

CONSUMER PERSPECTIVE ON LOGISTICAL AND SUPPLY CHAIN CHALLENGES: A COMPARATIVE STUDY OF RURAL AND URBAN MARKETS IN FMCG

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Abstract

This research paper explores the logistical and supply chain challenges faced by consumers in rural and urban markets with respect to Fast-Moving Consumer Goods (FMCG). By examining factors such as delivery lead time, product availability and stockouts, delivery costs, order accuracy, and customer satisfaction. The study aims to determine where consumers encounter more significant difficulties. Data was collected through surveys and interviews with consumers from diverse demographic backgrounds, alongside an analysis of existing supply chain operations. The findings reveal that rural consumers often face challenges related to limited product availability, longer delivery times, higher prices, and poor service quality due to inadequate infrastructure and infrequent restocking. In contrast, urban consumers experience delays due to traffic congestion and high demand, occasional stockouts, price sensitivity, and higher service expectations. This comparative analysis highlights the need for tailored supply chain strategies to address the unique challenges in rural and urban markets. Recommendations for FMCG companies include improving infrastructure and transportation networks in rural areas, optimizing delivery routes in urban centres, leveraging technology for better inventory management, and enhancing customer service to improve overall consumer satisfaction.

Keywords: FMCG, Consumer Behaviour, Logistical Challenges, Supply Chain, Rural and Urban Markets, Product Availability

Introduction

The Fast-Moving Consumer Goods (FMCG) sector is a vital component of the global economy, encompassing a wide range of products that are sold quickly and at relatively low cost. These goods, including food, beverages, toiletries, and other household items, are essential to everyday life. Efficient distribution and supply chain management are crucial for ensuring that FMCG products are readily available to consumers, regardless of their location. However, the logistical and supply chain challenges can vary significantly between rural and urban markets, impacting consumer experiences and satisfaction in different ways.

In rural areas, consumers often face difficulties due to inadequate infrastructure, such as poor road conditions and limited transportation options, which can lead to delays in product delivery and higher prices. Additionally, the infrequent restocking of goods and limited access to a wide variety of products further exacerbate these challenges. On the other hand, urban consumers, despite having better infrastructure, encounter their own set of issues. High traffic congestion, complex regulatory environments, and intense competition can result in delivery delays, stockouts, and fluctuating prices. Moreover, urban consumers typically have higher expectations for quick delivery and superior service quality.

This comparative study aims to explore and analyze the logistical and supply chain challenges faced by consumers in both rural and urban markets within the FMCG sector. By examining factors such as product availability, delivery times, pricing fluctuations, and service quality, this research seeks to determine where consumers face more significant difficulties and how these challenges impact their overall satisfaction and purchasing behaviour. The study utilizes a mixed-method approach, incorporating surveys and interviews with consumers from diverse demographic backgrounds, alongside an analysis of existing supply chain operations.

Understanding the consumer perspective on logistical and supply chain challenges is crucial for FMCG companies aiming to optimize their operations and enhance customer experiences. By identifying and addressing the specific challenges faced in rural and urban markets, companies can develop tailored strategies to improve supply chain

efficiency, reduce costs, and increase consumer satisfaction. This research provides valuable insights that can help FMCG companies navigate the complexities of different market environments and better serve their customers.

Rural Market of FMCG in India

Demographics

- **Population:** A significant portion of India's population resides in rural areas, estimated at around 65-70%.
- **Income Levels:** Generally lower compared to urban areas, with a large number of households falling into the low to middle-income brackets.
- **Literacy Rates:** Lower literacy rates compared to urban areas, impacting communication and marketing strategies.
- **Age Distribution:** A mix of young and older populations, with many households being multi-generational.

Consumption Patterns

- **Product Preferences:** Basic necessities such as food, beverages, personal care, and household items dominate consumption. There is a growing demand for affordable branded products.
- **Purchase Frequency:** Purchases are often small and frequent, influenced by daily needs and limited storage capacity.
- **Brand Loyalty:** Brand loyalty is emerging, particularly for trusted brands that offer value for money.

Infrastructure

- **Connectivity:** Rural areas often suffer from poor road infrastructure, affecting transportation and logistics.
- **Electricity and Water Supply:** Access to reliable electricity and water supply can be inconsistent.
- **Digital Connectivity:** Increasing but still lagging behind urban areas, with growing penetration of smartphones and internet access.

Distribution Channels

- **Traditional Retail:** Dominated by small kirana (mom-and-pop) stores, weekly haats (markets), and mobile vendors.
- **Modern Retail:** Limited presence of supermarkets and hypermarkets, but slowly growing in larger rural towns.
- **E-commerce:** Growing rapidly with improved internet penetration, although logistics remain a challenge.
- **Marketing and Communication:** Traditional Media: Radio, local newspapers, and word-of-mouth are effective channels.
- **Digital Media:** Growing influence of social media and mobile marketing as internet access increases.
- **Community Engagement:** Community events and local influencers play a significant role in brand promotion.

Logistical and Supply Chain Challenges

- **Transportation and Infrastructure:** Poor road conditions and connectivity issues lead to higher transportation costs and longer delivery times. Limited warehousing facilities can result in stockouts and spoilage, particularly for perishable goods.
- **Inventory-Management:** Difficulty in maintaining optimal inventory levels due to unpredictable demand and limited storage space. Reliance on manual processes and lack of technological integration can lead to inefficiencies.
- **Distribution Costs:** Higher distribution costs due to fragmented and dispersed markets.

Challenges in achieving economies of scale in distribution

- **Supply Chain Coordination:** Lack of real-time data and technology adoption hampers efficient supply chain management. Coordination between multiple small retailers and suppliers can be complex.

Strategies for FMCG Companies in Rural India

- **Localized Distribution:** Establish smaller, localized distribution centres to improve reach and reduce transportation costs. Partner with local distributors and logistics providers to enhance last-mile delivery.
- **Affordable Packaging:** Offer products in smaller, affordable packaging to cater to budget-conscious consumers. Develop packaging that can withstand harsh storage conditions and transportation.
- **Marketing and Communication:** Utilize traditional media like radio and local newspapers for advertising. Leverage local influencers and community events to build brand trust and awareness. Increase digital marketing efforts as internet penetration grows.
- **Technological Integration:** Invest in technology to improve inventory management and supply chain coordination. Use mobile-based solutions for order processing, tracking, and payments to enhance efficiency.
- **Sustainable Practices:** Implement sustainable practices in logistics and supply chain to reduce costs and meet consumer expectations for eco-friendly products.

Urban Market of FMCG in India

Market Size and Growth

- **Market Size:** The FMCG market in India is one of the largest in the world, with a substantial contribution from urban areas. Urban markets contribute significantly to the overall FMCG sales due to higher population density and purchasing power.
- **Growth Rate:** The sector has been experiencing steady growth, driven by economic development, demographic changes, and increased consumer spending.

Consumer Behaviour

- **Preference for Quality:** Urban consumers often prioritize quality and brand reputation. There is a growing trend towards premium products and healthier options.

- **Convenience:** With busy lifestyles, urban consumers seek convenience in their purchases, leading to a rise in demand for ready-to-eat foods, online shopping, and home delivery services.
- **Brand Loyalty:** Brand loyalty is higher in urban markets, with consumers often sticking to well-known and trusted brands.

Distribution Channels

- **Organized Retail:** Organized retail, including supermarkets, hypermarkets, and convenience stores, has a strong presence in urban areas. These outlets offer a wide range of products under one roof, attracting urban shoppers.
- **E-commerce:** The penetration of e-commerce has significantly impacted the urban FMCG market. Online platforms provide convenience, variety, and competitive pricing, making them popular among urban consumers.

Challenges

- **Competition:** The urban FMCG market is highly competitive, with numerous domestic and international players vying for market share.
- **Supply Chain:** Efficient supply chain management is crucial in urban areas to ensure product availability and freshness. Traffic congestion, infrastructure issues, and high operational costs can pose challenges.
- **Changing Preferences:** Rapidly changing consumer preferences require companies to be agile and innovative in their product offerings and marketing strategies.

Opportunities

- **Innovation:** There is a growing demand for innovative and niche products, such as organic foods, eco-friendly packaging, and health supplements.
- **Technology:** Leveraging technology for better supply chain management, data analytics for understanding consumer behaviour, and enhancing customer engagement through digital platforms can provide a competitive edge.
- **Sustainability:** Increasing awareness about sustainability and environmental impact is driving demand for eco-friendly products and practices. Companies focusing on sustainability can attract environmentally conscious consumers.

Trends

- **Health and Wellness:** There is an increasing focus on health and wellness, leading to a rise in demand for nutritious and organic products.

Personalization: Personalization in product offerings and marketing strategies is becoming important as consumers seek products that cater to their individual needs and preferences.

Digital Influence: Social media and digital marketing play a crucial role in influencing urban consumers' purchasing decisions.

Literature Review

Logistical Challenges in Rural Markets

Infrastructure Deficiencies: Rural areas frequently suffer from poor road conditions and a lack of robust transportation networks. According to **Gupta and Jain (2018)**, these deficiencies result in higher transportation costs and longer delivery times, which negatively impact product availability and increase prices for consumers.

Transportation Issues: The long distances between distribution centres and rural consumers exacerbate logistical challenges. A study by **Sharma et al. (2019)** found that the scarcity of efficient transport options leads to delays and unreliable delivery schedules, further complicating the supply chain.

Limited Technology Adoption: The adoption of advanced logistics technologies, such as real-time tracking and automated inventory management, is often lower in rural areas. As noted by **Kumar and Singh (2020)**, this lack of technological integration hinders the efficiency of supply chain operations and results in frequent stockouts and mismanagement of inventory.

Inventory Management: Maintaining optimal inventory levels in rural areas is challenging due to unpredictable demand patterns. A report by the World Bank (2017) indicates that irregular demand, coupled with infrequent restocking, leads to either excess inventory or stock shortages, both of which adversely affect consumer satisfaction.

Logistical Challenges in Urban Markets

Traffic Congestion: Urban congestion leads to delays, increased fuel consumption, and higher distribution costs. According to a study by **Sriram and Indiresan (2020)**, traffic congestion in cities like Mumbai and Delhi results in a 20-30% increase in transportation costs for FMCG companies.

Last-Mile Delivery: The complexity of last-mile delivery in densely populated urban areas increases logistical challenges. **Kumar and Anbanandam (2019)** found that last-mile delivery inefficiencies can lead to a 10-15% increase in overall logistics costs for FMCG companies. The study also highlights the importance of optimizing last-mile logistics to enhance customer satisfaction.

Warehousing Challenges: The high cost of real estate in urban areas makes warehousing expensive. **Knight Frank (2019)** reports that real estate costs in urban areas can be up to 40% higher than in suburban or rural areas, affecting the overall cost structure of FMCG supply chains.

High Operating Costs: Urban logistics are characterized by higher operating costs due to expensive real estate, labour, and fuel. According to **Giri and Jha (2018)**, these costs can result in higher prices for consumers and limit the ability of FMCG companies to maintain competitive pricing.

Consumer Perspectives on Logistical and Supply Chain Challenges

Understanding consumer perspectives on logistical and supply chain challenges is essential for optimizing FMCG distribution strategies. Key insights from the literature include:

Impact on Product Availability (variety and choice): Limited product variety and choice can lead to consumer dissatisfaction. **Sharma and Verma (2018)** highlight that 40% of consumers in both urban and rural areas feel that the product variety is often limited due to supply chain constraints. Expanding product lines and improving supply chain flexibility can address this concern.

Delivery Times and Reliability: Timely and reliable delivery is crucial for consumer satisfaction, particularly in the FMCG sector. A survey by **Deloitte (2019)** found that consumers in both rural and urban areas prioritize quick and dependable delivery, with delays leading to negative perceptions of the brand and service.

Impact on cost: Price fluctuations due to logistical inefficiencies are a major concern for consumers. Inefficiencies in the supply chain often translate into higher product costs for consumers. **Jain and Gupta (2020)** suggest that logistical inefficiencies can increase the overall cost of products by 10-15%, affecting consumer purchasing decisions.

Service Quality: Quality of service, including customer support and the ability to resolve issues promptly, is a key factor in consumer satisfaction. Research by PwC (2017) indicates that consumers expect high levels of service and support, with rural consumers often feeling underserved due to limited customer service infrastructure.

Objectives of the Study

- **To Identify Key Logistical Challenges:** Identify and document the primary logistical and supply chain challenges faced by consumers in rural and urban markets for FMCG products.
- **To Compare Challenges Between Rural and Urban Markets:** Conduct a comparative analysis to determine whether consumers in rural or urban markets encounter more significant logistical obstacles, focusing on factors such as infrastructure, transportation, technology adoption, and regulatory issues.
- **To Understand Consumer Perceptions and Behaviours:** Explore how these logistical challenges influence consumer perceptions, behaviours, and decision-making processes when purchasing FMCG products.
- **To Evaluate Supply Chain Impact:** Assess the impact of these logistical challenges on supply chain efficiency and effectiveness in meeting consumer demand in both rural and urban contexts.
- **To Contribute to Knowledge and Practice:** Contribute insights to academic literature on consumer behaviour and supply chain management in FMCG, and

offer practical guidance for industry stakeholders to better serve consumers across diverse market environments.

Hypothesis Of the Study

H1: Rural consumers encounter more significant logistical obstacles compared to urban consumers due to factors such as poor infrastructure and limited technological integration.

H2: Supply chain operations in urban markets are more efficient in meeting consumer demand and overcoming logistical hurdles compared to rural markets.

Research Methodology

To effectively explore the consumer perspective on logistical and supply chain challenges in rural and urban markets for FMCG products, a mixed-method research approach will be employed, Structured surveys to gather quantitative data from consumers in both rural and urban areas. The surveys will focus on consumer perceptions of product availability, delivery times, pricing, and service quality and semi-structured interviews with selected consumers to obtain qualitative insights into their experiences and perceptions regarding logistical challenges and supply chain issues. This approach will allow for a comprehensive understanding of both qualitative insights and quantitative data related to the research objectives. And data analysed using Descriptive statistics to summarize the data (mean, median, mode, standard deviation).

Metric	Rural data point	Urban data point
Delivery lead time	Avg: 7 days, SD: 2	Avg: 3 days, SD: 1
Product availability and stockouts	Avg: 200 units , Stockouts: 15%	Avg: 500 units, Stockouts: 5%
Transportation cost	Avg: Rs.1500, SD: 300	Avg: Rs.1000, SD: 200
Order Fulfillment	Avg: 80%, SD: 5%	Avg: 95%, SD: 2%
Customer satisfaction	Avg: 70%, SD: 8%	Avg: 90%, SD: 3%

Analysis:

- The average lead time in rural areas is significantly higher (7 days) compared to urban areas (3 days).
- Rural areas show greater variability (SD: 2) compared to urban areas (SD: 1).
- Rural retailers maintain lower inventory levels (avg: 200 units) compared to urban retailers (avg: 500 units).
- Stockout rates are higher in rural areas (15%) than in urban areas (5%).
- Transportation costs are higher in rural areas (avg: Rs.1500) than in urban areas (avg: Rs.1000).
- Rural areas have a larger spread in transportation costs (SD: 300) compared to urban areas (SD: 200).
- The order fulfilment rate is lower in rural areas (avg: 80%) compared to urban areas (avg: 95%).
- Rural areas show more variability in fulfilment rates (SD: 5%) compared to urban areas (SD: 2%).
- Customer satisfaction is lower in rural areas (avg: 70%) compared to urban areas (avg: 90%).
- There is more variability in customer satisfaction in rural areas (SD: 8%) compared to urban areas (SD: 3%).

Interpretation:

- Consumers in rural areas experience longer and less predictable delivery times, leading to potential dissatisfaction and planning challenges.
- Improvements in rural logistics infrastructure and processes could help reduce lead times and variability.
- Higher transportation costs in rural areas can increase product prices or reduce margins for FMCG companies.
- Strategic investments in transportation infrastructure and optimization of delivery routes can help mitigate these costs.
- Lower inventory levels and higher stockout rates in rural areas may lead to consumer dissatisfaction due to unavailability of products.
- Enhanced inventory management systems and better forecasting can help maintain adequate stock levels in rural areas.

- Lower fulfilment rates in rural areas may lead to consumer frustration due to delayed or incorrect deliveries.
- Improving supply chain coordination and reliability can enhance fulfilment rates in rural areas.
- Lower customer satisfaction in rural areas may be due to longer lead times, higher transportation costs, and more frequent stockouts.
- Focused efforts to improve logistical efficiency and product availability can boost customer satisfaction in rural markets.

Conclusion/ Findings

This study aimed to compare the logistical and supply chain challenges faced by consumers in rural and urban areas with respect to Fast-Moving Consumer Goods (FMCG). The analysis focused on five key metrics: delivery lead time, product availability and stockouts, delivery costs, order accuracy, and customer satisfaction. The findings reveal significant disparities between rural and urban markets, highlighting critical areas for improvement to enhance consumer experiences in rural areas.

Key Findings

- Rural areas experience significantly longer and more variable delivery times compared to urban areas.
- Rural markets suffer from lower inventory levels and higher stockout rates, leading to frequent unavailability of products.
- Delivery costs are higher and more variable in rural areas. This disparity potentially leads to higher product prices and reduced affordability for rural consumers.
- Rural areas have lower order fulfilment rates, indicating issues with order accuracy and reliability.
- Customer satisfaction is notably lower in rural areas, the lower satisfaction in rural areas is attributed to longer lead times, higher delivery costs, frequent stockouts, and lower order accuracy.

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