leads to long-term sustainability and profitability for the retailer. Kriss (2014) quantified the effect of customer experiences on intention to spend and concluded that those consumers with positive experiences spent 140 per cent more than others with sub-standard past experiences. Consequently, Kazancoglu and Aydin (2018) suggested that retailers need to create integrated consumer experiences which are based on fulfilling customer expectations.

As observed by Rigby (2011), retailers are increasingly using myriad channels and integrating their activities across websites, physical stores, mobile applications, physical and digital kiosks, call centres, social media platforms, etc., thereby transforming from multi-channel retailers to omni-channel retailers. Omni-channel enhances the experiences of customers by seamlessly integrating all the activities of a buying process (pre-purchase, purchase, post-purchase) undertaken across two or more channels (Neslin et al., 2014; Verhoef, Kannan and Inman, 2015). Cook (2014) suggests that retailers need to seize this opportunity of providing a seamless shopping experience by creating omni-channel platforms so that they create a satisfied and loyal customer base.

Integrated product, pricing, and promotion and OCCE

Consistent prices and product information and descriptions across channels reduce confusion among consumers and help them develop consistent evaluations (Oh et al., 2012). Brands can achieve this by providing identical descriptions of products across channels and ensuring consistency of product prices across channels (Gao et al., 2021; Zhang et al., 2018). Consumers must be able to locate a brand's advertisements or publicity information across all the channels it has its presence (Zhang et al., 2018; Lee, 2020). As suggested by Gao et al. (2021), integrated product, pricing and promotion impact the OCCE, especially the cognitive experience. Therefore, we hypothesize that:

H1. Integrated product, pricing and promotion impacts OCCE.

Integrated information and OCCE

Integrated information involves maintaining a singular account of a customer to record and track all the transactions and interactions of the customer with the brand, regardless of the channel of transaction and interaction (Oh et al., 2012; Zhang et al., 2018). It could be achieved by ensuring that the order history of the customer is available across channels, information of various communication with the customer such as emails, phone calls and complaints are made available across the systems of the brand (Iglesias-Pradas, Acquila-Natale and Del-Río-Carazo, 2022). Integrating information across the channels of a brand can enhance the omni-channel experience of the customer (W. Lee, 2020; Gao et al., 2021). Therefore, we hypothesize that:

H2. Integrated information impacts OCCE.

Integrated customer service and OCCE

Integrating customer service across channels involves offering a unified service to the customer irrespective of the channel of transaction or channel of availing the customer service (Oh et al., 2012; Zhang et al., 2018). Through the shopping journey of customers, service representatives should immediately be able to identify transaction histories, provide consistent resolutions and support across channels, immediately follow-up with customers irrespective of the channel of feedback (Piotrowicz and Cuthbertson, 2014). Integrating customer service throughout the purchase journey strongly influences the OCCE as customers experience a sense of security and reliability, which leads to a stress-free and delightful shopping experience (Barari, Ross and Surachartkumtonkun, 2020). Therefore, we hypothesize that:

H3. Integrated customer service impacts OCCE.

Perceived risk and OCCE

Perceived risk is the uncertainty experienced by a consumer with regard to the possibility of undesirable effects while shopping on omni-channel platforms (Kim, Ferrin and Rao, 2008). By building fully integrated platforms and providing consistent information of products, prices and services across platforms, omni-channel retailers can alleviate the risk experienced by consumers, especially while shopping for high-involvement products (Xu and Jackson, 2019). In a qualitative study undertaken by Kazancoglu and Aydin (2018), it was found that omni-channel shopping was considered to be risky due to the performance-related and financial risks associated with such frameworks. Shi et al. (2020) suggested that perceived risks towards omni-channel frameworks can be reduced by augmenting the experiences of customers across the channels. Therefore, we hypothesize that:

H4. Perceived risk negatively impacts OCCE.

Perceived trust and OCCE

Perceived trust is defined as "a feeling of confidence in the retailer, such that customers believe the retailer is willing and able to deliver on its promises across all channels" (Rahman et al., 2022). If customers trust a retailer, they are more confident in making a purchase and spend a higher share of their wallet as compared with retailers they do not trust (Chiu et al., 2009). Besides, consumers will instinctively overlook the brand/retailer's policy of using their personal information for future purchase recommendations without their permission (Zhang et al., 2018). The degree of trust that a customer has in a specific brand can greatly influence the OCCE. Therefore, we hypothesize that:

H5. Perceived trust impacts OCCE.

Hedonic motivation and OCCE

Venkatesh et al. (2012) define hedonic motivation as the "fun or pleasure derived from using a technology". Shopping using omni-channel platforms requires a certain level of technical skill, and therefore, certain consumers may perceive pleasure/enjoyment while shopping on these platforms (Choi, Madhavaram and Park, 2020). Kazancoglu and Aydin (2018) assert that hedonic motivation does affect OCCE as customers want to have an engaging experience and enjoy the entire purchase journey to reduce negative feelings. Whereas, (Juaneda-

Ayensa, Mosquera and Sierra Murillo, 2016) observed that hedonic motivation does not impact the OCCE. Therefore, we hypothesize that:

H6. Hedonic motivation impacts OCCE.

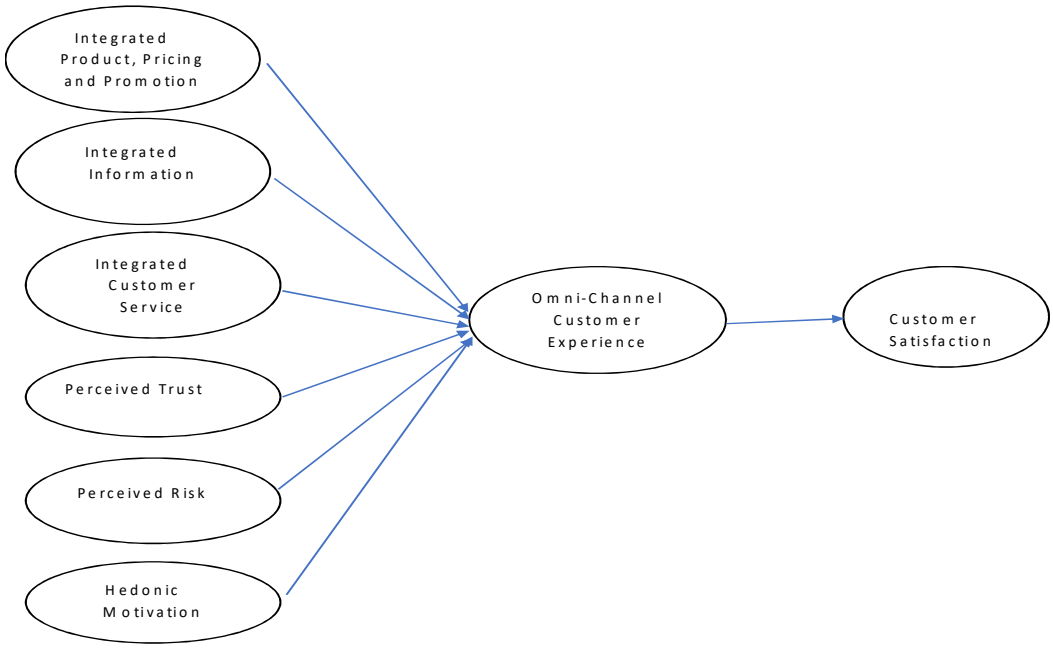
OCCE and customer satisfaction

Customer satisfaction can be characterized as "a customer's evaluative summary judgment of consumption experiences that is associated with customer- and firm-level outcomes" (Mittal et al., 2023). According to (Nguyen and Tran, 2023), the outcomes of OCCE are customer satisfaction, brand engagement and word-of-mouth intention. In a study conducted by (Yen, 2023), it was found that channel integration enhanced customer satisfaction and trust among customers of grocery retailers. Through the unique capabilities of omni-channel models, retailers can combine the benefits of virtual and offline formats and synchronize customer interactions across touchpoints irrespective of the channel of interaction (Brynjolfsson et al., 2013). Omni-channel platforms allow consumers to search and purchase products at leisure, and this experience brings them the utmost satisfaction (Zhang et al., 2018). According to Lee (2020), some omni-channel characteristics (integrated promotion and integrated information access) have direct effects on customer satisfaction while others do not. Mishra et al. (2021) noted that integrated channels enhance customer satisfaction as customers are in more control along their purchase journey. Therefore, we hypothesize that:

H7. OCCE impacts customer satisfaction.

Figure 1 shows the theoretical model for the study based on the aforementioned hypotheses.

Figure 1: Theoretical model



Source: Authors' compilation

Research Methodology

The paper examines the influence of identified factors (integrated product, pricing and promotion, integrated information, integrated customer service, perceived risk, perceived trust and hedonic motivation) on the OCCE and its outcome on customer satisfaction. The research developed the structural model, administered the consumer survey, and examined the hypothesized relationships using a structural equation modelling (SEM) strategy based on the partial least square (PLS) method. The structural model incorporates six factors as exogenous constructs, while OCCE is treated as endogenous, impacting customer satisfaction.

The scales for the various constructs were adapted from previous research studies and suitable modified to fulfil the objectives of the present study. The focal construct of the study i.e. OCCE, was measured in terms of five dimensions as proposed by Shi et al. (2020). Table I presents the various constructs and the sources of the measurement scales for the constructs.

Table I: Constructs and sources

Construct	Sources of measurement scales
Integrated product, pricing and promotion (IPPP)	(Gao *et al*., 2021; Oh *et al.*, 2012; Zhang *et al.*, 2018)
Integrated Information (IINFO)	
Integrated customer service (ICS)	
Perceived risk (PR)	(Shi *et al.*, 2020)
Perceived trust (PT)	(Zhang *et al.*, 2018)
Hedonic motivation (HM)	(Venkatesh, Thong, and Xu, 2012; Jaengprajak and Chaipoopiratana, 2022)
Integration (INTG)	(Shi *et al.*, 2020)
Personalization (PER)	
Consistency (CONS)	
Flexibility (FLEX)	
Connectivity (CNNV)	
Customer satisfaction (CS)	(Rose *et al.*, 2012)

Source: Authors' compilation

The study gathered cross-sectional primary responses through the survey method, utilizing a questionnaire as the tool for data collection. The google form was created for the questionnaire and its link was shared on different platforms including social media platforms at regular intervals. The respondents were assured of the confidentiality of their responses, and no personal identifiers were collected in the survey to maintain their anonymity. The missing data was not allowed in the google form as every question was marked as required. Due to non-availability of a sampling frame, non-probability judgemental sampling method is used in the study and selection of the respondents is based on the criteria that the respondents must have shopped for consumer electronics or home appliances using a minimum of two channels. The survey questionnaire used a 7-point Likert scale (strongly disagree to strongly agree) to collect the responses and test the hypotheses. A total of 715 responses were collected from respondents across India during a time span of six months. However, the final sample was limited to 703 responses as 12 respondents did not fulfil the criterion of using a minimum of two channels. The sample of 703 responses is assumed to be representative as it satisfied the "10-times rule" method suggested by Hair et al. (2012) and Peng and Lai (2012) i.e. the sample size must be at least 10 times the number of items (54) incorporated in the model. In the research instrument, 10 items were worded negatively and subsequently reverse-coded for analysis and hypothesis testing.

The process of data collection includes two steps – the first being the validation of the questionnaire by academicians/industry experts and testing of the questionnaire via a pilot survey with 89 respondents. Ensuring the reliability and validity of the responses in the pilot survey, the next step involves floating the link of the google form to different social media platforms at regular intervals. The collected responses after the pilot survey were examined with reference to the consistency, reliability, construct validity, collinearity and common method bias. The PLS-SEM was used for hypothesis testing. The next section discusses the findings and interpretation of the statistical results.

Data analysis and interpretation

This section deliberates the results of the analysis of the responses, which includes a discussion on the sample demographics followed by results of the reliability analysis, validity analysis, common method bias and multicollinearity. The remaining section discusses the results of hypotheses testing.

Sample demographics

The primary data is collected from customers with different demographic profiles using a minimum of two channels while shopping for consumer electronics and home appliances. The frequency distribution of customers who participated in the survey, categorized by specified demographic profiles including gender, age group, annual income, and education, is presented in Table II.

Table II: Frequency Distribution

Demographics	Sub Categories	Frequency	Percent
Gender	Male	378	53.8 per cent
	Female	325	46.2 per cent
Age Group	18 to 30 years	276	39.3 per cent
	31 to 45 years	263	37.4 per cent
	Above 45 years	164	23.3 per cent

Demographics	Sub Categories	Frequency	Percent
Annual Income	Less than Rs 5 lakhs	203	28.9 per cent
	Rs 5 to Rs 10 lakhs	284	40.4 per cent
	Above Rs 10 lakhs	216	30.7 per cent
Education	Under Graduate	87	12.4 per cent
	Graduate	190	27.0 per cent
	Post Graduate	240	34.1 per cent
	Professionally Qualified	186	26.5 per cent

Source: Authors' computation

Assumption testing: Reliability and validity analysis

The six factors, namely integrated product, pricing and promotion, integrated information, integrated customer service, perceived risk, perceived trust and hedonic motivation, are assumed to influence OCCE, which in turn influences customer satisfaction. This section discusses the results of different assumptions (reliability analysis, construct validity (convergent and discriminant validity), item multicollinearity and common method bias) examined in the paper.

Table III: Construct Reliability, Convergent Validity and Item Multicollinearity

	Construct Name	Cronbach's Alpha	Composite Reliability (CR)	Construct Loadings	Average Variance Extracted (AVE)	Variance Inflation factor
CNNV1	Connectivity			0.826		2.607
CNNV2				0.811		2.553
CNNV3				0.825		2.395
CNNV4				0.817		2.203
CNNV5				0.719		1.998
CNNV6		0.905	0.901	0.651	0.605	1.878
CONS1	Consistency			0.831		2.499
CONS2				0.813		2.465
CONS3				0.85		2.632
CONS4		0.901	0.901	0.838	0.694	2.594
CS1	Customer Satisfaction			0.804		2.052
CS2				0.782		2.494
CS3				0.85		2.609
CS4		0.904	0.901	0.898	0.696	1.584
FLEX1	Flexibility			0.828		2.435
FLEX2				0.835		3.263
FLEX3				0.832		3.019
FLEX4				0.813		2.765
FLEX5		0.906	0.904	0.73	0.654	1.726
HM1	Hedonic motivation			0.83		2.625
HM2				0.885		2.564
HM3		0.892	0.891	0.85	0.731	2.66
ICS1	Integrated customer service			0.796		2.307
ICS2				0.787		2.644
ICS3				0.864		2.716
ICS4				0.818		2.631
ICS5		0.899	0.897	0.807	0.635	2.102
IINFO1	Integrated information			0.768		2.357
IINFO2				0.809		2.296
IINFO3				0.866		2.322
IINFO4				0.732		2.19
IINFO5		0.911	0.911	0.803	0.718	2.666
INTG1	Integration			0.836		2.36
INTG2				0.851		3.033
INTG3				0.853		2.977
INTG4		0.909	0.908	0.849	0.664	2.924

IPPP1	Integrated product, pricing and promotion			0.811		2.479
IPPP2				0.787		2.143
IPPP3				0.803		2.425
IPPP4				0.826		2.471
IPPP5				0.784		2.523
IPPP6		0.917	0.917	0.818	0.648	2.719
PER1	Personalization			0.847		3.295
PER2				0.878		2.869
PER3				0.865		2.835
PER4		0.916	0.916	0.831	0.732	2.992
PR1	Perceived risk			0.668		1.857
PR2				0.841		1.935
PR3		0.83	0.821	0.815	0.606	1.745
PT1	Perceived trust			0.804		2.252
PT2		0.901	0.900	0.819	0.644	2.216
PT3				0.778		2.504
PT4				0.82		2.366
PT5				0.791		2.559

Source: Authors' computation

The result of the scale's reliability, convergent validity and multicollinearity is reported in table III. The internal consistency reliability is examined with Cronbach alpha and Composite reliability for each factor included in the scale. The Cronbach alpha and Composite reliability for each factor greater than 0.7 is considered satisfactory (Cavana, Delahaye and Sekeran, 2001). Using Confirmatory factor analysis (CFA), the construct validity (convergent validity and discriminant validity) is examined. The convergent validity of the questionnaire examines the relationship between the statements and the construct and is examined using item construct loadings and average variance extracted (AVE) (Fornell and Larcker, 1981). The item construct loadings above 0.7 are considered good, and the AVE of each construct is expected to exceed 0.5 (Hair et al., 2014). The multicollinearity among the items measuring different factors influencing the OCCE is examined with the help of variance inflation factor (VIF) estimates. The multicollinearity of the items represents the problem of high correlation among the items. The multicollinearity analysis reported that the VIF measures of all the items included in the questionnaire are less than 5 which is adequate as per Kock (2015). Thus, it can be concluded that the responses received against the different items measuring factors influencing the OCCE are free from multicollinearity problem.

Table IV: HTMT Ratio for Discriminant Validity

	Connectivity	**Consistency**	**Customer Satisfaction**	**Flexibility**	**Hedonic motivation**	**Integrated Information**	**Integration**	**Integrated Customer Service**	**Integrated Product, Pricing and Promotion**	**Personalization**	**Perceived Risk**
Consistency	0.737										
Customer Satisfaction	0.746	0.662									
Flexibility	0.746	0.77	0.633								
Hedonic Motivation	0.399	0.472	0.374	0.455							
Integrated Information	0.695	0.732	0.619	0.747	0.495						
Integration	0.604	0.699	0.543	0.714	0.538	0.635					
Integrated Customer Service	0.747	0.755	0.659	0.735	0.456	0.703	0.626				

Integrated Product, Pricing and Promotion	0.775	0.793	0.692	0.772	0.528	0.791	0.624	0.785			
Personalization	0.621	0.751	0.586	0.702	0.537	0.673	0.758	0.655	0.694		
Perceived Risk	0.444	0.437	0.445	0.348	0.042	0.321	0.144	0.332	0.455	0.233	
Perceived Trust	0.718	0.724	0.596	0.72	0.535	0.717	0.643	0.731	0.736	0.632	0.234

Source: Authors' computation

Table V: Fornell-Larcker Criterion for Discriminant Validity

	Connectivity	Consistency	Customer Satisfaction	Flexibility	Hedonic Motivation	Integrated Information	Integration	Integrated Customer Service	Integrated Product, Pricing and Promotion	Personalization	Perceived Risk	Perceived Trust
Connectivity	0.778											
Consistency	0.739	0.833										
Customer Satisfaction	0.742	0.663	0.835									
Flexibility	0.746	0.771	0.631	0.809								
Hedonic Motivation	0.397	0.472	0.374	0.454	0.855							
Integrated Information	0.697	0.732	0.619	0.747	0.495	0.797						
Integration	0.606	0.699	0.544	0.713	0.537	0.636	0.847					
Integrated Customer Service	0.748	0.755	0.66	0.733	0.457	0.704	0.627	0.815				
Integrated Product, Pricing and Promotion	0.774	0.793	0.691	0.77	0.529	0.791	0.623	0.785	0.805			
Personalization	0.623	0.751	0.585	0.701	0.538	0.675	0.758	0.656	0.694	0.856		
Perceived Risk	-0.443	-0.436	-0.444	-0.348	-0.009	-0.32	-0.146	-0.333	-0.455	-0.235	0.779	
Perceived Trust	0.717	0.724	0.597	0.72	0.535	0.718	0.643	0.731	0.737	0.633	-0.237	0.802

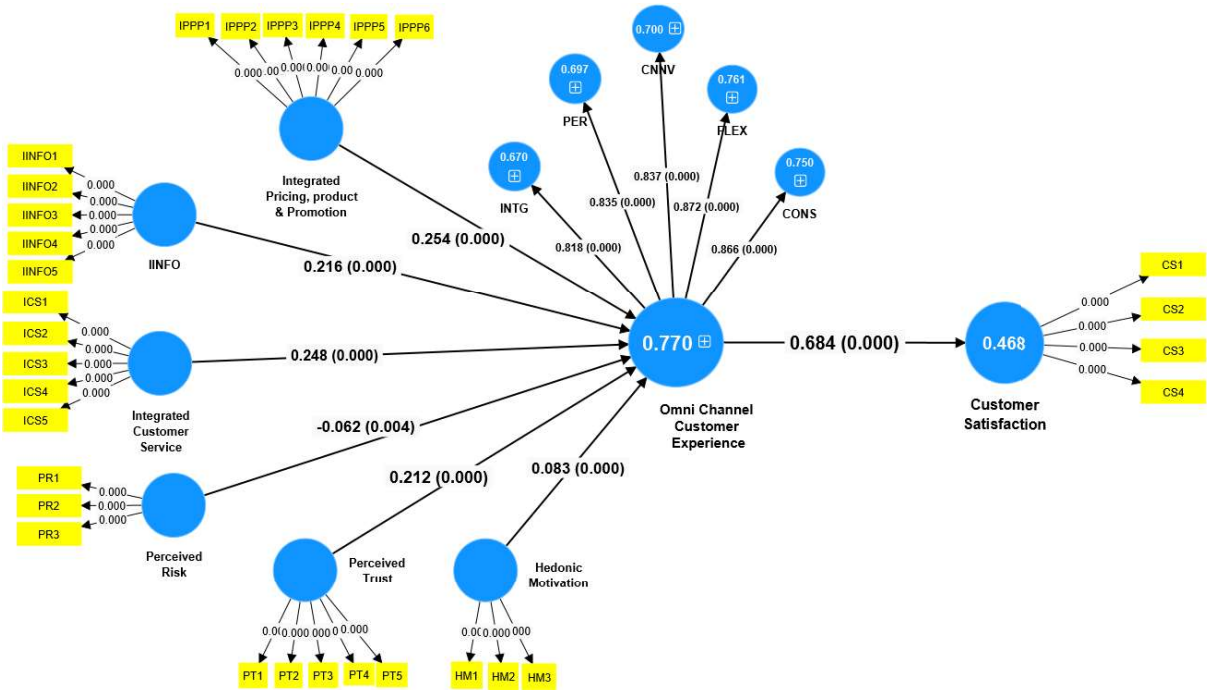
Source: Authors' computation

The discriminant validity in the paper is examined using the HTMT ratio and Fornell-Larcker criterion, reported in table IV and table V respectively. The discriminant validity indicates the low relationship between statements measuring the different constructs and is examined with the help of the Heterotrait - Monotrait (HTMT) ratio and Fornell-Larcker criterion. According to (Henseler, Ringle and Sarstedt, 2015), a HTMT ratio of less than 0.85 is needed to satisfy the criteria of discriminant validity. The Fornell-Larcker criterion evaluates the square root of the AVE for each factor in relation to its associations with other factors within the scale. It is anticipated that the square root of the AVE for every factor must exceed its correlations with the remaining factors in the scale (Fornell and Larcker, 1981). The discriminant validity of the scale anticipates a minimal correlation among items that assess the various constructs encompassed within the scale. The results reported that the HTMT ratio of all the pairs of included constructs is found to be less than 0.85, indicating the fulfilment of the discriminant validity criteria. The result of the Fornell-Larcker criterion indicate that the square root of the AVE for each factor exceeds its correlations with other factors in the scale. Thus, it can be concluded that the scale used in the study satisfied the requirement of discriminant validity.

Lastly, given that a single instrument was employed to assess both the independent and dependent variables, there exists a potential for common method variance (Kock et al., 2021). If the research instrument is drafted in a manner in which there is a possibility to have a bias in the responses, it will lead to biased conclusions. The survey responses are analyzed using Harman's single-factor test to ensure that the results are unbiased. The Harman's single-factor test is applied using exploratory factor analysis, with the condition that a single factor is to be extracted as a result of a principal component analysis (PCA). The result reported that the single extracted factor explains only 40.818% of the variance of all the responses against all the items included in the study. The explained variance by the single factor is found to be less than 50% and thus it can be concluded that the responses received in the survey are free from bias caused by common method bias (Podsakoff et al., 2003).

Hypotheses testing: Impact of antecedents on OCCE and the influence of OCCE on customer satisfaction

The six antecedents, namely integrated product, pricing and promotion, integrated information, integrated customer service, perceived risk, perceived trust and hedonic motivation, were identified and included in the structural model and are assumed to influence OCCE. These factors are assumed as exogenous constructs, whereas OCCE and customer satisfaction are assumed to be endogenous constructs. OCCE is hypothesized to influence customer satisfaction. The structural model (Figure 2) is analysed employing the structural equation modelling technique in the SmartPLS software.



Source: Authors' computation

Table VI: Result of the Hypothesis Testing using SEM

Hypothesis	Exogeneous Construct	Endogenous Construct	Path Coefficient	Standard deviation	T Stats	R^2
H1	Integrated Product, Pricing and Promotion	OCCE	0.253	0.036	7.065**	77 per cent
H2	Integrated information		0.216	0.034	6.274**	
H3	Integrated Customer Service		0.249	0.032	7.864**	
H4	Perceived Risk		-0.063	0.021	2.925**	
H5	Perceived Trust		0.211	0.037	5.664**	
H6	Hedonic Motivation		0.08	0.023	3.551**	
H7	OCCE	Customer Satisfaction	0.687	0.021	32.442**	46.8per cent

Source: Authors' computation

The findings from the hypothesis testing are presented in table VI. The findings from the SEM analysis corroborated the hypothesis that "the selected antecedents (integrated product, pricing and promotion, integrated information, integrated customer service, perceived risk, perceived trust and hedonic motivation) significantly influence OCCE". The path coefficient in the case of the selected antecedents, namely integrated product, pricing and promotion, integrated information, integrated customer service, perceived trust and hedonic motivation, has

been determined to be significant and positive. Therefore, it can be inferred that the selected factors have a positive impact on OCCE. The highest path coefficient is found in the case of integrated product, pricing and promotion (path coefficient = 0.253), followed by integrated customer service (path coefficient = 0.249), integrated information (path coefficient = 0.216) and perceived trust (path coefficient = 0.211) indicating the maximum positive influence on OCCE. Whereas, hedonic motivation is found to have the least but significant impact on OCCE (path coefficient = 0.08). In the case of perceived risk, a significant, however negative impact is found on OCCE (path coefficient = -0.063). The R square reported signifies that around 77 per cent of the proportion of the variance of OCCE is explained by the structural model. The result of the SEM analysis supported the hypothesis that "OCCE significantly influences customer satisfaction" (path coefficient =0.687, t stats = 32.442). The path coefficient indicating the impact of OCCE on customer satisfaction is positive and statistically significant. Hence, we conclude that a favourable OCCE positively influences customer satisfaction.

Discussion

This study empirically identifies and validates the key antecedents of OCCE and examines their impact on customer satisfaction within the technical goods sector. The findings suggest that all the antecedents, except perceived risk, positively influence OCCE, and this experience leads to customer satisfaction. Integrated product, pricing and promotion has the highest impact on OCCE. This is partly in line with previous research conducted by (Lee, 2020) which suggested that integrated promotion impacts customer satisfaction but not integrated product and pricing. This research empirically shows that customers expect integration in product and pricing information across the retailers' channels, which enhances their experiences. This insight highlights the critical role of cohesive branding and product and pricing symmetry in creating a seamless experience, particularly for high-involvement products where informed decision-making is crucial.

Integrated information and customer service were also found to strongly influence OCCE. These findings underscore the importance of unified systems that enable consistent interactions and reliable customer support across platforms. This is especially relevant in the technical goods sector, where consumers demand detailed product information, accurate order tracking, and responsive service. Perceived trust was identified as a key antecedent, reinforcing its role in mitigating uncertainties and fostering confidence in omni-channel shopping environments. The results suggest that trust-building measures, such as transparent communication and data security, are indispensable for enhancing customer experiences.

Interestingly, perceived risk negatively impacts OCCE, aligning with previous research that highlights the detrimental effect of uncertainty on consumer behaviour (Kim, Ferrin and Rao, 2008). This finding reiterates the need for retailers to address potential sources of perceived risk, such as inconsistent product quality or security concerns, through proactive measures and effective communication. Hedonic motivation, though statistically significant, demonstrated the least influence on OCCE, suggesting that functional and utilitarian factors hold greater importance in this sector (Juaneda-Ayensa, Mosquera and Sierra Murillo, 2016). This contrasts with findings in apparel or grocery retailing, where experiential and emotional dimensions of shopping play a more prominent role (Jayasingh et al., 2022; Kaur and Sandhu, 2022). The divergence underscores the contextual nature of OCCE antecedents and the need for industry-specific strategies (Palmer, 2010; Rose et al., 2012; Kriss, 2014; Lemon and Verhoef, 2016).
The study also establishes that OCCE significantly influences customer satisfaction, with a robust path coefficient underscoring its pivotal role in driving positive outcomes such as loyalty, repurchase intention, and word-of-mouth advocacy (Lee and Lim, 2017; Tyrväinen, Karjaluoto and Saarijärvi, 2020; Meredith Robertson and Kopot, 2023; Natarajan and Veera, 2023). These findings align with prior research and emphasize the importance of providing a cohesive customer experience across all touchpoints to achieve competitive advantage.

Beyond these findings, this study contributes to the existing literature by examining OCCE in the underexplored context of technical consumer goods, a high-involvement product category. By extending existing theoretical frameworks to this sector, the research addresses a significant gap and provides actionable insights for retailers operating in this domain.

Managerial Implications

The findings of this study offer valuable insights for retailers aiming to OCCE and, in turn, improve customer satisfaction. The study establishes that key antecedents, including integrated product, pricing, and promotion strategies, integrated information, integrated customer service, and perceived trust, significantly impact OCCE. Based on these findings, the following managerial implications are proposed:

First, ensuring seamless integration of product, pricing, and promotional information is essential for minimizing customer confusion and maintaining a cohesive brand image across all channels. Retailers should implement automated pricing engines to synchronize real-time price changes across platforms, offer channel-agnostic promotions (e.g., mobile-app coupons redeemable in-store), and provide real-time inventory visibility to prevent

cart abandonment due to stockouts. These measures enhance consistency and transparency in pricing, reducing friction in the purchasing process.

Second, integrating information systems across channels is crucial to facilitating informed consumer decision-making. Retailers should leverage cloud-based customer data platforms to unify purchase histories, deploy real-time product comparison tools, and implement customer self-service portals for seamless access to invoices, warranties, and service requests. Ensuring a unified and transparent flow of information enhances consumer confidence and fosters engagement across touchpoints.

Third, delivering a consistent and efficient customer service experience across all channels is vital for enhancing customer satisfaction. Retailers should implement a centralized customer service management system integrating AI-driven chatbots with human agents to provide 24/7 service continuity. Additionally, adopting unified customer relationship management (CRM) systems can enable service teams to access complete customer histories, ensuring personalized and informed support. Retailers should also facilitate social media-based service requests, ensuring that customer concerns raised on platforms such as WhatsApp and Instagram are logged and resolved across all channels.

Fourth, mitigating perceived risk through transparent policies and secure transactions is critical for fostering trust and encouraging multi-channel engagement. Retailers should offer a standardized and flexible return policy applicable across all and enhance product visualization through augmented reality (AR) and virtual reality (VR) tools.

Finally, building and maintaining customer trust requires an ongoing commitment to data privacy, transparent communication, and service consistency. Retailers should enhance trust by providing real-time order updates and shipment tracking, displaying trust badges (e.g., 100% Secure Payment) at checkout, and ensuring customer support transparency by providing estimated response times for email or chatbot queries.

For pure offline and online retailers in India's technical goods sector, adopting omni-channel strategies is no longer optional but imperative. The contemporary Indian consumer is increasingly digitally connected and seeks a seamless and value-driven shopping experience. Retailers must therefore adopt an integrated omni-channel approach with urgency to remain competitive in the evolving marketplace.

Limitations and Scope for Future Research

The following could be considered as limitations of the study, which provide scope for future investigations. Firstly, this study has empirically tested only six antecedents of OCCE in the Technical Goods Sector. Future research could explore additional antecedents to broaden the scope of factors influencing OCCE. Secondly, this study has used cross-sectional data, whereas longitudinal data is essential to track evolving consumer behaviours as omni-channel strategies mature, while demographic analyses could reveal segment-specific preferences. Lastly, studying post-adoption behaviours, including sustained loyalty and resistance to switching, would provide a deeper understanding of OCCE's long-term benefits. These avenues for future research can expand the theoretical framework and provide actionable strategies for retailers to enhance customer satisfaction and strengthen their competitive edge in dynamic markets.

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