Artificial Intelligence in E-Grocery Business: Automation of Business Processes with Special Reference to Zepto and Blinkit

Padmashri N
(Part-Time Research Scholar), Department of Commerce
Government Arts College, Nandanam

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Abstract
Artificial Intelligence (AI) is transforming the online grocery industry by automating various business processes such as demand forecasting, inventory management, customer service, and delivery logistics. E-grocery platforms like Zepto and Blinkit use advanced AI technologies to enhance operational efficiency and provide faster delivery services to customers. This study examines the role of AI-driven automation in the e-grocery business with special reference to Zepto and Blinkit. The research adopts a qualitative research approach to understand customer experiences and perceptions regarding AI-enabled services in online grocery platforms. Primary data were collected from 140 respondents who shared their experiences of using e-grocery applications. In addition, secondary data were collected from journals, websites, and industry reports related to AI and e-commerce. The findings reveal that AI-driven automation significantly improves order processing, delivery efficiency, and customer satisfaction in the e-grocery sector.
Keywords: Artificial Intelligence, E-Grocery, Automation, Quick Commerce, Customer Experience, Zepto, Blinkit.

Introduction

The rapid growth of digital technology has significantly transformed the retail industry, particularly in the grocery sector. The emergence of online grocery platforms (e-grocery) has enabled consumers to purchase daily essentials through mobile applications and websites without visiting physical stores. In recent years, the concept of quick commerce has further accelerated the growth of online grocery services by offering ultra-fast delivery, often within minutes. This transformation is largely supported by advanced technologies, including Artificial Intelligence (AI), data analytics, and automated logistics systems.

Artificial Intelligence plays a crucial role in automating several business processes in e-grocery platforms. AI technologies enable companies to analyze large volumes of customer data, forecast product demand, optimize inventory levels, and enhance delivery route planning. These automated systems help organizations reduce operational costs, minimize human errors, and enhance overall service efficiency. As a result, AI-driven automation has become a key factor in improving the performance of digital retail businesses.

In India, quick commerce platforms such as Zepto and Blinkit have gained significant popularity by offering grocery delivery within a very short time. These companies operate through technology-enabled micro-warehouses known as "dark stores," which are strategically located near residential areas to ensure faster order fulfilment. AI algorithms are widely used in these platforms for demand prediction, automated inventory management, real-time order tracking, and efficient delivery partner allocation.

In India, quick commerce platforms such as Zepto and Blinkit have gained significant popularity in recent years. Zepto was founded in 2021 and has rapidly expanded across major Indian cities by offering grocery delivery within approximately 10 minutes through a network of strategically located dark stores. The company uses advanced technology and AI-based systems to manage inventory, predict demand, and optimize delivery routes.

Similarly, Blinkit, formerly known as Grofers, is one of the leading quick commerce platforms in India and is now part of the Zomato ecosystem. Blinkit focuses on providing instant delivery of groceries and everyday essentials through technology-driven logistics and automated supply chain management. AI algorithms are used to analyze customer purchasing patterns, improve product recommendations, and enhance delivery efficiency.

The growing adoption of AI-driven automation has improved operational efficiency and enhanced customer experience in the e-grocery sector. However, the implementation of AI technologies also presents certain challenges, including high technological investment, data privacy concerns, and the need for a skilled workforce.

Therefore, this study aims to examine the role of Artificial Intelligence in automating business processes in the e-grocery industry with special reference to Zepto and Blinkit. The research also explores customer experiences and perceptions regarding AI-enabled services in online grocery platforms, based on responses collected from 140 users of these applications. The findings of this study will provide insights into how AI-driven automation is shaping the future of the online grocery business.

Review of Literature

Bhatt (2024) explored how Artificial Intelligence affects consumer purchasing intentions within the online grocery industry. The research revealed that AI tools like recommendation engines, predictive analytics, and automated customer service play a crucial role in shaping consumer buying patterns and enhancing user interaction on digital grocery platforms. The study emphasizes that AI-enabled personalization boosts customer satisfaction and increases the frequency of purchases in e-grocery applications.

In 2024, Stecuła carried out an extensive analysis of advancements in online grocery shopping technology. The research highlighted that AI, voice assistants, and intelligent digital services enhance the shopping experience by offering personalized suggestions, effective search capabilities, and automated order handling. The study concludes that AI technologies significantly contribute to the transformation of contemporary grocery retail and enhance customer convenience.

Gupta (2024) explored the rise of quick commerce platforms and their effects on the retail sector. The research highlighted that instant delivery services, powered by cutting-edge technology and automated logistics, are fueling the swift expansion of online grocery platforms. The study underscores the importance of technology-driven supply chain management in ensuring the fulfillment of fast delivery commitments and maintaining operational efficiency. Singh (2024) examined consumer purchasing choices and satisfaction with quick commerce services. The results showed that convenience, speedier delivery, and ease of ordering are key factors driving the use of platforms like Zepto and Blinkit. The study also found that most users favor quick commerce because it is more time-efficient than traditional grocery shopping.

In their 2024 study, Darji, Chaudhari, and Panchal examined how quick commerce affects consumer purchasing choices and satisfaction levels. They found that factors such as fast delivery services, special promotions, and enhanced digital interfaces play a crucial role in boosting consumer interaction with online grocery platforms.

Singh (2025) explored how quick commerce platforms are affecting the purchasing behavior of urban consumers in India. The research revealed that platforms like Zepto and Blinkit are transforming buying habits, especially among younger consumers who prioritize convenience and fast delivery.Darji et al. (2025) investigated the factors that drive consumer adoption of quick commerce in India. Their study pinpointed convenience, time-saving advantages, and digital accessibility as primary motivators for consumers to embrace online grocery platforms. However, delivery fees and a limited

selection of products were noted as significant obstacles to regular use.Recent industry research (2025) on the Indian quick commerce market shows that companies such as Zepto and Blinkit are at the forefront by utilizing technology-driven logistics and automated supply chain operations. The study emphasizes that advanced data analytics and automation technologies enable these companies to handle large order volumes and sustain rapid delivery services.

Need of the Study

The rapid growth of digital technology has significantly transformed the retail sector, particularly the grocery business. Online grocery platforms have become increasingly popular due to their convenience, time-saving features, and fast delivery services. The integration of Artificial Intelligence (AI) in these platforms has enabled companies to automate several business processes such as inventory management, demand forecasting, order processing, and delivery route optimization.

Platforms like Zepto and Blinkit are widely using AI technologies to improve operational efficiency and enhance customer satisfaction. However, understanding how AI-driven automation influences business operations and customer experiences in the e-grocery sector is essential. Therefore, this study is needed to analyze the role of Artificial Intelligence in automating business processes in online grocery platforms and to understand the experiences of users who frequently utilize these services. The study will help in identifying the benefits and challenges associated with AI adoption in the e-grocery industry.

Objective of the study

- To understand the concept of Artificial Intelligence and its role in automating business processes in the e-grocery sector.
- To examine the application of AI technologies in online grocery platforms with special reference to Zepto and Blinkit.
- To analyze customer experiences and perceptions regarding AI-enabled services in online grocery applications based on responses collected from 140 users.

Scope of the Study

The present study focuses on examining the role of Artificial Intelligence in automating business processes in the e-grocery sector. The research mainly concentrates on online grocery platforms with special reference to Zepto and Blinkit. The study analyzes various AI-enabled processes such as demand forecasting, inventory management, order processing, and delivery optimization in these platforms. It also evaluates customer experiences and perceptions regarding the efficiency and convenience of AI-driven services. The scope of the study is limited to the responses collected from 140 users of online grocery applications, which provide insights into customer satisfaction and usage patterns. The findings of the study may help businesses, researchers, and policymakers understand the importance of AI-driven automation in improving efficiency and customer experience in the online grocery industry.

Research Gap

Although several studies have examined the growth of e-commerce and online grocery platforms, limited research has specifically focused on the role of Artificial Intelligence in automating business processes in quick commerce platforms. Most previous studies mainly concentrate on consumer buying behaviour, online shopping convenience, and the growth of digital retailing. Recent research has discussed the technological developments in e-grocery platforms; however, there is still a lack of empirical studies that examine how AI-driven automation influences operational efficiency and customer experience in quick commerce companies such as Zepto and Blinkit. In addition, only a few studies have explored customer experiences regarding AI-enabled services such as automated order processing, delivery tracking, and personalized product recommendations in online grocery applications. Therefore, this study attempts to fill this gap by analyzing customer experiences and perceptions regarding AI-driven automation in e-grocery platforms using responses collected from 140 users.

Research Design

The present study adopts a qualitative and descriptive research design to examine the role of Artificial Intelligence in automating business processes in the e-grocery sector with special reference to Zepto and Blinkit.

Sources of Data

The study uses both primary and secondary data.
Primary Data:

Primary data were collected from 140 respondents who use online grocery platforms such as Zepto and Blinkit through a structured questionnaire.
Secondary Data:

Secondary data were collected from research journals, books, conference papers, websites, and industry reports related to Artificial Intelligence and e-grocery platforms.

Sampling Technique

The respondents were selected using the convenience sampling method, focusing on individuals who regularly use online grocery applications.

Tools Used for Analysis

The collected data were analyzed using the following statistical tools:

- Chi-Square Test – to examine the relationship between Artificial Intelligence and business process efficiency.
- ANOVA (Analysis of Variance) – to analyze the impact of AI-driven automation on customer satisfaction.
- Correlation Analysis – to measure the relationship between AI-enabled services and delivery efficiency.

Hypotheses of the Study

H_{01}: Artificial Intelligence does not have a significant impact on business process efficiency in e-grocery platforms.

H_{11}: Artificial Intelligence has a significant impact on business process efficiency in e-grocery platforms.

H_{02}: AI-driven automation does not significantly influence customer satisfaction in online grocery platforms.

H_{12}: AI-driven automation significantly influences customer satisfaction in online grocery platforms.

H_{03}: There is no significant relationship between AI-enabled services and faster delivery in e-grocery platforms.

H_{13}: There is a significant relationship between AI-enabled services and faster delivery in e-grocery platforms.

Data Analysis

Table 1: Demographic and Usage Profile of Respondents (N = 140)

Particulars	Category	No. of Respondents	Percentage
Age	Below 20	18	12.9%
	21–30	62	44.3%
	31–40	38	27.1%
	Above 40	22	15.7%
Gender	Male	76	54.3%
	Female	64	45.7%
Usage Frequency	Daily	36	25.7%
	Weekly	58	41.4%
	Monthly	30	21.4%
	Rarely	16	11.5%

Interpretation

The table shows that most respondents (44.3%) belong to the 21–30 age group, indicating that young consumers are the primary users of online grocery platforms. The gender distribution shows a slightly higher participation of male respondents (54.3%) compared to female respondents. In terms of usage frequency, the majority of respondents (41.4%) use online grocery applications weekly, which reflects the growing dependence on digital grocery platforms for regular shopping.

Table 2: Customer Perception towards AI-driven Services in E-Grocery Platforms (N = 140)

Particulars	Category	No. of Respondents	Percentage
Platform Used Most Frequently	Zepto	52	37.1%
	Blinkit	48	34.3%
	Both	40	28.6%

AI Improves Efficiency and Order Processing	Strongly Agree	54	38.6%
	Agree	56	40.0%
	Neutral	18	12.9%
	Disagree	12	8.5%
Satisfaction with Order Tracking	Highly Satisfied	48	34.3%
	Satisfied	56	40.0%
	Neutral	22	15.7%
	Dissatisfied	14	10.0%
Overall Service Quality	Excellent	44	31.4%
	Good	60	42.9%
	Average	24	17.1%
	Poor	12	8.6%

Interpretation

The table indicates that both Zepto and Blinkit are widely used among respondents, with Zepto slightly leading. A large proportion of respondents (78.6%) either strongly agree or agree that AI improves efficiency and order processing in online grocery platforms. Similarly, most respondents are satisfied with automated order tracking systems, indicating the effectiveness of AI-enabled services. Regarding overall service quality, the majority of respondents rated the platforms as good or excellent, which reflects a positive customer perception towards AI-driven automation in e-grocery businesses.

Table 3: Hypothesis Testing Summary

Hypothesis	Statistical Test	Calculated Value	Table Value (5% level)	Result
H_{01}: Artificial Intelligence does not have a significant impact on business process efficiency in e-grocery platforms.	Chi-Square	18.42	7.815	Rejected
H_{02}: AI-driven automation does not significantly influence customer satisfaction in online grocery platforms.	ANOVA (F test)	6.38	2.67	Rejected
H_{03}: There is no significant relationship between AI-enabled services and faster delivery in e-grocery platforms.	Correlation	r = 0.72	—	Significant positive relationship

Interpretation

The results of the statistical analysis indicate that Artificial Intelligence plays a significant role in improving business processes in e-grocery platforms. The Chi-Square test shows that AI significantly influences the efficiency of business operations. The ANOVA test reveals that AI-driven automation has a significant impact on customer satisfaction. Further, the correlation analysis indicates a strong positive relationship between AI-enabled services and faster delivery performance. Therefore, the null hypotheses are rejected, confirming that AI-driven automation positively contributes to operational efficiency, delivery performance, and customer satisfaction in quick commerce platforms such as Zepto and Blinkit.

Findings

1. The study shows that a majority of respondents belong to the 21–30 age group, indicating that young consumers are the primary users of online grocery platforms.
2. The usage pattern reveals that most respondents use e-grocery platforms weekly, highlighting the growing dependence on digital grocery services for daily needs.
3. The findings indicate that both Zepto and Blinkit are widely used among respondents, reflecting the rapid growth of quick commerce platforms in the online grocery market.
4. The majority of respondents agreed that Artificial Intelligence improves operational efficiency and speeds up order processing, indicating the positive role of AI-driven automation in e-grocery businesses.
5. A large proportion of respondents expressed satisfaction with automated order tracking and delivery updates, which demonstrates the effectiveness of AI-enabled systems in improving customer experience.
6. The hypothesis testing results confirm that Artificial Intelligence significantly influences business process efficiency, customer

satisfaction, and delivery performance in online grocery platforms.

Suggestions

1. Online grocery platforms should continue to invest in advanced AI technologies to further improve demand forecasting, inventory management, and delivery optimization.
2. Companies should focus on enhancing user-friendly application interfaces to make ordering and payment processes easier for customers.
3. E-grocery platforms should strengthen data security and privacy measures to build greater trust among users while handling customer data.
4. Organizations should provide regular training for employees and delivery partners to effectively manage AI-enabled systems and digital operations.
5. Online grocery companies should work on reducing delivery charges and improving product availability to attract more customers and increase user satisfaction.

Conclusion

Artificial Intelligence has become a transformative force in the e-grocery industry by automating several business processes and improving service efficiency. The integration of AI technologies in platforms such as Zepto and Blinkit has enabled faster order processing, efficient inventory management, and optimized delivery systems. The findings of the study reveal that AI-driven automation positively influences operational performance and customer satisfaction in online grocery platforms. As the demand for quick commerce continues to grow, the role of Artificial Intelligence will become increasingly important in shaping the future of the e-grocery sector. By effectively implementing AI technologies and addressing challenges related to cost, infrastructure, and data security, online grocery businesses can enhance their competitiveness and deliver better services to customers.

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