Exploring Retailer's Grocery Purchasing Behavior through Online Platforms in Bengaluru City, India

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Authors' contributions

This work was carried out in collaboration between both authors. Both authors read and approved the final manuscript.

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ABSTRACT

Indian retail market is one of the most complicated and dynamic industry which is contributing to more than 10% of the country's gross domestic product (GDP) and around 8% of the employment. Mainly it is dominated by unorganized retailers, in last 10 years gradual shifts, like entry of modern trade, the entry of cash and carry, the advent of the e-commerce revolution and, more recently, the growth in newage B2B providers have started to transform this ecosystem, this makes retailers to go for online purchase of grocery using e- B2B platforms. Keeping this background in mind, the study was conducted in Bengaluru city with sample size of 250 retailers using primary as well as secondary data. The data was analysed using percent analysis, frequency, weighted average mean

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and Garrett ranking method. The study reveals that retail sector in study area is dominated by male ownership, most of the retailers were aged above 45 years having basic level of education and have more than 15 years of experience in retailing. Factors such as convenience, price, and wide product availability are the primary factors influencing online purchases, with convenience having the highest WAM score 4.2. All the surveyed retailers are aware of online grocery applications, indicating a high penetration of digitalization in the area. Retailers predominantly order once or twice a week, with most orders value between 700-3000 rupees, reflects the use of online platforms for regular stock replenishment. Main problems faced by retailers were delivery of damaged product, return issues and minimum order value and these were the main factors influencing them to stay away from online purchase.

1. INTRODUCTION

The retail market consists of the sale of goods and services directly to consumers for personal or household use [1]. This sector is a vital part of the economy, influencing consumer behavior, driving economic growth, and shaping cultural trends. India retail sector consist of organized and unorganized retail outlets. Nearly 90% of retailing in India is operated by the unorganized sector, the organized sector is largely concentrated in big cities [2]. Organized retailing has emerged from the shadows of unorganised retailing and is making a significant contribution to India's retail sector's growth [3]. Unorganized retailing consists of small and medium grocery stores, medicine stores, vegetable mandi, kirana stores, paan shops etc. Giant corporations like Wal-Mart and Reliance have started to try and take over the Indian retail sector [4]. This ecosystem has been gradually changing over the last ten years due to factors including the emergence of modern trade, the introduction of cash and carry, the e-commerce revolution, and, more recently, the expansion of new-age B2B suppliers [5]. The Indian retail ecosystem is one of the most complicated in the world, a million wholesalers and distributors, and a multitiered structure. The grocery sector accounts for half of India's retail consumption, and kirana stores—conventional stores, often family-run, that meet emergency, fill-in and stock-up requirements [6]—account for about 90 percent of the grocery retail market [7]. Currently, there are over 12 million operational kiranas across the country [8]. Indian retail industry has emerged as one of the fast-growing and dynamic industries due to the entry of several new players. It accounts for more than 10% to the GDP of the nation and about eight percent of all jobs. In terms of retail travel, India is the fifth-largest global destination in retail space. India stands at number 73 in the 2019 Business-to-Consumer (B2C) E-commerce Index published by the United Nations Conference on Trade and Development [9].

1.1 Global Retail Market

The global retail market has seen a compound annual growth rate (CAGR) of 8.3%, rising from $26,178.76 billion in 2022 to $28,344.51 billion in 2023. A CAGR of 7.4% is predicted for the retail market, which will reach $37,665.83 billion in 2027. In terms of retail market size, Asia-Pacific ranked first in 2022 and North America ranked second in 2022. The major types of retail are food and beverage stores; motor vehicle and parts dealers; gasoline stations; miscellaneous store retailers; cosmetics and personal care stores; clothing and clothing accessories stores; electronics and appliance stores; furniture and home furnishings stores; supermarkets; and hypermarkets; convenience; mom and pop stores; department stores and other general merchandise stores; e-commerce and other non-store retailers; building materials and garden equipment and supplies dealers; pharmacies; healthcare stores; and sporting goods, hobby, musical instrument, and book stores. Major players involved in the market includes Walmart Inc., Sinopec Limited, Amazon.com Inc., PetroChina Company Limited, CVS Health Corporation, Costco Wholesale Corp, The Kroger Co, McKesson Corporation, Walgreens Boots Alliance Inc [10].

1.2 Indian Retail Market

Retailing sector of India is an emerging sector and also back bone of Indian economy [11]. In 2022, Indian retail market is estimated at INR 91,891 billion, and it's projected to grow at a CAGR of more than 13% by 2027 [6,12] driven by socio-demographic and economic factors such as urbanization, income growth and rise in nuclear families. The retail sector is the second

largest employment providing sector after agriculture. The retail industry alone contributes to generate more than 35 million job opportunities [13]. The Indian retail market is highly unorganized. However, over the next 3-5 years, share of modern retail (including e-commerce) will increase to 30-35% with share of traditional retail coming down to 65-70% [14]. Top players in Indian retail sectors in 2022 are Reliance retail ltd, Avenue Supermart ltd (D-Mart), Aditya Birla Fashion & Retail Ltd, Shoppers stop, Trent limited and V-mart retail ltd [15]. The key sectors in the India retail market are food & grocery, clothing & footwear, home, electricals, health & beauty, among others. Food & grocery had the highest value share in 2022. Moreover, electricals will have the highest growth rate during the forecast period.

1.3 Online B2B Marketplace

Online platforms in B2B e-commerce have revolutionized the retail business landscape by streamlining procurement processes and enhancing operational efficiency by directly connecting retailers with business. These platforms offer retailers a centralized digital marketplace to purchase a wide range of products, at competitive prices. The adoption of e-B2B platforms facilitates improved supply chain management, reduced procurement costs, and greater transparency, competitive and lower price, maintaining replenishment. As digitalization advances, e-B2B platforms continue to drive innovation and growth, becoming an indispensable tool for retailers aiming to stay competitive in an increasingly digital economy.

Bengaluru, known as the "Silicon Valley of India," is a fast growing city popular for its technology and startup ecosystem. As the capital of Karnataka, it serves as a major economic hub with a dynamic and diverse population. The tech-savvy atmosphere, strong infrastructure of the city and the local government schemes and policies have significantly accelerated the rise of e-commerce and digital technologies.

In recent years, Bengaluru's retail sector, particularly grocery retail, has undergone a digital transformation with the increasing use of e-business-to-business (e-B2B) platforms. These platforms offer efficiency, a wider product selection, and cost savings, driving retailers to shift their procurement online.

This study explores the purchasing behavior of grocery retailers in Bengaluru, examining the factors influencing their adoption of online platforms, the benefits and challenges they faced, and the overall impact on the grocery retail sector.

1.4 Problem Statement

The rapid digitalization of e-commerce business and the rise of e-B2B platforms have changed supply chain management and business model of grocery retailing, but the understanding of how these changes impact grocery retailers' purchasing behavior remains limited. Without a in depth analysis of this shift, retailers and e-B2B platforms may not properly address any potential issues and may not fully capitalize on the potential benefits. This gap in knowledge could hinder the development of optimized strategies for both retailers as well as platform providers, ultimately affecting the efficiency and competitiveness of the retail grocery sector.

1.5 Objectives of the Study

- To study the socio-economic profile of retailers
- To identify the factors that influence grocery purchasing decision of retailers
- To study the grocery buying behaviour of retailers towards online platforms
- To identify the problems faced by retailers while purchasing the grocery using online platform

2. Review of Literature

Mastana [16] found that customers intention to buy for groceries online was highly influenced by three variables: perceived ease of use, shipment services, and online accessibility. However, customers' intentions to purchase for groceries online were not significantly impacted by their perceptions of security or usefulness.

Zhulal et al. [17] in their research reveals that Generation Z has a high affinity for using smartphones when shopping online, indicating a dependence on mobile technology in the digital economy era. Generation Z is more active in shopping online compared to previous generations, indicating the important role of digital platforms in shopping behaviour patterns. Continuous recommendations from this research emphasize the importance of continuous

adaptation to technological changes and the dynamics of Generation Z consumer behaviour depends on demographic profile.

Wang et al. (2020) highlight that retailers often encounter supply chain disruptions when purchasing groceries online. These disruptions can include delays in delivery due to logistical challenges or unforeseen circumstances. Additionally, stockouts of popular items can occur, affecting the retailer's ability to fulfil customer orders on time. Such disruptions can lead to customer dissatisfaction and loss of business for retailers.

Ailawadi et al. (2019) discussed the challenge of ensuring the quality and freshness of perishable items like fruits and vegetables when purchasing groceries online. Unlike in-store shopping where retailers can visually inspect the products, online retailers have limited control over the selection process. As a result, retailers may receive lower-quality products or items nearing expiration, leading to customer complaints and returns.

Priya and Malathi [18,19] in their study found that 55% were females, 48% were employed and 51% of respondents are having monthly family income between 15,000- 30,000. By using Weighted average mean they calculated the factors that influences online purchase, they found that freedom of choice primary factors which influences online purchasing followed by variety of products available, Delivery time, Promotional offers, Shopping experience, Quality of the product, Price of the product, new innovation, Payment mode and credit or EMI transaction.

3. MATERIALS AND METHODS

The study was conducted at Bengaluru, Karnataka, during the period of 16th January 2023 to 16th April 2024. The data was collected from the 250 grocery retailers in Bengaluru city using semi-structured schedule with convenience sampling method. The schedule was prepared based on the pilot survey done with 50 retailers in study area. Percentage analysis, tabular analysis, and graphical analysis were used to analyse the data.

Weighted Average Mean (WAM) method was used to analyse data and ranking and interpretation wasdone based on the findings.

$$W = \sum_{i=1}^{n} W_i X_i / \sum_{i=1}^{n} W_i$$

Where,

W = Weighted average mean
n = number of terms to be averaged
W_i = Weights applied to x values
X_i = Values to be averaged

Garrett Ranking method was used to analyse problems faced by the retailers during online purchase

$$\text{Percent position} = \frac{100(R_{ij} - 0.5)}{N_j}$$

Where,

R_{ij} = Rank given for the ith variable by jth respondent

N_j = Number of variables ranked by jth respondent

4. RESULTS AND DISCUSSION

4.1 Socio-economic Profile of Retailers

Socio-Economic profile of grocery retailers in Bengaluru shown that male retailers are having major share, which indicated that gender disparity exists, with male retailers (85.2%) dominating the grocery retailing in the city. Age groups above 35 years (78.4%) displayed a stronger tendency for online grocery adoptability. There was no significant correlation between those having formal education and adoptability, but the existing knowledge helped them to adapt to the changes in the sector. Higher income brackets (5-10 lacs & >10 lacs) exhibited an inclination towards online purchasing. Notably, extensive retail experience (>15 years) will give extensive industry and business among retailers. Interestingly, rented shop ownership prevailed (52.8%), suggesting a potential trend among smaller businesses. This shows that there is a presence potential market for B2B platforms.

4.2 Factors Influencing Purchase of Grocery Using Online Platforms

Among the factors influencing online grocery purchasing behavior among retailers, convenience (WAM: 4.20) emerged as the key factor, signifying the prioritization of time and the flexibility to place orders at any time, from any place is highly valued by retailers. The ability to

manage orders without the limitation of traditional business hours and physical store limitations significantly enhanced operational efficiency. Price competitiveness (WAM: 3.80) held the second rank, highlighting its enduring significance of competitive pricing in the decision-making process. The ability to effortlessly compare prices (Rank 3) and access a wider product range (Rank 4) were also impactful (WAM: 3.52 & 3.32). Notably, while doorstep delivery (Rank 5) and reduced inventory cost (Rank 6) were valued especially because of instant or next day delivery options.

Table 1. Socio economic profile of retailers

Variable	Item	Frequency	Percentage
Gender	Female	37	14.80
	Male	213	85.20
Age	<35 years	54	21.60
	35-45 Years	79	31.60
	More than 45 Years	117	46.80
Qualification	SSLC	102	40.80
	PUC	83	33.20
	Graduation	65	26.00
Income	Less than 5 lacs	61	24.40
	5 to 10 lacs	112	44.80
	More than 10 lacs	77	30.80
	< 5 Years	37	14.80
Experience in Retailing	5-10 Years	57	22.80
	11-15 Years	65	26.00
	>15 Years	91	36.40
Shop Ownership	Lease	17	13.00
	Own	85	34.00
	Rent	148	52.80

Table 2. Factors affecting online purchase of grocery

Sr. No.	Factors	WAM score	Rank
1	Easy to Compare	3.52	3
2	Price	3.80	2
3	Doorstep Delivery	3.16	5
4	Wider Product Availability	3.32	4
5	Convenience	4.20	1
6	Less Inventory Cost	2.92	6

Table 3. Retailers buying behavior towards online platforms

Variable	Item	Frequency	Percentage
Awareness	Yes	250	100
	No	0	0
Frequency of ordering	2-3 times a month	36	14.40
	Every day	46	18.40
	Once a week	86	34.40
	Rarely	28	11.20
	Twice a week	54	21.60
Order value	Less than 700	57	22.80
	700-1500	66	26.40
	1501-3000	84	33.60
	>3000	43	17.20
Payment mode	COD (Cash on Delivery)	66	26.40
	Credit	107	42.80
	Online Payment	77	30.80

Table 4. Problems faced by retailers while making online purchase

Problems	Garrett Score	Garrett Rank
Delivery of Damaged Products	60.60	1
Return issues	55.43	2
Minimum order value	55.40	3
Lack of credit facility	55.26	4
Difference in prices	54.18	5
Stock out issues	47.65	6
Delivery issues	45.35	7
Lack of customer care support	43.17	8
Sales executive behaviour	41.86	9
Slow application interface	41.69	10

4.3 Retailers Buying Behavior

The findings revealed that there was an extensive awareness and adoption of online grocery platforms among retailers. The regular ordering behavior (over 52.8% ordering once or twice a week) reflected adoption for regular stock replenishment processes. Order value distribution highlighted their use for mid-sized, routine orders. The credit method preference signified its role in managing cash flow and potentially signified further investigation into the motivations behind its dominance over COD. The high awareness and regular ordering behavior revealed the potential of this market segment.

4.4 Problems Faced by Retailers

The retailers faced many problems while using online platforms in which delivery of damaged products is the main issue faced by retailers with a highest Garrett score of 60.60. It showed that better packaging and handling processes were required to ensure retailers trust, and to resolve the issue. It was observed that return issues with a Garrett score of 55.43 came second. Minimum order value and lack of credit facilities ranks third and fourth respectively, indicative of the fact that there was a barrier for the affordability and accessibility which affected the online platforms to reduce active customer base and repeated orders. "Difference in prices" which had fifth rank and a score of 54.18 showed that there is variation in price among different platforms, making retailers to shift different sources from where they will get better price. This is the major reason for the lack of retailer's loyalty. Stock out

issue and delivery issues rank sixth and seventh with a garret score of 47.65 and 45 respectively, which showed that requirement of logistics and inventory management is crucial for any platforms to meet customer need and expectations. Problems such as slow application interfaces, lack of customer caresupport, and sales executive behaviour were ranked eighth, ninth and tenth respectively.

5. CONCLUSION

This study reveals insights about retailers in Bengaluru, the socio-economic profile of retailers is having direct impact on their purchasing decisions, that may provide them basic freedom of decisions in terms of ownership, their knowledge and experience decision ability. Majority of retailers are purchasing online because of factors like convenience, better price and easiness of comparison of products across different online platforms. All the retailers are aware of online grocery purchasing applications. The frequency of ordering and average order value is also having direct relationship. The mode of payment indicates the pattern of cashflow maintenance in which most of the retailers were using credit mode of payment to maintain cashflow. The main problems faced by the retailers were delivery of damaged products followed by return issues, minimum order value and lack of credit facility. These problems were making retailers to hesitate for making online purchase by creating barrier in terms order value and credit.

DISCLAIMER (ARTIFICIAL INTELLIGENCE)

Author(s) hereby declare that NO generative AI technologies such as Large Language Models (ChatGPT, COPILOT, etc) and text-to-image generators have been used during writing or editing of this manuscript.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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