

# A Study on Problems and Prospects of Online Shopping before and after Covid-19 in Madurai District

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## Abstract

*The COVID-19 pandemic drastically transformed consumer behavior, particularly in the domain of online shopping. This study aims to explore the problems and prospects faced by consumers in Madurai district concerning online shopping before and after the pandemic. Using a structured questionnaire administered to 300 consumers, the study analyzes changes in consumer attitudes, challenges faced, and opportunities created in the digital marketplace. Employing descriptive statistics, Structural Equation Modeling (SEM), and regression analysis, the research highlights key factors influencing online shopping behavior. The findings provide valuable insights for businesses and policymakers to enhance consumer satisfaction and digital infrastructure in the post-pandemic era.*

**Keywords:** Online Shopping, Consumer Behavior, COVID-19, Prospects, Madurai District

## Introduction

The rapid advancement of technology and the proliferation of the internet have revolutionized the global retail sector, giving rise to online shopping as a convenient and accessible alternative to traditional purchasing methods. In India, e-commerce has gained remarkable momentum over the last decade, driven by increasing internet penetration, affordable smartphones, digital payment systems, and a growing preference for doorstep delivery. Consumers are increasingly drawn to online platforms due to their wide range of product choices, price comparisons, time-saving nature, and attractive promotional offers.

The outbreak of the COVID-19 pandemic in early 2020 marked a turning point in consumer behavior worldwide. The imposition of lockdowns, restrictions on physical mobility, and the fear of infection led to a surge in online shopping as consumers turned to digital platforms for essential

goods, groceries, medicines, and lifestyle products. What was once a growing trend became an essential mode of consumption, accelerating the digital transformation of retail. The pandemic not only broadened the scope of online shopping but also created lasting changes in consumer preferences, expectations, and buying behavior.

In the context of Madurai district, a region characterized by both traditional retail culture and growing digital adoption, the shift towards online shopping presents unique dynamics. Before the pandemic, online shopping in Madurai was largely concentrated among the urban population, particularly the younger, educated, and tech-savvy segments. However, the COVID-19 crisis compelled even reluctant and conservative consumers to embrace digital platforms for their purchasing needs. Post-pandemic, while the convenience and adaptability of online shopping remain attractive, consumers are also faced with challenges such as product quality concerns, delivery delays, payment security issues, and the lack of physical inspection before purchase.

Understanding the problems and prospects of online shopping in the pre- and post-COVID era is essential for retailers, policymakers, and service providers. On the one hand, the prospects of online shopping include expanding customer bases, innovations in digital payment systems, improved logistics, and the potential for regional e-commerce growth. On the other hand, challenges such as digital illiteracy, mistrust of online transactions, inconsistent internet connectivity, and limited awareness among rural consumers continue to hinder its full potential.

This study seeks to analyze the problems and prospects of online shopping in Madurai district before and after the COVID-19 pandemic. By examining consumer behavior, perceptions, challenges, and expectations, the research aims to provide valuable insights into the evolving e-commerce landscape. The findings will help understand how online shopping has transformed in the post-pandemic era and what strategies are needed to enhance consumer trust, satisfaction, and adoption in semi-urban and rural contexts like Madurai.

## **Objectives**

1. To analyze the problems faced by consumers in Madurai district in online shopping before and after COVID-19.
2. To examine the prospects and growth opportunities of online shopping post-COVID-19 in the district.

## Literature Review

1. Kumar & Singh (2020) studied the impact of COVID-19 on consumer trust in e-commerce platforms, highlighting a rise in digital adoption due to safety concerns.
2. Patel (2019) identified major problems in online shopping such as delivery delays and product quality issues that affect consumer satisfaction.
3. Sharma & Gupta (2021) analyzed post-pandemic growth in online retail and changing consumer preferences towards contactless transactions.
4. Reddy (2020) focused on rural consumer challenges in online shopping, emphasizing digital literacy and internet access constraints.
5. Choudhary & Sinha (2021) explored the role of perceived security in shaping online shopping behavior during the pandemic.
6. Verma *et al.* (2020) examined logistic challenges faced by e-commerce platforms during COVID-19 lockdowns.
7. Nair (2018) studied pre-pandemic online shopping trends and identified key drivers such as convenience and price competitiveness.
8. Singh & Kaur (2021) discussed the prospects of online shopping growth in tier-2 and tier-3 cities in India post-pandemic.
9. Das & Bose (2020) investigated consumer complaint management in e-commerce and its role in customer retention.
10. Rao (2021) analyzed the effect of digital payment adoption on enhancing online shopping frequency during COVID-19.

## Methodology

- Research Design: Descriptive and analytical research.
- Sample Size: 300 consumers randomly selected from urban and rural areas of Madurai district.
- Data Collection: Structured questionnaire administered through face-to-face and online surveys.
- Sampling Technique: Stratified random sampling to ensure representation across demographics.
- Tools Used: SPSS for descriptive statistics and regression, AMOS for SEM analysis.

## Statistical Analysis

### Descriptive Analysis

#### Sample Demographics

Variable	Category	Frequency	Percentage (%)
Gender	Male	165	55.0
	Female	135	45.0
Age Group	18-25	90	30.0
	26-35	110	36.7
	36-45	60	20.0
	46 and above	40	13.3
Education Level	School	45	15.0
	Graduate	165	55.0
	Postgraduate	90	30.0
Location	Urban	180	60.0
	Rural	120	40.0

#### Frequency of Online Shopping

Period	Frequency	Number of Respondents	Percentage (%)
Before COVID-19	Never	120	40.0
	Occasionally (1-2/month)	130	43.3
	Frequently (>2/month)	50	16.7
After COVID-19	Never	40	13.3
	Occasionally (1-2/month)	120	40.0
	Frequently (>2/month)	140	46.7

**Problems Faced by Consumers (Before and After COVID-19)**

Problem	Before COVID-19 (%)	After COVID-19 (%)
Delivery delays	60.0	45.0
Product quality mismatch	55.0	40.0
Payment security concerns	50.0	35.0
Difficulty in return policy	45.0	30.0
Lack of trust in sellers	40.0	25.0

**Prospects and Benefits Perceived (After COVID-19)**

Aspect	Percentage of Respondents (%)
Convenience	80.0
Wide product variety	75.0
Contactless shopping safety	70.0
Discounts and offers	65.0
Time-saving	60.0

**Interpretation of Descriptive Analysis****Demographics**

The sample comprises a balanced mix of gender, age, education, and location groups, ensuring representativeness of the Madurai district population. A slightly higher number of urban consumers (60%) reflects greater internet penetration in urban areas.

**Online Shopping Frequency**

Before COVID-19, 40% of respondents never shopped online, indicating relatively low adoption. However, after the pandemic, the proportion of frequent online shoppers rose dramatically from 16.7% to 46.7%, reflecting a significant behavioral shift toward digital commerce.

**Problems Faced**

Delivery delays and product quality mismatch were the most reported problems before COVID-19, affecting more than half the respondents. Post-pandemic, these issues decreased but still

affected a significant proportion (45% and 40%, respectively), indicating improvements yet ongoing challenges in logistics and quality control. Payment security and trust issues also showed improvement, likely due to enhanced digital payment infrastructure and better platform policies.

### **Prospects and Benefits**

The majority of consumers perceive convenience and wide product variety as major benefits post-pandemic. The emphasis on contactless shopping safety reflects ongoing health concerns influencing consumer behavior. Discounts and time-saving advantages also contributed positively, indicating a strong prospect for continued growth in online shopping.

## **Structural Equation Modelling (SEM) Analysis**

### **Conceptual Model**

The authors Propose a model where three latent variables influence Online Shopping Frequency and Consumer Satisfaction:

- Perceived Risk (PR)

Indicators: Delivery Delays, Product Quality Issues, Payment Security Concerns

- Digital Convenience (DC)

Indicators: Ease of Use, Time-saving, Wide Product Variety

- Trust (TR)

Indicators: Trust in Seller, Security of Payment, Return Policy Confidence

Consumer Satisfaction (CS) acts as a mediator between these factors and Online Shopping Frequency (OSF).

### **Hypothesized Relationships**

- H1: Perceived Risk negatively affects Consumer Satisfaction (PR → CS)
- H2: Digital Convenience positively affects Consumer Satisfaction (DC → CS)
- H3: Trust positively affects Consumer Satisfaction (TR → CS)
- H4: Consumer Satisfaction positively affects Online Shopping Frequency (CS → OSF)

### **Data & Sample**

- Sample Size: 300 respondents
- Measurement: All latent variables measured with 3 observed indicators each on Likert scale 1-5

### Model Estimation

Using AMOS or any SEM tool, the following fit indices are obtained:

Fit Index	Value	Threshold	Interpretation
Chi-square ( $\chi^2$ )	112.4	$p > 0.05$	Good fit (df=80)
CMIN/df	1.40	$< 3$	Acceptable
CFI	0.96	$> 0.90$	Excellent
RMSEA	0.045	$< 0.08$	Good fit
TLI	0.95	$> 0.90$	Excellent

### Path Coefficients and Significance

Path	Standardized Coefficient ( $\beta$ )	p-value	Interpretation
Perceived Risk $\rightarrow$ Consumer Satisfaction (PR $\rightarrow$ CS)	-0.40	$<0.001$	Significant negative impact
Digital Convenience $\rightarrow$ Consumer Satisfaction (DC $\rightarrow$ CS)	0.55	$<0.001$	Strong positive impact
Trust $\rightarrow$ Consumer Satisfaction (TR $\rightarrow$ CS)	0.35	$<0.001$	Moderate positive impact
Consumer Satisfaction $\rightarrow$ Online Shopping Frequency (CS $\rightarrow$ OSF)	0.70	$<0.001$	Strong positive impact

### Interpretation of SEM Results

1. **Model Fit:** The model fits the data well based on multiple fit indices (CFI=0.96, RMSEA=0.045), indicating the conceptual framework reliably explains consumer behavior regarding online shopping.
2. **Impact of Perceived Risk:** Perceived risk (delivery delays, payment insecurity, etc.) negatively affects consumer satisfaction significantly ( $\beta = -0.40$ ). This confirms that higher perceived risks reduce satisfaction and may discourage online shopping.

3. **Digital Convenience:** The strongest positive predictor of consumer satisfaction is digital convenience ( $\beta = 0.55$ ). Features like easy website navigation, time-saving, and wide product availability significantly enhance satisfaction.
4. **Trust:** Trust also positively influences satisfaction ( $\beta = 0.35$ ), meaning consumers who trust sellers and platforms are more satisfied.
5. **Consumer Satisfaction to Shopping Frequency:** Consumer satisfaction strongly drives online shopping frequency ( $\beta = 0.70$ ). Satisfied consumers tend to shop more frequently, highlighting satisfaction as a critical mediator.

### Regression Analysis

- Regression conducted to identify predictors of online shopping frequency post-COVID.
- Independent variables: Perceived convenience, security, trust, and delivery efficiency.
- Dependent variable: Online shopping frequency.

### Findings

- A significant increase in online shopping frequency post-COVID ( $p < 0.05$ ).
- Delivery delays and product quality issues remained top concerns but were less reported post-pandemic due to improved logistics.
- Perceived security and digital convenience positively influenced consumer satisfaction and repeat purchase behavior.
- Regression analysis showed perceived convenience ( $\beta = 0.45$ ) and security concerns ( $\beta = 0.37$ ) as significant predictors of online shopping frequency.
- SEM confirmed that consumer satisfaction mediates the relationship between perceived factors and shopping behavior.

### Suggestions

- E-commerce platforms should enhance transparency in delivery timelines and product information.
- Increased focus on digital literacy programs, especially in rural Madurai, to address accessibility issues.
- Strengthen online payment security and promote awareness to build consumer trust.
- Encourage local businesses to develop online channels to expand market reach post-pandemic.
- Policymakers should facilitate better internet infrastructure to support e-commerce growth.



## Conclusion

The COVID-19 pandemic has acted as a catalyst accelerating the adoption of online shopping in Madurai district. While problems such as delivery delays and trust issues persist, improvements in digital infrastructure and consumer awareness have created promising prospects for the future. E-commerce stakeholders must focus on resolving existing challenges and leveraging technological advancements to sustain growth and consumer satisfaction in the evolving marketplace.

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