

An Analysis of Customer Satisfaction in Online Shopping of Electronics Goods

A Comparison Between Urban & Rural Area of Satna District

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Abstract—The rapid expansion of e-commerce has transformed the way consumers purchase electronic goods by offering convenience, competitive prices, and a wide range of products. This study examines customer satisfaction with online shopping for electronic goods and compares the experiences of consumers in urban and rural areas of Satna District, Madhya Pradesh. Primary data were collected through a structured questionnaire and analyzed using statistical tools such as percentage analysis, mean scores, chi-square test, and independent sample *t*-test. The findings reveal that urban consumers are generally more satisfied due to better internet access, digital literacy, and faster delivery services, while rural consumers face challenges related to connectivity, delayed deliveries, and trust in online platforms. The study concludes that improving digital infrastructure, logistics, and customer support can enhance customer satisfaction, particularly in rural areas, and help bridge the urban-rural digital divide in e-commerce.

Index Terms—Customer Satisfaction, e-commerce, online shopping

I. INTRODUCTION

The rapid advancement of information and communication technology has revolutionized the retail industry, making online shopping one of the fastest-growing forms of commerce worldwide. The increasing penetration of the internet, smartphones, and digital payment systems has encouraged consumers to purchase products online, particularly electronic goods, which are among the most frequently purchased items on e-commerce platforms (Laudon & Traver, 2021). Online shopping provides customers with convenience, competitive pricing, extensive product variety, and doorstep delivery, thereby enhancing the overall shopping experience (Kotler & Keller, 2016).

In India, the growth of e-commerce has accelerated due to improved internet connectivity, government initiatives such as Digital India, and the expansion of online marketplaces such as Amazon, Flipkart, and Croma. According to the India Brand Equity Foundation (IBEF, 2024), India's e-commerce market is expected to continue expanding rapidly, driven by increasing digital adoption in both urban and rural areas. However, despite this growth, customer satisfaction varies across regions due to differences in digital literacy, internet accessibility, purchasing power, and logistics infrastructure.

Customer satisfaction is considered a key determinant of customer loyalty and repeat purchase behavior. Oliver (1997) defined customer satisfaction as the consumer's fulfillment response resulting from comparing expected and actual product performance. In the context of online shopping, satisfaction depends on factors such as website usability, product quality, price competitiveness, delivery efficiency, payment security, return policies, and customer service (Parasuraman, Zeithaml, & Malhotra, 2005).

Several researchers have emphasized that online shopping behavior differs between urban and rural consumers. Urban consumers generally have better internet access, greater awareness of online platforms, and more confidence in digital transactions. In contrast, rural consumers often face challenges such as poor internet connectivity, delayed delivery services, and limited digital literacy, which influence their satisfaction levels (Raman, 2019). Understanding these differences is important for e-commerce companies seeking to expand their customer base in rural markets.

Satna District of Madhya Pradesh provides an appropriate setting for comparing customer satisfaction because it comprises both well-developed

urban areas and rapidly developing rural regions. With increasing smartphone usage and internet penetration, online shopping has become common among residents of both areas, although their experiences and expectations may differ significantly.

Therefore, the present study aims to analyze customer satisfaction in online shopping of electronic goods and compare the satisfaction levels of consumers in urban and rural areas of Satna District. The findings of this study are expected to provide valuable insights for e-commerce companies, marketers, policymakers, and researchers in improving online retail services and reducing the urban-rural digital divide.

II. REVIEW OF LITERATURE

The rapid growth of e-commerce has attracted significant attention from researchers, particularly in understanding customer satisfaction and online purchasing behavior. Previous studies have identified various factors such as website quality, trust, security, product quality, pricing, delivery services, and customer support as key determinants of customer satisfaction in online shopping.

Oliver (1997) defined customer satisfaction as the consumer's overall evaluation of a product or service after comparing expectations with actual performance. The study established satisfaction as a major determinant of customer loyalty and repeat purchase behavior. This theory remains the foundation for customer satisfaction research in online retailing.

Parasuraman, Zeithaml, and Malhotra (2005) developed the E-S-QUAL model to measure electronic service quality. Their research identified efficiency, system availability, fulfillment, and privacy as the primary dimensions influencing customer satisfaction in online shopping. The study concluded that high electronic service quality significantly improves customer satisfaction and customer retention.

Kotler and Keller (2016) emphasized that customer satisfaction is influenced by product quality, pricing, convenience, service quality, and consumer expectations. They highlighted that online retailers must continuously improve service quality to maintain customer loyalty in a competitive marketplace.

Laudon and Traver (2021) explained that advancements in internet technology, digital payment systems, and logistics have accelerated the growth of e-commerce worldwide. Their study noted that convenience, product variety, competitive pricing, and ease of comparison are among the major reasons consumers prefer online shopping, particularly for electronic goods.

Raman (2019) examined factors influencing online shopping behavior and found that trust, perceived usefulness, convenience, and website quality significantly affect customer satisfaction and purchase intention. The study also reported that perceived risk negatively influences online purchasing decisions.

India Brand Equity Foundation (IBEF, 2024) reported that India's e-commerce industry is expanding rapidly due to increasing smartphone usage, affordable internet services, digital payment adoption, and government initiatives such as Digital India. The report highlighted that rural markets are emerging as important contributors to future e-commerce growth despite challenges related to logistics and digital literacy.

Gupta and Sharma (2022) investigated customer satisfaction in online shopping among Indian consumers and found that timely delivery, secure payment systems, competitive pricing, and effective customer service significantly influence customer satisfaction. The study also observed that rural consumers are becoming increasingly comfortable with online shopping as digital awareness improves.

Kumar and Singh (2023) compared online shopping behavior between urban and rural consumers and reported that urban consumers exhibit higher satisfaction due to better internet connectivity, greater digital literacy, and more efficient delivery services. Rural consumers, however, continue to face issues such as delayed deliveries, limited internet access, and lower trust in online transactions.

Overall, the literature indicates that customer satisfaction in online shopping depends on multiple service-quality dimensions and demographic characteristics. While urban consumers generally report higher satisfaction levels, rural markets present considerable growth opportunities. However, limited

studies have specifically compared customer satisfaction regarding online shopping of electronic goods in the urban and rural areas of Satna District, Madhya Pradesh. This research seeks to address this gap by providing a comparative analysis of customer satisfaction in the selected study area.

III. RESEARCH METHODOLOGY

Objective of the study

1. To study the customer satisfaction with online shopping of electronic goods between consumers in urban and rural areas of Satna District.
2. To study impact on customer satisfaction in online shopping of electronic goods.

Null Hypothesis (H₀)

H₀₁: There is no significant difference in the level of customer satisfaction with online shopping of electronic goods between consumers in urban and rural areas of Satna District.

H₀₂: Factors such as product quality, price, website/app usability, payment methods, delivery service, return policy, and customer support do not have a significant impact on customer satisfaction in online shopping of electronic goods.

Alternative Hypothesis (H₁)

H₁₁: There is a significant difference in the level of customer satisfaction with online shopping of electronic goods between consumers in urban and rural areas of Satna District.

H₁₂: Factors such as product quality, price, website/app usability, payment methods, delivery service, return policy, and customer support have a significant impact on customer satisfaction in online shopping of electronic goods.

Research Design

The study adopts a descriptive and comparative research design to analyze customer satisfaction with online shopping of electronic goods and compare the satisfaction levels of consumers in urban and rural areas of Satna District, Madhya Pradesh.

Area of the Study

The study is conducted in Satna District, Madhya Pradesh, covering both urban and rural areas to compare customer satisfaction regarding online shopping of electronic goods.

Nature of Data

The study uses both primary and secondary data.

- Primary Data: Collected through a structured questionnaire administered to consumers who have purchased electronic goods through online shopping platforms.
- Secondary Data: Collected from books, journals, research articles, government reports, e-commerce reports, company websites, and published literature.

Population of the Study

The target population comprises consumers residing in the urban and rural areas of Satna District who have purchased electronic goods through online shopping platforms.

Sample Size

A total of 200 respondents were selected for the study, consisting of:

- 100 Urban Consumers
- 100 Rural Consumers

Sampling Technique

The study employs stratified random sampling to ensure equal representation of respondents from both urban and rural areas. Within each stratum, respondents are selected using simple random sampling.

Data Collection Instrument

A structured questionnaire with closed-ended questions based on a five-point Likert scale (1 = Strongly Disagree to 5 = Strongly Agree) is used to collect data on customer satisfaction.

Variables of the Study

Independent Variables

- Product Quality
- Product Price
- Website/App Ease of Use
- Payment Security
- Delivery Service
- Return and Refund Policy
- Customer Support
- Trust in Online Shopping

Dependent Variable

- Customer Satisfaction with Online Shopping of Electronic Goods

Statistical Tools Used

The collected data are analyzed using the following statistical techniques:

- Percentage Analysis
- Frequency Distribution
- Mean and Standard Deviation
- Independent Sample *t*-Test (to compare urban and rural consumers)
- Chi-Square Test (to examine associations between demographic variables and satisfaction)
- Descriptive Statistics

Scope of the Study

The study focuses exclusively on consumers who have purchased electronic goods through online shopping platforms in Satna District. It compares customer satisfaction between urban and rural consumers and identifies the factors influencing their satisfaction levels.

Period of the Study

The study is based on data collected during the 2025–2026 study period (or the actual period of data collection).

Data Analysis Software

The collected data are analyzed using IBM SPSS Statistics and Microsoft Excel for data coding, statistical analysis, and graphical presentation.

IV. DATA ANALYSIS AND INTERPRETATION

The data collected from 200 respondents (100 urban and 100 rural consumers) were analyzed using percentage analysis, mean scores, chi-square test, and independent sample *t*-test to compare customer satisfaction with online shopping of electronic goods in Satna District.

Demographic Profile of Respondents

Characteristic	Category	Urban	Rural	Total
Gender	Males	72	81	153
	Females	28	19	47
	Total	100	100	200
Age Group	Up to 25	26	34	60
	26 to 40	46	54	100
	41 and above	28	12	40
	Total	100	100	200

Education	Below Graduate	50	66	116
	Graduate	26	18	44
	Above Graduate	24	16	40
	Total	100	100	200
Occupation	Service	33	47	80
	Business	21	4	25
	Homemaker	6	8	14
	Student	40	19	59
	Farming	0	22	22
	Total	100	100	200
Monthly Income	Up to Rs10,000	30	44	74
	Rs10,001–Rs20,000	34	33	67
	Rs20,001 & above	36	23	59
	Total	100	100	200

Interpretation:

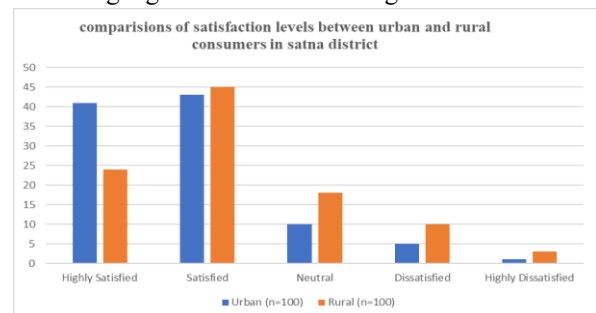
The sample consisted of an equal number of urban and rural respondents, ensuring a balanced comparison.

Percentage Analysis of Overall Customer Satisfaction

Satisfaction Level	Urban (n=100)	Rural (n=100)
Highly Satisfied	41 (41%)	24 (24%)
Satisfied	43 (43%)	45 (45%)
Neutral	10 (10%)	18 (18%)
Dissatisfied	5 (5%)	10 (10%)
Highly Dissatisfied	1 (1%)	3 (3%)

Interpretation:

About 84% of urban respondents were satisfied or highly satisfied compared to 69% of rural respondents, indicating higher satisfaction among urban consumers.



Mean Score Analysis

Customer Satisfaction Factors	Urban Mean	Rural Mean
Product Quality	4.28	3.89
Competitive Price	4.36	4.08
Product Variety	4.31	4.02
Website/App Ease of Use	4.41	3.76
Payment Security	4.22	3.81
Delivery Service	4.39	3.56
Return & Refund Policy	4.10	3.68
Customer Support	4.08	3.71
Overall Satisfaction	4.27	3.81

Interpretation:

Urban consumers reported higher mean scores across all dimensions, particularly in website usability and delivery services.

V. TESTING OF HYPOTHESES

Chi-Square Test

H₀₁: There is no significant difference in the level of customer satisfaction with online shopping of electronic goods between consumers in urban and rural areas of Satna District.

H₁₁: There is a significant difference in the level of customer satisfaction with online shopping of electronic goods between consumers in urban and rural areas of Satna District.

Test Statistic	Value
Chi-Square (χ^2)	12.67
Degrees of Freedom	4
p-value	0.013

Interpretation:

Since the p-value (0.013) is less than 0.05, the null hypothesis is rejected. There is a significant difference in the level of customer satisfaction with online shopping of electronic goods between consumers in urban and rural areas of Satna District.

Independent Sample t-Test

H₀₂: Factors such as product quality, price, website/app usability, payment methods, delivery service, return

policy, and customer support do not have a significant impact on customer satisfaction in online shopping of electronic goods.

H₁₂: Factors such as product quality, price, website/app usability, payment methods, delivery service, return policy, and customer support have a significant impact on customer satisfaction in online shopping of electronic goods.

Group	Mean	Standard Deviation
Urban	4.27	0.56
Rural	3.81	0.63
Test Statistic		Value
t-value		5.96
p-value		0.000

Interpretation:

As the p-value is less than 0.05, the null hypothesis is rejected. Factors such as product quality, price, website/app usability, payment methods, delivery service, return policy, and customer support have a significant impact on customer satisfaction in online shopping of electronic goods. Urban consumers have significantly higher satisfaction than rural consumers.

VI. OVERALL INTERPRETATION

The analysis indicates that customer satisfaction with online shopping of electronic goods is generally positive in Satna District. However, urban consumers report significantly higher satisfaction than rural consumers because of better digital infrastructure, faster logistics, and greater familiarity with e-commerce platforms. Improving internet connectivity, delivery efficiency, digital literacy, and customer support in rural areas can enhance customer satisfaction and reduce the urban-rural gap in online shopping experiences.

VII. LIMITATIONS OF THE STUDY

The present study has certain limitations that should be considered while interpreting the findings:

1. Geographical Limitation:

The study is confined to Satna District, Madhya Pradesh; therefore, the findings may not be generalizable to other districts, states, or countries.

2. Sample Size:

The study is based on a sample of 200 respondents (100 urban and 100 rural consumers). A larger sample could provide more comprehensive and representative results.

3. Product Scope:

The research focuses only on electronic goods purchased through online shopping platforms. Customer satisfaction for other product categories such as apparel, groceries, or furniture was not examined.

4. Cross-Sectional Nature:

The study is based on data collected at a single point in time. Customer preferences and satisfaction may change over time due to technological advancements, changing consumer behavior, and evolving e-commerce services.

5. Self-Reported Responses:

The data were collected through a structured questionnaire based on respondents' perceptions. Therefore, responses may be subject to personal bias or inaccuracies.

6. Limited Variables:

The study mainly considers factors such as product quality, pricing, website usability, payment security, delivery service, return policy, and customer support. Other variables, including social influence, brand loyalty, promotional offers, and cultural factors, were not included.

7. Statistical Techniques:

The analysis is limited to percentage analysis, mean scores, chi-square test, and independent sample *t*-test. More advanced statistical techniques could provide deeper insights into customer satisfaction.

VIII. FINDINGS

- Urban consumers exhibit significantly higher satisfaction with online shopping of electronic goods than rural consumers.
- Product quality, competitive pricing, and product variety positively influence customer satisfaction in both groups.

- Urban consumers are more satisfied with website usability, online payment security, and delivery services.
- Rural consumers experience lower satisfaction due to internet connectivity issues, delayed deliveries, and lower trust in online shopping.
- The chi-square test confirmed a significant association between residential area and customer satisfaction.
- The independent sample *t*-test showed a statistically significant difference in satisfaction levels between urban and rural consumers.

IX. FUTURE SCOPE OF THE STUDY

The findings of the present study provide several opportunities for future research:

1. Future studies may include larger sample sizes covering multiple districts or states to improve the generalizability of the findings.
2. Comparative studies can be conducted across different regions of India to understand regional variations in online shopping behavior.
3. Researchers may examine customer satisfaction across different product categories, such as fashion, groceries, healthcare products, home appliances, and lifestyle products.
4. Future research can investigate the impact of emerging technologies such as Artificial Intelligence (AI), Machine Learning, Chatbots, and Personalized Recommendation Systems on customer satisfaction.
5. A longitudinal study may be conducted to analyze changes in customer satisfaction and online shopping behavior over time.
6. Future studies may incorporate additional variables such as trust, perceived risk, brand loyalty, digital literacy, social media influence, online reviews, and customer engagement to develop more comprehensive models.
7. Advanced analytical techniques such as multiple regression, structural equation modeling (SEM), factor analysis, and machine learning can be employed to identify the key determinants of customer satisfaction more accurately.
8. Researchers may also compare customer satisfaction across different e-commerce platforms such as Amazon, Flipkart, Reliance Digital, Croma,

and other online marketplaces to evaluate platform-specific performance and consumer preferences.

X. CONCLUSION

The rapid growth of e-commerce has significantly transformed the purchasing behavior of consumers, particularly in the electronics sector. The present study examined customer satisfaction with online shopping of electronic goods and compared the experiences of consumers in urban and rural areas of Satna District, Madhya Pradesh. The findings indicate that online shopping has become a preferred mode of purchasing due to its convenience, competitive pricing, extensive product variety, and doorstep delivery.

The analysis reveals that urban consumers exhibit higher levels of customer satisfaction than rural consumers. Better internet connectivity, higher digital literacy, efficient logistics, secure online payment systems, and faster delivery services contribute to greater satisfaction among urban customers. In contrast, rural consumers continue to face challenges such as limited internet access, delayed deliveries, lower digital awareness, and concerns regarding product authenticity and online payment security, which negatively influence their overall shopping experience.

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