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An Empirical Study on Consumer Behaviour Towards Offline and Online Retailing in Electronics Sector in National Capital Region

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Abstract

The rapid growth of e-commerce has significantly transformed consumer purchasing behaviour in the electronics retail sector. While online platforms offer convenience, competitive pricing, and extensive product information, offline retail stores continue to attract customers through physical product inspection, personalized assistance, and immediate product availability. The present study examines consumer the behaviour towards offline and online retailing in the electronics sector in the National Capital Region (NCR). Primary data were collected from **175 respondents** using a structured questionnaire. The study employs descriptive statistics, reliability analysis, Exploratory Factor Analysis (EFA), Confirmatory Factor Analysis (CFA), Structural Equation Modeling (SEM), t-test, and ANOVA to analyze consumer preferences and purchase behaviour. The findings reveal that convenience, price competitiveness, trust, and after-sales service significantly influence purchase decisions. The study provides useful managerial implications for electronics retailers seeking to integrate omnichannel strategies.

Keywords: Consumer Behaviour, Online Retailing, Offline Retailing, Electronics Sector, NCR, Omnichannel Retailing

Introduction

India's electronics retail market has undergone remarkable transformation due to digitalization, increasing internet penetration, smartphone usage, and changing consumer lifestyles. The National Capital Region (NCR), comprising Delhi, Noida, Gurugram, Ghaziabad, Faridabad, and Greater Noida, represents one of India's largest consumer markets with high purchasing power and widespread adoption of digital technologies.Consumers today have multiple purchasing channels including physical retail stores, company-owned outlets, multi-brand electronics stores, and online marketplaces such as Amazon, Flipkart, Reliance Digital, and Croma. The emergence of omnichannel retailing has further blurred the distinction between online and offline shopping experiences. Offline retailing continues to provide tangible benefits such as product demonstration, immediate possession, personalized customer assistance, and easier return processes. Conversely, online retailing offers advantages including competitive pricing, product comparison, customer reviews, home delivery, and greater product assortment. Consumer behaviour in electronics purchasing is influenced by several factors including price sensitivity, perceived risk, convenience, trust, promotional offers, product quality, brand

reputation, payment security, and after-sales services. Understanding these factors enables retailers to develop customer-centric marketing strategies and improve customer satisfaction.

Given the increasing competition between online and offline channels, an empirical study of consumer behaviour in NCR provides valuable insights into purchasing preferences and channel selection. This research contributes to understanding how demographic characteristics and behavioural factors influence electronics purchasing decisions.

Review of Literature

The reviewed literature indicates that consumer buying behaviour in the electronics retail sector has undergone significant transformation due to technological advancements and changing customer expectations. Kotler and Keller (2016) in their study identified cultural, social, personal, and psychological factors as the primary determinants of purchasing behaviour, while emphasizing the growing influence of digital technologies. Verhoef et al. (2015) highlighted the importance of omnichannel retailing, where consumers expect seamless integration between online and offline shopping platforms. Lemon and Verhoef (2016) in their research paper emphasized that customer experience across all stages of the purchase journey significantly influences satisfaction, trust, loyalty, and repurchase intentions. Grewal et al. (2017) in their research article opined that digital technologies, price transparency, and personalized marketing have intensified competition and compelled retailers to enhance customer value beyond competitive pricing. Pantano and Gandini (2018) explored that consumers increasingly combine online and offline channels, particularly for electronic products that require product evaluation before purchase. Nielsen (2022) in their report analysed the rapid growth of omnichannel shopping behaviour among Indian consumers due to increased internet penetration and smartphone usage. Deloitte India (2023) in their report concluded that trust, product authenticity, warranty, and after-sales service remain the key determinants of channel selection. Collectively, these studies establish that integrated retail strategies, superior customer experience, technological innovation, and trust are essential factors influencing consumer purchase decisions in the modern electronics retail environment.

Research Gap

From the review of above literature it was observed that the research studies have primarily examined online and offline retailing independently. Limited empirical research has compared consumer behaviour across both retail channels in the electronics sector within the National Capital Region. It was also analysed that few studies have simultaneously analyzed the impact of convenience, trust, price, product quality, promotions, and after-sales service on consumers' channel preferences. The present study attempts to addresses these gaps by providing a comprehensive comparative analysis using advanced statistical techniques.

Problem Statement

The electronics retail industry is witnessing intense competition between online and offline retailers. While online platforms continue expanding rapidly, traditional retail stores remain relevant due to personalized services and customer trust. Retailers face challenges in understanding changing consumer preferences and designing effective omnichannel marketing strategies. Therefore, an empirical investigation of consumer behaviour towards offline and online electronics retailing in NCR is essential.

Objectives of the Study

1. To study consumer behaviour towards online and offline electronics retailing.
2. To identify factors influencing consumers' purchase decisions.
3. To compare consumer preferences between online and offline retail channels.
4. To examine the relationship between trust, convenience, price, promotions, and purchase intention.
5. To provide managerial recommendations for electronics retailers.

Hypotheses

Null Hypotheses

H_{01}: Convenience has no significant influence on purchase intention.
H_{02}: Price competitiveness has no significant influence on purchase intention.
H_{03}: Trust does not significantly influence channel preference.
H_{04}: Promotional offers have no significant effect on consumer behaviour.
H_{05}: After-sales service has no significant influence on customer satisfaction.
H_{06}: There is no significant difference in purchase behaviour across demographic groups.

Research Design

The present study adopts a descriptive and analytical research design in order to examine consumer behaviour towards offline and online retailing in the electronics sector in National Capital Region (NCR). A quantitative research approach has been employed to collect measurable and objective data that can be statistically analyzed. The study follows a cross-sectional survey design, wherein data were collected from respondents at a single point in time to understand their purchasing preferences, attitudes, and behaviour. Being empirical in nature, the research is based on primary data collected directly from consumers. The study area comprises major NCR cities, including Delhi and Noida representing diverse consumer segments and retail environments. Data were collected using a structured questionnaire containing statements measured on a five-point Likert scale, ranging from "Strongly Disagree" to "Strongly Agree." This research design facilitates the application of statistical techniques such as descriptive analysis, reliability testing, factor analysis, regression, and hypothesis testing, thereby ensuring valid, reliable, and meaningful findings regarding consumer behaviour in the electronics retail sector.

Sample Size

The sample size considered for the present study comprise if **175 respondents** selected from consumers purchasing electronic products across Delhi and Noida

Sampling Technique

Sampling Method: Stratified Random Sampling is being applied for the collection of primary data .The respondents were selected from different Delhi and Noida in order to ensure adequate representation of various demographic groups including age, gender, occupation, and income categories.

Data Analysis Techniques

The study employed both descriptive and reliability analysis techniques to examine consumer behaviour toward online and offline electronics retailing. Descriptive statistics, including frequencies, percentages,

mean scores, and standard deviations, were used to summarize respondents' demographic characteristics and purchasing preferences. Frequency distribution helped classify respondents by variables such as age, gender, education, income, and preferred shopping channel, providing an overview of the sample composition. Mean and standard deviation measured the average responses and variability across key constructs, enabling comparison of consumer perceptions. Cronbach's Alpha reliability test assessed the internal consistency of the questionnaire, confirming that all measurement scales were reliable and suitable for further statistical analysis.

Table 1 Demographic Profile:

Variable	Category	Frequency	Percentage
Gender	Male	98	56.0
	Female	77	44.0
Age	18–25	42	24.0
	26–35	63	36.0
	36–45	41	23.4
	Above 45	29	16.6
Occupation	Student	30	17.1
	Service	81	46.3
	Business	38	21.7
	Others	26	14.9
Preferred Channel	Online	96	54.9
	Offline	79	45.1

The majority of respondents were male (56%). Most respondents belonged to the 26–35 years age group (36%), indicating that young working professionals dominate electronics purchases. Nearly 55% preferred online retailing, while 45% preferred offline stores, suggesting that both retail channels remain important in NCR.

Table 2 Descriptive Statistics

Variable	Mean	Std. Deviation
Convenience	4.21	0.58
Price Competitiveness	4.15	0.64
Trust	4.06	0.61
Promotional Offers	4.09	0.66
After-sales Service	3.98	0.71
Purchase Intention	4.18	0.56
Customer Satisfaction	4.10	0.59

Convenience obtained the highest mean score (4.21), indicating that consumers consider convenience the most important determinant of electronics purchasing. Purchase intention (4.18) and price competitiveness (4.15) also received high ratings, demonstrating positive consumer perceptions toward both online and offline retailing.

Table 3 Reliability Analysis

Construct	Cronbach's Alpha
Convenience	0.861
Price Competitiveness	0.834
Trust	0.889
Promotional Offers	0.845
After-sales Service	0.851
Purchase Intention	0.873
Customer Satisfaction	0.886

Cronbach's Alpha values exceeded 0.80 for all constructs, indicating excellent internal consistency and reliability of the questionnaire.

Table 4 KMO and Bartlett's Test

Test	Value
KMO Measure	0.895
Bartlett's Chi-square	2745.612
df	231
Sig.	0.000

The KMO value of 0.895 indicates excellent sampling adequacy. Bartlett's Test is significant ($p < 0.001$), confirming that the data are suitable for factor analysis.

Table 5 Exploratory Factor Analysis

Factor	Eigenvalue	Variance Explained (%)
Convenience	5.81	24.2
Trust	3.24	13.5
Price	2.68	11.2
Promotions	2.11	8.8
After-sales Service	1.85	7.7

Total Variance Explained = 65.4%

Five factors were extracted explaining 65.4% of the total variance, confirming that the questionnaire possesses satisfactory construct validity.

Table 6 Correlation Matrix

Variable	1	2	3	4	5	6
Convenience	1.00					
Price	0.58	1.00				
Trust	0.62	0.55	1.00			
Promotions	0.53	0.60	0.49	1.00		
After-sales Service	0.48	0.44	0.68	0.42	1.00	

Purchase Intention	0.71	0.66	0.74	0.63	0.69	1.00

All independent variables show positive and statistically significant relationships with purchase intention. Trust exhibits the strongest correlation (r = 0.74), followed by convenience (r = 0.71).

Table 7 Multiple Regression Analysis

Variable	Beta	t-value	p-value
Convenience	0.286	5.84	0.000
Price Competitiveness	0.241	4.93	0.000
Trust	0.312	6.21	0.000
Promotional Offers	0.198	4.07	0.000
After-sales Service	0.229	4.65	0.000

R^2	**Adjusted R^2**	**F**	**Sig**
0.71	**0.69**	**69.84**	**0.000**

The regression model explains 71% of the variation in purchase intention. Trust is the strongest predictor (β = 0.312), followed by convenience (β = 0.286). All predictors significantly influence purchase intention ($p < 0.001$).

Table 8 Independent Sample t-test (Gender)

Variable	Male Mean	Female Mean	t	p
Purchase Intention	4.21	4.14	1.32	0.188

No significant gender difference exists in purchase intention ($p > 0.05$). Therefore, male and female consumers exhibit similar purchasing behaviour.

Table 9 One-way ANOVA (Age Groups)

Source	F	Sig.
Purchase Intention	4.68	0.004

Purchase intention differs significantly across age groups ($p < 0.05$). Younger consumers demonstrate a greater preference for online electronics retailing than older consumers.

Table 10 Structural Equation Model

Path	Beta	p-value	Decision
Convenience → Purchase Intention	0.29	0.000	Supported
Price → Purchase Intention	0.25	0.000	Supported
Trust → Purchase Intention	0.34	0.000	Supported
Promotions → Purchase Intention	0.21	0.001	Supported
After-sales Service → Customer Satisfaction	0.37	0.000	Supported

Model Fit Indices

Fit Index	Recommended	Obtained
χ^2/df	<3.00	2.18
CFI	>0.90	0.95
TLI	>0.90	0.94
RMSEA	<0.08	0.056
SRMR	<0.08	0.047

l goodness-of-fit indices satisfy recommended thresholds, indicating that the structural model provides a good fit. The results confirm that convenience, trust, price competitiveness, promotional offers, and after-sales service significantly influence consumer behaviour and purchase intention.

Hypothesis Testing Summary

Hypothesis		Result	Decision
H_{01}	Convenience has no significant influence on purchase intention.	p = 0.000	Not Supported
H_{02}	Price competitiveness has no significant influence on purchase intention.	p = 0.000	Not Supported
H_{03}	H03: Trust does not significantly influence channel preference.	p = 0.000	Not Supported
H_{04}:	Promotional offers have no significant effect on consumer behaviour.	p = 0.001	Not Supported
H_{05}	After-sales service has no significant influence on customer satisfaction.	p = 0.000	Not Supported
H_{06}	There is no significant difference in purchase behaviour across demographic groups.	(Age: sig; Gender: not Sig)	Not Supported

The empirical analysis indicates that **trust** is the major influential factor affecting consumers' purchase intention in the electronics sector, followed by **convenience**, **price competitiveness**, **after-sales service**, and **promotional offers**. The findings also show that younger consumers are more inclined toward online retailing, whereas gender does not significantly influence purchase behaviour. The proposed research model demonstrates good reliability, validity, and model fit, supporting the conclusion that both online and offline retail channels remain important, with consumer preferences shaped primarily by trust, convenience, and service quality

Findings

The study indicates that consumer buying behaviour in the electronics retail sector of Delhi and Noida is increasingly influenced by convenience, trust, pricing, service quality, and technological advancements. A significant proportion of consumers prefer online retailing because it offers greater convenience, competitive prices, extensive product variety, attractive discounts, cashback offers, flexible payment options, and home delivery services. However, offline retail stores continue to be the preferred choice for purchasing high-value electronic products, as consumers value physical product inspection, demonstrations, immediate possession, personalized assistance, and reliable warranty support. Trust

emerged as a critical determinant of online purchasing, with secure payment systems, genuine products, transparent return policies, and strong brand reputation significantly influencing consumer confidence. Price competitiveness and promotional offers such as festival discounts, exchange schemes, cashback, and no-cost EMI were also found to positively affect purchase intentions. The findings further reveal that after-sales service, including installation, maintenance, warranty, and technical support, remains a major strength of offline retailers. Younger consumers demonstrated a stronger inclination towards online shopping because of higher digital literacy and familiarity with mobile commerce, whereas higher-income consumers increasingly adopted omnichannel shopping by combining online research with offline purchases. Product authenticity continued to influence offline shopping preferences, particularly for premium electronics. Finally, the study confirmed that customer satisfaction, driven by product quality, service excellence, timely delivery, and effective complaint resolution, significantly enhances repeat purchase intentions, customer loyalty, and long-term retailer competitiveness in the electronics retail market.

Suggestions

The study recommends that electronics retailers adopt comprehensive strategies to enhance consumer satisfaction and remain competitive in the evolving retail environment. A key recommendation is the implementation of integrated omnichannel retailing, enabling customers to enjoy a seamless shopping experience across online and offline platforms with consistent pricing, inventory, and customer service. Retailers should also strengthen after-sales services by providing reliable warranty support, efficient complaint handling, and prompt technical assistance to improve customer trust and loyalty. Enhancing website usability and mobile applications through user-friendly interfaces, secure payment options, detailed product information, and real-time order tracking can further improve the online shopping experience. The adoption of artificial intelligence and advanced analytics is recommended to deliver personalized product recommendations, forecast demand, optimize inventory, and provide intelligent customer support through chatbots and virtual assistants. Retailers must also prioritize payment security by implementing secure transaction systems, transparent privacy policies, fraud prevention measures, and efficient return procedures to build consumer confidence. Finally, the study emphasizes the importance of real-time inventory management across all retail channels to ensure accurate product availability, reduce stock-related issues, and support efficient order fulfilment. Collectively, these recommendations will improve customer experience, strengthen consumer trust, enhance operational efficiency, and promote sustainable growth in the electronics retail sector.

Managerial Implications

The study offers valuable insights for electronics retailers, manufacturers, and marketing managers. Retailers should integrate online and offline channels to provide seamless customer experiences. Investment in digital technologies, customer relationship management, personalized marketing, and efficient after-sales services can significantly improve customer satisfaction and loyalty. Managers should focus on data-driven decision-making to understand consumer preferences and optimize pricing, promotions, and inventory management. The findings also assist policymakers in promoting digital retail infrastructure and consumer protection measures.

Conclusion

The electronics retail sector in Delhi and Noida s experiencing a shift towards omnichannel retailing, where consumers utilize both online and offline platforms depending on product characteristics, convenience, pricing, and perceived risk. Although online retailing has gained considerable popularity due to competitive pricing and convenience, offline stores continue to play a crucial role in building customer trust and offering personalized services. The study concludes that convenience, trust, promotional offers, product quality, and after-sales service are significant determinants of consumer behaviour. Electronics retailers should adopt integrated marketing strategies that combine digital innovation with superior in-store experiences to remain competitive. The findings contribute to consumer behaviour literature and provide practical guidance for retailers aiming to enhance customer satisfaction and long-term business performance.

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