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The Rise Of Quick Commerce And Its Impact On Urban Logistics

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Abstract

Quick commerce (Q-commerce) has rapidly emerged as a transformative retail and logistics model, emphasizing ultra-fast delivery of essential goods within a short time frame, typically between 10 to 30 minutes. Driven by digitalization, urbanization, and changing consumer lifestyles, Q-commerce platforms have significantly reshaped urban logistics systems. The expansion of quick commerce has increased the demand for hyperlocal warehouses, commonly known as dark stores, and has intensified last-mile delivery operations supported by advanced technology-based logistics solutions. This study aims to analyse the rise of quick commerce and examine its impact on urban logistics with reference to delivery efficiency, logistics cost, traffic congestion, and environmental implications. The research is based on secondary data collected from academic journals, industry reports, and market studies. The findings reveal that while quick commerce enhances customer convenience and delivery speed, it also places substantial pressure on urban infrastructure, increases operational costs, and raises sustainability concerns. The study suggests strategic and sustainable measures to improve efficiency in urban logistics systems.

Keywords: Quick commerce, Urban logistics, Last-mile delivery, Dark stores, Supply chain

1.Introduction

Rapid advancements in digital technologies, widespread internet access, and changing consumer lifestyles have significantly transformed the retail industry. Urban consumers increasingly prefer speed, convenience, and flexibility when purchasing essential goods, leading to the emergence of innovative retail models such as quick commerce (Q-commerce). Quick commerce focuses on delivering daily necessities including groceries, medicines, and household items within a very short time frame, typically between 10

to 30 minutes. Unlike traditional e-commerce, which relies on scheduled or next-day delivery, Q-commerce is designed to fulfil immediate consumer requirements through an on-demand service approach.

The growth of quick commerce is closely linked to the efficiency of urban logistics systems. Urban logistics involves managing the movement and storage of goods within city limits. The expansion of Q-commerce has resulted in the development of hyperlocal warehouses or dark stores, increased last-mile delivery operations, and greater reliance on technology-driven logistics solutions such as real-time tracking and route optimization. While Q-commerce improves delivery speed and customer convenience, it also creates challenges including traffic congestion, higher operational costs, and environmental concerns. Therefore, this study examines the rise of quick commerce and its impact on urban logistics, focusing on both its benefits and challenges.

2. Scope of the Study

- The study focuses on analysing the impact of quick commerce on urban logistics systems.
- It examines last-mile delivery operations and hyperlocal distribution models used by Q-commerce platforms.
- The study covers the role of dark stores and micro-fulfilment centres in urban areas.
- It analyses logistics-related challenges such as traffic congestion, operational cost, and infrastructure usage.
- Environmental aspects including emissions and sustainability issues in urban logistics are considered.
- The analysis is based on secondary data related to Indian and selected global urban markets.
- The study excludes rural logistics operations and post-delivery consumer behaviour.

3. Objectives of the Study

- To study the growth and concept of quick commerce
- To analyse the impact of quick commerce on urban logistics
- To identify key challenges faced by urban logistics systems
- To examine trends in delivery efficiency and logistics costs
- To provide recommendations for sustainable urban logistics

5. Limitations of the Study

- The study is based only on secondary data
- Primary data from logistics companies or customers is not included
- Findings may vary across cities and regions
- Rapid industry changes may affect future relevance

6. Review of literature

1. Chopra and Meindl (2023) highlighted that quick commerce has reshaped urban logistics by promoting hyperlocal fulfilment and faster last-mile delivery. Their study noted improved customer satisfaction but increased logistics costs due to frequent deliveries.

2. McKinsey & Company (2024) reported that the expansion of quick commerce has intensified urban traffic congestion and infrastructure usage. The study emphasized the role of technology and efficient logistics planning in managing these challenges.

3. World Economic Forum (2023) identified quick commerce as a major trend influencing urban logistics. The report stressed sustainability concerns and recommended eco-friendly delivery methods and policy support for long-term growth.

7. RESEARCH METHODOLOGY

The research methodology outlines the systematic process adopted to examine the impact of quick commerce on urban logistics. The study is designed to ensure clarity, reliability, and relevance of findings.

7.1 Research Design

The study follows a descriptive and analytical research design. The descriptive approach helps in understanding the concept, growth, and characteristics of quick commerce, while the analytical approach examines its impact on urban logistics factors such as last-mile delivery efficiency, logistics costs, traffic congestion, and sustainability.

7.2 Data Collection

The study is based on secondary data collected from reliable sources including academic journals, industry and market reports, company publications, and business news articles. These sources provide comprehensive insights into quick commerce trends and urban logistics performance.

7.3 Analytical Tools

The data collected were analysed using trend analysis, comparative analysis, and tabular analysis to identify patterns, compare logistics models, and present findings in a structured manner.

7.4 Research Approach

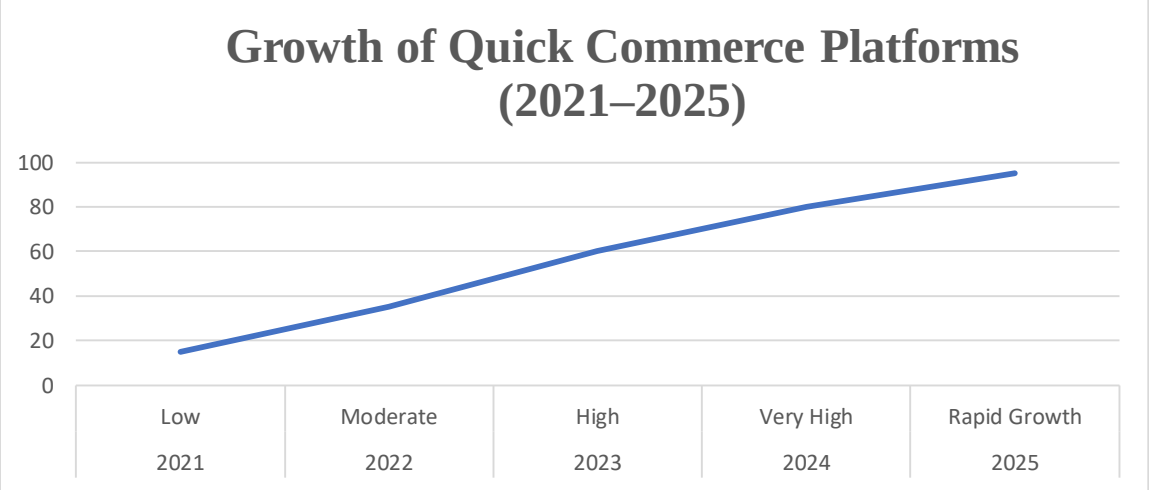
A systematic research approach was adopted, involving data collection, classification, analysis, interpretation, and conclusion to ensure logical flow and academic rigor.

8. Data Analysis and Interpretation

Table 8.1: Growth of Quick Commerce Platforms (2021–2025)

Year	Market Growth Level	Numeric Value
2021	Low	15
2022	Moderate	35
2023	High	60
2024	Very High	80
2025	Rapid Growth	95

Chart 8.1: Growth of Quick Commerce Platforms (2021–2025)



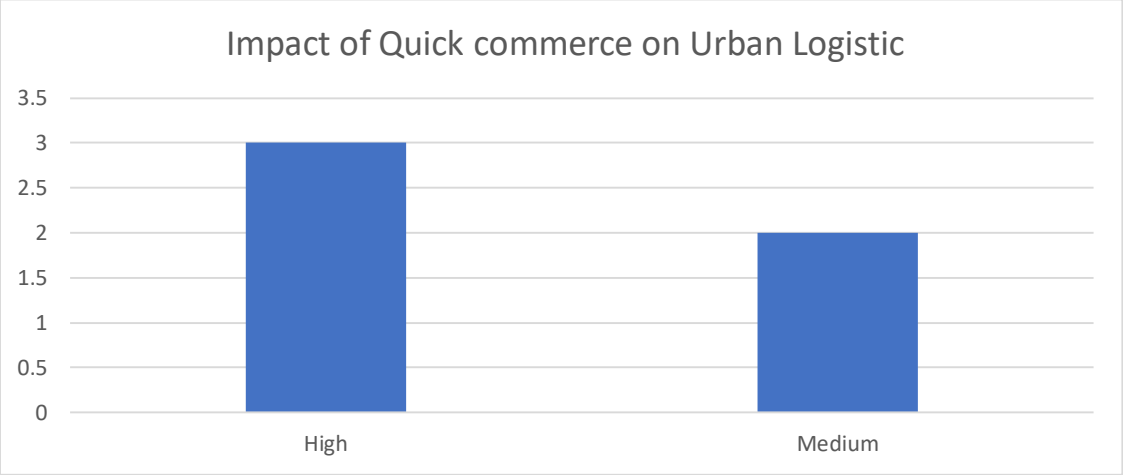
Interpretation:

The table shows a continuous increase in the growth of quick commerce, driven by rising urban demand and digital adoption.

Table 8.2: Impact of Quick Commerce on Urban Logistics

Factor	Impact Level
Delivery Speed	High
Logistics Cost	High
Traffic Congestion	Medium
Employment Generation	High
Environmental Impact	Medium

Chart 8.2: Impact of Quick Commerce on Urban Logistics



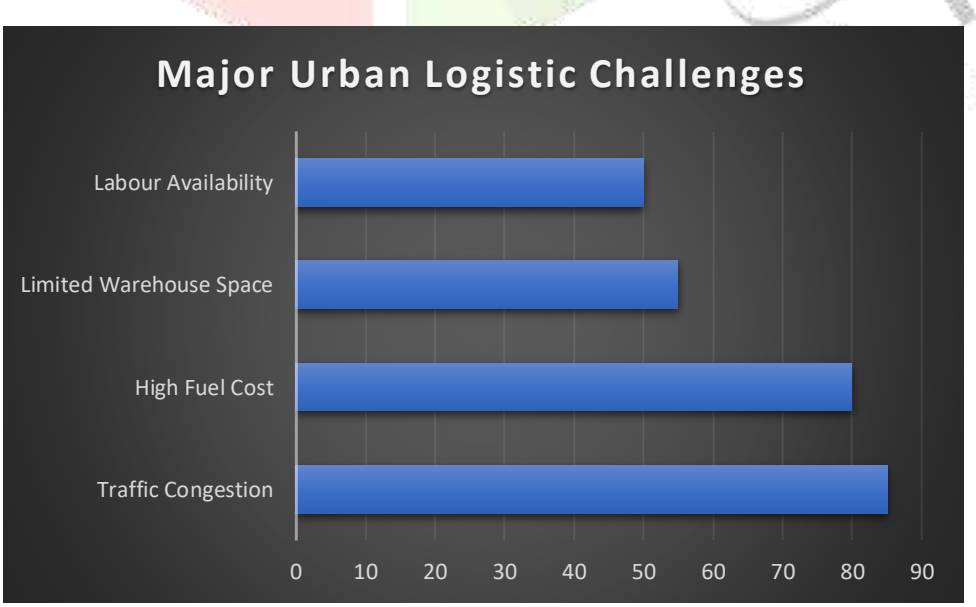
Interpretation:

Quick commerce significantly improves delivery speed and employment opportunities but increases logistics costs.

Table 8.3: Major Urban Logistics Challenges

Challenge	Impact Level	Numeric Value (0–100)
Traffic Congestion	High	85
High Fuel Cost	High	80
Limited Warehouse Space	Medium	55
Labour Availability	Medium	50

Chart 8.3: Major Urban Logistics Challenges



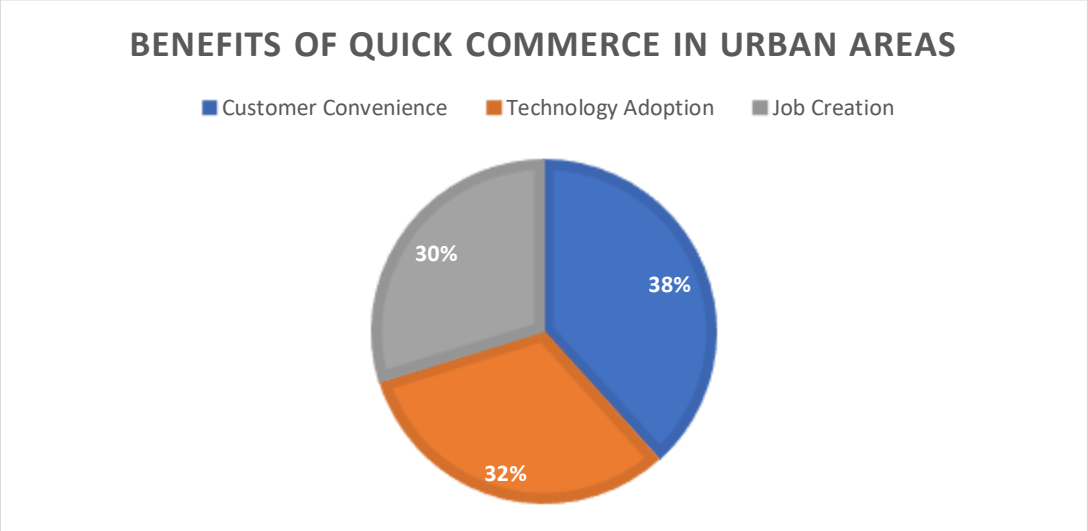
Interpretation:

Traffic congestion and fuel costs are the most critical challenges affecting urban logistics efficiency.

Table 8.4: Benefits of Quick Commerce in Urban Areas

Benefit	Description	Impact Score
Customer Convenience	Faster access to essentials	90
Technology Adoption	AI-based routing	75
Job Creation	Delivery workforce growth	70

Chart 8.4: Benefits of Quick Commerce in Urban Areas



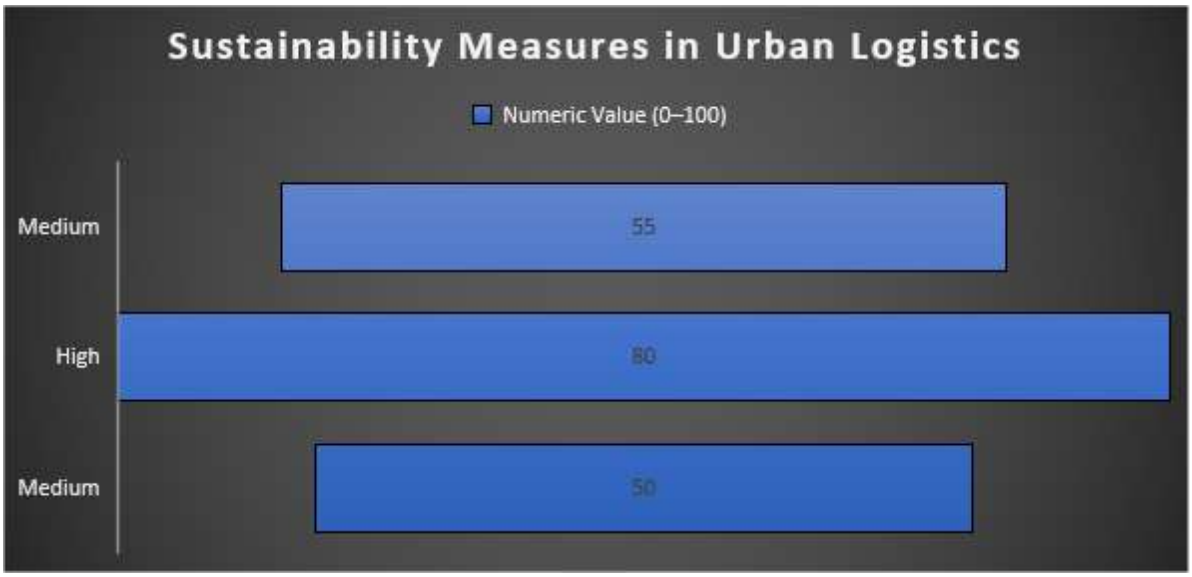
Interpretation:

Quick commerce enhances customer experience and encourages technological innovation in logistics.

Table 8.5: Sustainability Measures in Urban Logistics

Measure	Adoption Level	Numeric Value
Electric Vehicles	Medium	55
Route Optimisation	High	80
Eco-friendly Packaging	Medium	50

Chart 8.5: Sustainability Measures in Urban Logistics



Interpretation:

Technology-based solutions are widely adopted, while sustainability measures are still developing.

8. Findings of the Study

- Quick commerce is growing rapidly in urban areas
- Delivery speed has significantly improved
- Urban logistics costs have increased
- Traffic congestion has moderately risen
- Sustainability remains a major concern

9. Recommendations

- Adoption of electric vehicles for last-mile delivery
- Better urban warehouse location planning
- Use of AI and data analytics for demand forecasting
- Government support for sustainable logistics
- Promotion of eco-friendly packaging

10. Conclusion

The rise of quick commerce has transformed urban logistics by redefining delivery speed and customer expectations. While it enhances convenience and efficiency, it also creates challenges related to cost, congestion, and sustainability. With proper planning, technological integration, and sustainable practices, quick commerce can contribute positively to urban logistics development. The study concludes that balancing speed with sustainability is essential for the future growth of quick commerce.

11. References

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