

## Attitudinal Drivers Of The Transition From Retail Shopping To E-Commerce In Ncr, Delhi, India: A Behavioral Correlation Study

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### ABSTRACT

This study explores the behavioral and attitudinal factors driving the shift from traditional retail to e-commerce among consumers in Delhi NCR, India. Using a sample of 423 respondents, the analysis applies descriptive statistics, Pearson's correlation, and one-way ANOVA to examine patterns in consumer perception, decision-making, and platform engagement. The results indicate that generational and educational factors significantly affect online shopping frequency. Price, product quality, and variety emerge as primary motivators, while brand reputation and social media reviews have minimal influence. A strong positive correlation is found between ease of return and shopping frequency, whereas delivery delays and skepticism toward online reviews act as mild deterrents. These findings suggest a consumer base that is rational, experience-oriented, and responsive to logistical efficiencies over branding or peer influence..

**Keywords:** *E-commerce adoption; Consumer behavior; Urban retail transition; Return policy; Online shopping frequency.*

### 1. INTRODUCTION:

The Indian retail ecosystem has undergone a dramatic transformation over the past decade, marked by the rise of e-commerce as a dominant channel for consumer transactions. Accelerated by expanding internet access, widespread smartphone adoption, improved digital literacy, and increasingly efficient logistics networks, urban consumers are steadily shifting from traditional brick-and-mortar formats to digital shopping platforms. As Koli et al. (2023) note, this evolution is shaped by intersecting technological, economic, and sociocultural factors, including fintech adoption, urban demand growth, and a growing reliance on digital service interfaces. Akther (2023) further observes that India's e-retail sector is no longer merely expanding - it is maturing, offering increasingly personalized user experiences and reduced delivery timelines.

Among Indian regions, the National Capital Region (Delhi NCR) represents a unique case for observing this transition. A hyper-urbanized and demographically varied region, NCR combines high smartphone penetration with robust infrastructure, making it an early adopter of digital retail. Kumar (2014) identified metropolitan clusters like NCR as behavioral

bellwethers for technological diffusion. Kumar and Pasha (2024) similarly argue that the region's high concentration of professionals, students, and digitally literate consumers

positions it as a testbed for broader national e-commerce trends.

This study centers on understanding how consumers in Delhi NCR are transitioning from traditional retail to e-shopping, with an emphasis on both attitudinal and behavioral dimensions. Unlike broader pan-India studies, this work contributes a localized lens, offering high-resolution insights into how demographic traits, satisfaction factors, and user experience variables interact in shaping consumer preferences. While existing research has examined national patterns (Singh, 2024; Pathak, 2024), relatively little is known about regional dynamics. Poonam and Saini (2024) emphasize that such granularity is essential to designing responsive digital platforms and marketing strategies.

The core research framework of this study is guided by two key objectives:

1. **Objective 1:** To study the consumer perception towards the transition from retail shopping to e-shopping in the NCR.
2. **Objective 2:** To study the consumer attitude towards the transition from retail shopping to e-shopping in the NCR.

In pursuit of these objectives, the study also tests the following null hypotheses:

- **H<sub>0</sub> (1):** There is no significant impact of e-commerce on retail shopping in the NCR region.
- **H<sub>0</sub> (2):** There is no significant impact of e-commerce on consumers' behaviour.

To investigate these hypotheses, the study draws on

survey data from 542 respondents across NCR, capturing a cross-section of age, education, and income demographics. The responses were subjected to descriptive analysis, Pearson's correlation, and one-way ANOVA to evaluate the relationships between demographic factors, shopping preferences, and behavioral outcomes.

Several insights from the literature shape the analytical lens of this research. Studies by Sorce et al. (2005) and Chiang et al. (2022) suggest that younger consumers are more digitally fluent and adopt online shopping at higher rates due to ease of use and digital familiarity. Chawla and Rana (2014) and Jaiwant (2021) similarly highlight that Indian consumers are largely rational decision-makers, prioritizing price, product quality, and variety over emotional or brand-driven cues. These patterns provide a comparative foundation for interpreting the regional results from NCR.

However, emerging trends in consumer behavior suggest deviations from traditional models. This study finds limited influence of brand reputation and social media reviews on online shopping behavior in NCR-contrary to global literature (e.g., Sari et al., 2024; Rifai et al., 2025). This supports newer perspectives proposed by Bhaskaran and Swarupa (2024) and Yang (2024), who argue that consumers in saturated digital environments are increasingly skeptical of promotional content and online endorsements.

Logistical factors-such as ease of return, delivery time, and payment terms-also reflect evolving service expectations. Previous research by Singhal and Patra (2018) and Goriparthi et al. (2017) identified these as baseline expectations rather than differentiating features. This study reinforces that view, demonstrating a statistically significant negative correlation between delivery delays and shopping frequency, and a positive correlation between flexible return policies and online engagement.

## 2. Methodology

### 2.1 Study Design

This study adopts a **quantitative, cross-sectional, and analytical** research design to investigate the attitudinal and demographic factors influencing consumer transition from retail to e-commerce in Delhi NCR, India. The approach enables the examination of relationships between behavioral outcomes and predictor variables across a diverse urban population.

### 2.2 Sampling and Participants

A total of **576 responses** were collected from across key subregions of NCR, including Delhi, Noida, Gurugram, and Faridabad. **Judgmental sampling** was conducted at high-footfall public sites such as malls, metro stations, universities, and local markets. To include digitally reluctant or older participants, **snowball sampling** was subsequently employed.

**Inclusion criteria** were as follows:

- Age between **18 and 65 years**
- Minimum education level: **10th grade**
- Must have made **an online or offline purchase in the past three months**

Out of the 576 responses, **423 valid and complete** questionnaires were retained for core statistical analysis using Pearson's correlation and ANOVA.

### 2.3 Instrument and Measures

A structured, close-ended questionnaire was developed to capture both **demographic variables** and **behavioral attitudes**. It comprised **32 items**, distributed across six thematic sections:

1. **Demographics:** Age, gender, education, income, locality
2. **Shopping Preferences:** Channel choice (online/offline), usage frequency
3. **Satisfaction Drivers:** Perceived value of delivery time, return policy, pricing, UI/UX, and payment systems
4. **Social Media Influence:** Attention to reviews, influencer posts, and digital ads
5. **Consumer Attitudes:** Trust, platform familiarity, brand loyalty, and user experience
6. **Behavioral Outcomes:** Purchase intent, repeat behavior, and word-of-mouth

Items used a **5-point Likert scale** where appropriate, alongside multiple-choice and categorical formats. Data were coded and treated as **ordinal or interval-level variables** for statistical operations.

### 2.4 Data Analysis Techniques

Statistical analysis was conducted using **SPSS v26**. The following techniques were employed to test the research questions and hypotheses:

- **Descriptive Statistics:** Frequency distributions, means, and standard deviations were used to profile respondents and analyze general trends (Results Tables 1–7).
- **Pearson's Correlation:** Applied to assess associations between independent variables (e.g., ease of return, delivery time) and frequency of online shopping (**Table 8** and **Table 9**).
- **One-Way ANOVA:** Used to evaluate mean differences across demographic segments:
  - **Age group differences** in online shopping frequency (Results Tables 12 & 13)
  - **Impact of social media review interest** on decision-making (Results Tables 10 & 11)

All tests were conducted at a **5% level of significance** ( $\alpha = 0.05$ ).

### 2.5 Ethical Considerations

Participation in the survey was entirely voluntary, anonymous, and based on informed consent. Respondents

were briefed on the academic purpose of the study. No personally identifiable information was collected or stored.

### 3. RESULTS

#### 3.1 Demographic Profile and Channel Preferences

The survey included 542 respondents across Delhi NCR to understand their shopping channel preferences and demographic characteristics. As shown in **Table 1**, a strong majority (78%) prefer online shopping, while 22% continue to rely on offline retail. This indicates a substantial tilt toward digital commerce, though multichannel engagement remains.

**Table 1. Preferred Shopping Channel**

Preferred Channel	Frequency	Percentage (%)
Online Shoppers	423	78%
Offline Shoppers	119	22%
<b>Total</b>	<b>542</b>	<b>100%</b>

The age composition of the analyzed sample (n = 423) reveals that individuals aged 25–34 constitute the largest group (43%), followed by 35–44 (22%). Nearly 39% are above the age of 35, indicating that e-commerce usage extends beyond digital natives. Detailed age distribution is presented in **Table 2**.

**Table 2. Age Distribution of Respondents**

Age Group (in years)	Frequency	Percentage (%)
18–24	74	17%
25–34	183	43%
35–44	92	22%
45 and above	74	18%
<b>Total</b>	<b>423</b>	<b>100%</b>

Educational background shows that 65% of respondents hold a graduate or postgraduate degree, reinforcing the association between higher education and digital adoption (**Table 3**).

**Table 3. Educational Background of Respondents**

Education Level	Frequency	Percentage (%)
Matriculation	28	7%
12th Standard	118	28%
Graduation	205	48%
Post-Graduation & Above	72	17%
<b>Total</b>	<b>423</b>	<b>100%</b>

Income segmentation reveals that a majority (52%) fall within the INR 20,000–1,00,000 bracket, representing India’s middle-income consumers. Notably, 13% belong to lower-income households, illustrating the inclusive spread of e-commerce usage across economic groups (**Table 4**).

**Table 4. Monthly Household Income Distribution**

Income Range (INR)	Frequency	Percentage (%)
Less than 20,000	54	13%
20,000–50,000	111	26%
50,000–1,00,000	108	26%
1,00,000–1,50,000	66	16%
1,50,000 and above	84	20%
<b>Total</b>	<b>423</b>	<b>100%</b>

#### 3.2 Product Category Preferences and Frequency of Purchase

Electronics (26.6%) and Apparels & Accessories (26.3%) emerged as the most preferred categories for online purchases, followed by Books & Stationery (16.8%), as presented in **Table 5**. These categories reflect NCR consumers’ blend of technology-driven and lifestyle-oriented choices.

**Table 5. Preferred Product Categories**

Category	Frequency	Percentage (%)
Electronics	276	26.6%
Books & Stationery	174	16.8%
Apparels & Accessories	273	26.3%
Food & Grocery	83	8.0%
Baby Products	22	2.1%
Home Décor	73	7.0%
Travel	117	11.3%
Others	19	1.8%

Regarding frequency, Apparels & Accessories lead as the most frequently purchased category (26.3%), followed by Electronics (22.8%). In contrast, Baby Products (4.0%) and Home Décor (5.1%) exhibit limited purchase regularity, potentially due to trust or quality assessment concerns. Food & Grocery stands out with over 52% of respondents reporting they never buy these items online, highlighting persistent hesitations (**Table 6**).

**Table 6. Frequency of Purchase by Product Category**

Category	Frequentl y	Some times	Ne ve r	Freq uentl y (%)	Some times (%)	Ne ver (%) )
Electr onics	115	181	74	22.8	42.8	17.4
Books & Statio nery	93	159	119	18.4	37.6	28.1
Appar els &	133	164	81	26.3	38.8	19.2

Acces sories						
Food & Groce ry	44	74	222	8.7	17.5	52.4
Baby Produ cts	20	31	266	4.0	7.3	62.9
Home Décor	26	80	244	5.1	18.9	57.7
Travel	70	75	209	13.9	17.7	49.4
Other s	4	9	N A	0.8	2.1	N A

### 3.3 Key Drivers of Online Purchase Decisions

Respondents ranked **Price/Offers (28.0%)**, **Quality (27.6%)**, and **Variety (25.3%)** as the most influential factors in their online purchase decisions (**Table 7**). This highlights a rational, value-oriented decision-making pattern. In contrast, factors like **Brand Name/Reputation (2.3%)** and **Reviews & Ratings (3.0%)** were found to exert minimal influence, suggesting lower reliance on marketing narratives or peer validation.

Moderate weight is given to logistical aspects such as **Ease of Return (8.1%)** and **Delivery Time (5.1%)**, which are likely considered standard expectations rather than decision-shaping variables. Extremely low scores for **Payment Terms (0.5%)**-including Cash on Delivery-indicate strong consumer confidence in digital transactions.

**Table 7. Perceived Influence of Variable Factors on Online Purchase Decisions**

Variable Factors	A Lo t	Not Muc h	No ne	A Lo t (%) )	Not Muc h (%)	No ne (%)
Price/Offers	241	92	25	28.0	16.5	2.3

Quality	23 7	104	35	27. 6	18.7	3.2
Variety	21 8	92	53	25. 3	16.5	5.8
Delivery Time	44	74	222	5.1	13.3	20. 0
Brand Name/Reputation	20	31	266	2.3	5.6	24. 0
Reviews & Ratings	26	80	244	3.0	15.4	22. 0
Ease of Return	70	75	209	8.1	13.5	18. 9
Payment Terms (e.g. COD)	4	9	54	0.5	1.6	5.9

### 3.4 Correlation Between Consumer Attitudes and Shopping Frequency

To assess how various attitudinal variables relate to the frequency of online purchases, Pearson's correlation analysis was performed. As summarized in **Table 8**, most correlations are weak, indicating that no single factor overwhelmingly drives behavior; however, a few notable patterns emerge.

- **Delivery Time** shows a statistically significant **negative correlation** ( $r = -0.099$ ,  $p = 0.043$ ), indicating that longer delivery durations slightly reduce the frequency of online purchases.
- **Ease of Return** exhibits a **positive correlation** ( $r = 0.137$ ,  $p = 0.008$ ), suggesting that flexible return policies positively influence shopping behavior.
- **Reviews & Ratings** also correlate negatively ( $r = -0.137$ ,  $p = 0.008$ ), reflecting growing consumer skepticism toward online reviews.

Variables like Price, Quality, Variety, Brand Name, and Payment Terms showed no statistically significant relationships with shopping frequency.

**Table 8. Pearson's Correlation Results – Shopping**  
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### Frequency and Influencing Factors

Variable Factor	Pearson Correlation	Sig. (2-tailed)	N
Price/Offers	-0.061	0.208	423
Quality	-0.072	0.196	423
Variety	-0.025	0.614	423
<b>Delivery Time</b>	<b>-0.099</b>	<b>0.043</b>	423
Brand Name	-0.059	0.229	423
Payment Terms	0.091	0.077	377
<b>Reviews &amp; Ratings</b>	<b>-0.137</b>	<b>0.008</b>	423
<b>Ease of Return</b>	<b>0.137</b>	<b>0.008</b>	423

*Correlation is significant at the 0.05 level; \*\* significant at the 0.01 level.*

Additionally, a focused bivariate analysis of delivery time versus frequency (from **Table 9**) reaffirms the same negative correlation ( $r = -0.099$ ), confirming that even modest delays may reduce repeat purchase behavior.

**Table 9. Correlation Between Delivery Time and Frequency of Online Purchases**

Variable Factor	Frequency of Online Purchase	Delivery Time
Pearson Correlation	1.000	-0.099
Sig. (2-tailed)	-	0.043
N	423	423

### 3.5 Hypothesis Testing: Influence of Social Media Reviews

To test the hypothesis that "**Reviews on social media platforms do not significantly influence the decision-making process of shoppers in NCR,**" a one-way



ANOVA was conducted. Respondents were grouped by self-reported interest in social media reviews: ‘A Lot’, ‘Not Much’, and ‘None’.

As shown in **Table 10**, standard deviation values across groups ranged from 0.897 to 0.980, confirming homogeneity of variance-a core assumption for valid ANOVA analysis.

**Table 10. Standard Deviation by Interest in Social Media Reviews**

Interest Level	N	Standard Deviation
A Lot	136	0.980
Not Much	192	0.897
None	95	0.968
<b>Total</b>	423	0.946

The ANOVA output in **Table 11** shows an F-value of 1.034 and  $p = 0.377$ , which is far above the 0.05 significance threshold. Therefore, the null hypothesis is retained: **interest in social media reviews does not statistically influence consumer decision-making** in this sample.

**Table 11. One-Way ANOVA – Influence of Social Media Reviews on Decision-Making**

Source	df	Mean Square	F	Sig. (p-value)
Between Groups	3	0.939	1.034	0.377
Within Groups	419	0.908		
<b>Total</b>	422			

This finding contrasts with global studies emphasizing the persuasive power of reviews (e.g., Sari et al., 2024; Rifai et al., 2025), suggesting a possible saturation or loss of trust in influencer content within NCR’s digitally mature audience.

### 3.6 Hypothesis Testing: Age as a Predictor of Online Shopping Frequency

To test the second hypothesis-"Age significantly influences the frequency of online shopping among

consumers in NCR"-a one-way ANOVA was applied across four age groups: 18–24, 25–34, 35–44, and 45+ years.

**Table 12** shows consistent standard deviations across all age groups (range: 0.885–1.045), validating the assumption of equal variance.

**Table 12. Standard Deviation by Age Group**

Age Group (in years)	N	Standard Deviation
18–24	74	1.045
25–34	183	0.885
35–44	92	0.937
45 and above	74	1.033
<b>Total</b>	423	0.953

The ANOVA output in **Table 13** reports a statistically significant result ( $F = 3.692$ ,  $p = 0.026$ ), confirming that age significantly affects the frequency of online shopping. Younger respondents, particularly in the 25–34 age group, are the most active digital buyers.

**Table 13. One-Way ANOVA – Age and Online Shopping Frequency**

Source	df	Mean Square	F	Sig. (p-value)
Between Groups	2	3.264	3.692	0.026
Within Groups	420	0.884		
<b>Total</b>	422			

This result aligns with prior research (e.g., Sorce et al., 2005; Chiang et al., 2022) indicating that younger cohorts exhibit higher levels of e-commerce activity, likely due to greater digital fluency and stronger lifestyle integration with technology.

## 4. DISCUSSION

The findings from this study confirm a strong and accelerating shift toward online shopping in Delhi NCR. As shown in **Table 1**, 78% of surveyed consumers prefer

e-commerce platforms over traditional retail-mirroring broader national trends in urban digital consumption (Bhatt, 2019). This transformation is driven not only by convenience and accessibility but also by structural enablers like internet penetration and fintech adoption.

The demographic distribution (**Table 2**) reinforces these patterns, with the 25–34 age group representing the largest online consumer segment (43%), in line with Rajvanshi (2021), who identified young professionals and working women as the most engaged digital buyers in NCR. Crucially, 39% of respondents are aged 35 and above, suggesting the broadening of digital retail adoption beyond just digital natives. This corresponds with Reddy and Srinivas (2015), who observed that middle-aged consumers increasingly participate in e-commerce due to rising digital literacy and mobile accessibility.

Educational attainment emerges as a key enabler of e-commerce participation. As reported in **Table 3**, 65% of respondents hold a graduate or higher degree-supporting claims by Chouhan et al. (2017) and Singh and Rana (2019) that formal education correlates strongly with digital shopping behavior through improved product literacy and online navigation skills. Income segmentation (**Table 4**) shows that over 50% of respondents belong to the INR 20,000–1,00,000 monthly income range, consistent with Nittala (2015), who found India's middle-income households to be both value-conscious and digitally active.

In terms of product preferences (**Table 5**), Electronics (26.6%) and Apparels & Accessories (26.3%) dominate consumer choices. These findings resonate with Farid (2015) and Joshi et al. (2018), who attributed high online sales in these categories to transparent product specs, seasonal deals, and lifestyle appeal. The sustained demand for Books & Stationery (16.8%) also aligns with Thakur and Kaur (2020), who noted high digital engagement from students and knowledge workers in urban zones.

Conversely, low-frequency purchases in Baby Products (4.0%) and Home Décor (5.1%) (**Table 6**) may reflect trust deficits or the need for tactile evaluation-observations shared by Sondhi (2015) and Chandrasekar (2019). A striking finding is that over 52% of respondents have never purchased groceries online, underlining persistent concerns over freshness and delivery reliability, echoing Nagra and Gopal (2014).

Consumer priorities-measured in **Table 7**-place Price/Offers (28.0%), Quality (27.6%), and Variety (25.3%) as dominant motivators. This supports the rational-choice framework described by Chawla and Rana (2014) and Jaiwant (2021), where online buyers prioritize functional value over emotional or social branding. In contrast, factors like Brand Name (2.3%) and Reviews & Ratings (3.0%) appear far less influential. This diverges from studies by Khanna and Awal (2019) and Sen (2014), possibly indicating that NCR consumers are maturing into pragmatic decision-makers less swayed by peer cues or brand loyalty.

Interestingly, Payment Terms (0.5%), including Cash on Delivery, ranked lowest-signaling high consumer confidence in digital payments. This aligns with Goriparthi et al. (2017), who observed a shift toward fintech trust and widespread use of online gateways.

The correlation analysis (**Table 8**) reveals nuanced behavioral patterns. While most factors showed weak or insignificant correlations, Delivery Time exhibited a negative correlation ( $r = -0.099$ ,  $p = 0.043$ ), confirming that logistical delays, even marginal ones, reduce shopping frequency. This is consistent with findings by Goriparthi et al. (2017) and Sandhu and Aravind (2021), who emphasized reliability as a core service expectation in urban e-commerce.

More importantly, Ease of Return showed a positive correlation ( $r = 0.137$ ,  $p = 0.008$ ), reinforcing Singhal and Patra's (2018) view that return flexibility builds trust and encourages repeat engagement. Reviews & Ratings, on the other hand, displayed a negative correlation ( $r = -0.137$ ,  $p = 0.008$ ), suggesting skepticism toward user-generated content-echoing arguments by Pani et al. (2024) about diluted credibility in saturated review environments.

The bivariate correlation matrix (**Table 9**) further isolates the inverse relationship between delivery speed and purchase frequency, strengthening the claim that service quality directly affects retention. Despite widespread use of reviews in platform design, their actual predictive power for behavior appears weak in NCR's consumer landscape.

Hypothesis testing via ANOVA (Tables 10 and 11) confirms that interest in social media reviews does not significantly affect purchase decisions ( $F = 1.034$ ,  $p = 0.377$ ). This contradicts global findings (e.g., Sari et al., 2024; Rifai et al., 2025), possibly due to NCR consumers developing review fatigue or commercial skepticism. As Bhaskaran and Swarupa (2024) suggest, users in high-exposure digital markets may rely more on personal evaluation than influencer narratives. Yang (2024) further noted that authenticity and trust in influencers are critical-elements that may be diluted in NCR's densely marketed ecosytem.

Bahl et al. (2019) added that while social media enhances awareness, it does not guarantee behavioral conversion without credible content. The present findings support this, indicating that NCR consumers may prioritize tangible attributes such as return ease and product quality over external opinion signals.

Finally, age emerged as a significant predictor of shopping frequency (Tables 12 and 13). The 25–34 age group was the most active, supporting findings by Sorce et al. (2005) and Chiang et al. (2022), who linked digital fluency to increased online shopping. Chae (2020) and Jin et al. (2022) found that while youth favor speed and ease, older consumers face usability and risk barriers, despite digital access. Wan et al. (2012) similarly observed that older users prefer physical shopping for experiential or

high-risk categories. These results underline the need for age-segmented platform design, with emphasis on trust, ease-of-use, and post-purchase support for older consumers.

## 5. CONCLUSION

This study offers a comprehensive analysis of online shopping behavior among consumers in Delhi NCR, highlighting key demographic trends, product preferences, decision-making drivers, and behavioral correlations. The findings confirm a robust shift toward digital retail, led primarily by younger, educated, and middle-income consumers. Electronics and Apparels remain the dominant product categories, while price sensitivity, product quality, and variety emerge as the most influential purchase drivers. Interestingly, brand reputation and social media reviews have limited impact, suggesting a more pragmatic and performance-oriented consumer mindset in the region.

Correlation and hypothesis testing further reveal that logistical conveniences-such as return policies and delivery reliability-play a critical role in shaping shopping frequency, while factors like age significantly influence engagement levels. Overall, the study underscores the importance of demographic segmentation, service efficiency, and consumer trust in crafting targeted and

effective online retail strategies.

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### Conflict of Interest

The authors declare that there is no conflict of interest.

### Author Contributions

**Renuka Yadav**, as the first author and PhD scholar, conducted the research design, data collection, analysis, and manuscript preparation. **Dr. Deepak Dixit** served as the supervisor, providing academic guidance and overall supervision throughout the study.

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