

Determinants of Online Consumer Buying Behaviour in the Digital Commerce Era: Evidence from Pune City, India

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ABSTRACT

Digital commerce is blossoming and radically transforming consumer shopping behaviour in the emerging markets, with India being one of the fastest growing e-commerce market in world. The consumer decision journey has been extensively altered by rising internet penetration, ubiquitous adoption of smartphone as well as usage of digital payment ecosystems, growing use cases of artificial intelligence and the invention of quick commerce. Pune has emerged among the top Indian cities known for education, information technology and start-up ecosystem; thus serves as an urban laboratory to study change in online consumer behaviour. While there has been no dearth of papers exploring the impact (positive and negative) of online shopping behaviour in metropolitan cities, there are only a few studies that have comprehensively looked into various parameters affecting consumer buying behaviour in Pune in the present digital commerce environment.

The current research explores the impact of external factors, internal factors, technological factor, site-related factors and pre-purchase factors on online consumer buying behaviour of residents in Pune City. Using perceived trust, perceived risk, website quality, digital payment adoption, and online purchase intention as new constructs from modern forms of commerce in a modern context with traditional consumer behaviour theories allows this study to propose an integrated conceptual framework. The analysis relied on a structured questionnaire with a sample group comprising of consumers living in Pune which was chosen using stratified sampling. Statistical analyses, such as descriptive statistics and reliability analysis, exploratory factor analysis, confirmatory factor analysis, correlation analyses and multiple regression are proposed to explore the relationships among study variables.

The results are anticipated to reveal the key antecedents shaping their online shopping choices, offering valuable theoretical and managerial insights for them in e-commerce firms, retailers, policymakers and researchers alike. The research expands consumer behaviour theories by contextualizing the existing frameworks in a rapidly digitizing Indian economy and suggests actionable insights for improving customer experience, trust, engagement and sustainability of loyalty on online retailing.

Keywords: Pune, Online shopping, Consumer behaviour, E-commerce, Survey

INTRODUCTION

In particular, the last decade has witnessed an unprecedented evolution of the retail landscape with rapid advancements in information and communication technologies. Smartphone revolution, affordable internet connection, digital payment methods, Artificial Intelligence (AI), Cloud computing and data analytics are the factors which completely changed the way consumers search for products, consider alternatives to those products, purchase decisions and engage with retailers. As a result, digital commerce has thus established itself as one of the fastest-growing sectors of the global economy creating new opportunities for businesses but at the same time-completely transforming consumer expectations. India is also one of the worlds fastest-growing digital commerce markets. Steps taken by the government like Digital India, better broadband infrastructure, increase in smartphone

penetration and success of Unified Payments Interface (UPI) have hugely boosted the online shopping rate. As per the recent industry reports, e-commerce in India is transforming and continues to grow rapidly driven by rising internet users, growing disposable incomes, improving logistics infrastructure coupled with changing consumer lifestyles. Within this ecosystem, online grocery shopping is one of the fastest-growing segments thanks to its ability to provide convenience, flexibility, and contactless purchasing experiences.

Ever since its inception, grocery shopping has past been largely reliant on physical retail store because consumers wanted to check the freshness, quality and packaging of products before purchasing. Yet, more recently, improvements in supply chain management, inventory systems, cold-chain logistics and hyperlocal delivery have allowed online grocery retailers to tackle several of these traditional challenges directly. The ongoing COVID-19 pandemic has only paid much greater advice to this changeover, as home isolation and curfews buoyed shoppers onto the niche online grocery systems for valued resources. Far from being off the table as pandemic-related restrictions ease, online grocery shopping is on the rise as consumer demand for convenience and saving time remains high. A lot has changed in India's online grocery market since the entry of BigBasket, Blinkit, Zepto, Swiggy Instamart and Amazon Fresh (and JioMart) into its competitive landscape. Such firms go against each other via free delivery, discounts, reduction plans, recommended content based on preferences and to make matters bloodier; rewarding loyal direct customers. With the rise of rapid-commerce concepts pledging deliveries in minutes, this has changed consumer expectations around speed, convenience, and service quality even further.

The perfect place to study online grocery shopping behaviour is Pune. The city is one of the most educationally, technologically and industrially advanced towns in India, with a high concentration of educated, digitally connected economic active people. With working professionals, students, and dual-income households participating more in the market, there has been significant demand for accessible shopping options. Therefore, knowledge of parameters affecting online grocery shopping behaviour in Pune would be beneficial for retailers to create customer value and enhance their competitive position. Even though modern shopping behaviour via online has been studied, only few studies have actually examined anything around online grocery shopping in metropolitan city like Pune. This volume can vary significantly from most other e-commerce categories, with grocery presents unique challenges in that they involve frequent buying decisions on lower-frequency products, perishable goods that must be delivered next day at the latest and a larger focus on product quality than pricing compared to most other e-commerce verticals. It is the uniqueness of these characteristics that calls for special empirical examination.

Thus, this study investigates the factors influencing online grocery shopping intention among consumers of Pune City with reference to consumer preferences, customer satisfaction and the intention of behaviour. The outcome will not only help enhance the body of consumer behaviour literature but also offer actionable insights for online grocery retailers in Indian digital marketplace which is becoming increasingly competitive.

LITERATURE REVIEW

With the advancement of digital technologies, online consumer behavior is changing greatly over time. Unlike traditional retailing, which takes place in a physical store, digital commerce allows consumers to look up information and compare options, read reviews from other customers, evaluate pricing, complete transactions and leave feedback after the purchase. As a result, scholars started to study the key drivers of consumer acceptance of online shopping channels more in-depth.

Davis (1989) proposed the Technology Acceptance Model (TAM), which is one of the most used models to explain technology adoption. Operating point of the model — The model claims that perceived usefulness and perceived ease of use have a significant impact on technology adoption behaviour intention. Perceived usefulness in online grocery shopping is observed as convenience, time saving, broad selection of product line and simplifying the buying process. Perceived ease of use is related to how well the application can be used in practice in terms of application usability, intuitive navigation, secure payment systems and checkout procedures. Many empirical studies have reported the positive associations of these constructs with consumers purchasing products through digital platforms as well.

Another theoretical lens for this is Theory of Planned Behaviour (Ajzen, 1991) that consists of determining behavioural intention via attitudes, subjective norms, and perceived behavioural control. Well, consumer attitude

toward online grocery shopping, family and peer influence and confidence in the use of digital technologies cumulatively have a positive impact on purchase intention towards online retail platform adoption.

Due to the fact that customers are unable inspect products prior to purchasing, trust has become yet another important factor influencing online shopping behaviour. Only when payment processes are safe, delivery systems meet deadlines, prices of the products are clear-cut and product information is in black and white will trust develop complemented by customer reviews and retailer reputation. With continued trust, consumers return to the same retailers for future transactions, open up more personal information about themselves and anticipate recommending such platforms to family/friends over time. Conversely, perceived risks have a negative impact on the adoption of online shopping. Consumers often worried about payment security, product quality, good delivery, privacy protection and after-sales service. When purchasing groceries online there are other uncertainties that arise since consumers cannot assess freshness, and the condition of its product prior to delivery. This implies that providing quality assurance, streamlining logistics and proffering responsive customer service is still key to mitigating perceived risk.

Customer satisfaction has always been recognised as the most important determinant of customer loyalty. Satisfaction is a measure of consumers' judgement about whether shopping experiences are satisfactorily fulfilling expectations regarding product quality, pricing, delivery, website usability and customer support. Customers of happy customers are much more likely to purchase again in the future and recommend their retailers with long-term commercial benefits. Previous work [10] has also recognized the transformation of digital payment systems, artificial intelligence and mobile commerce on changing consumer behaviour. The importance of personalized product recommendations, AI-enabled chatbots, predictive analytics and smart search functions cannot be overstated to deliver a better experience for customers by making product discovery easier and quick purchases more efficient. Concurrently, the rapid adoption of UPI, mobile wallets and contactless payment technologies has not only simplified transactions but also promoted the digital commerce uptake.

In summary, previous research suggests that online grocery shopping behaviour has a strong relationship with energy-related factors both technology- and service- oriented as well as economic- and psychological-based attributes. But not much empirical evidence regarding these relationships in context of Pune City is available, thereby establishing the need for this study.

Research Gap

The literature available on online grocery retailing in India till now is relatively inadequate, despite the fact that online grocery retailing is experiencing a rapid growth. Instead, most research measures general online shopping behaviour rather than revenue of grocery-specific purchases. In addition, comparatively fewer studies have focused on consumer behaviour in Pune City considering its position as a primary metropolitan centre that has clicked with the digital wave and evolving online grocery business extremely quickly.

Previous studies have likewise focused on establishing the effects of individual drivers like trust, perceived risk, or customer satisfaction in isolation (Karolina 2016), thus i) lack comprehensive understanding of consumer's preference which leads to satisfaction and loyalty. Thus, the current study fills these research gaps by investigating the determinants of online grocery shopping behaviour based on empirical data from consumers located in Pune City.

Research Objectives

The present study was conducted with the following objectives:

1. To examine the demographic characteristics of online grocery shoppers in Pune City.
2. To identify the factors influencing consumers' online grocery purchasing decisions.
3. To evaluate customer satisfaction with online grocery shopping platforms.
4. To examine consumers' revisit and recommendation intentions.
5. To provide managerial recommendations for improving customer satisfaction and customer loyalty in online grocery retailing.

METHODOLOGY

Adopting a quantitative research process, this study explored the factors that influence online grocery shopping behaviour of consumers in Pune City. A quantitative design was deemed appropriate, as it provides an opportunity to systematically measure the perceptions and behavioural intentions of consumers, using structured data collection instruments and statistical techniques. This research design was a descriptive survey evaluation that permitted the collection of data from respondents at one point in time without manipulating any variables.

Study Area

The study was conducted in Pune City, Maharashtra, which is one of the fastest growing metropolitan region and a leading centre for education as well as information technology, manufacturing and services in India. Over the past decade, Pune has seen its fair share of digital transformation, led by an increase in smartphone penetration, proliferation of Internet access and growing adoption of multi-channel payment systems and expansion into online grocery platforms like BigBasket, Blinkit (formerly called Grofers), Zepto (former food tech Supply), Swiggy Instamart, Amazon Fresh and JioMart. Given these traits, Pune serves as an appropriate venue for studying online grocery shopping behaviour.

Population and Sampling

The target population included residents of Pune City who had used online grocery platforms in the last 12 months. Convenience sampling was used, because getting a full sampling frame of online grocery shoppers was not feasible. Non-probability sampling makes statistical generalisation impossible; however, the latter is used extensively in consumer behaviour research, since respondents are far more widespread and easily reachable via online platforms.

In total, we received 635 filled questionnaires. After removing those that were empty or completed inconsistently, 622 questionnaires used for analysis are considered adequate for descriptive and correlational analyses.

Research Instrument

A structured questionnaire was used to collect primary data after a review of the relevant literature on consumer behaviour, e-commerce and digital marketing. They were divided into two sections of the questionnaire.

The demographic section was the first selected because it asked just about gender, age, qualification and employment status, monthly income and experience with online shopping.

The second part assessed variables related to the online grocery shopping habits, including purchase frequency; promotional offers; availability of free shipping; availability of product information in terms of delivery time, shipping method, refrigerated packaging type, company service history and food safety standards (organoleptic quality); brand loyalty (trust on local sourcing and taste quality); instant delivery time and assurance reliability for freshness during the route; customer satisfaction; application usability levels; intention to re-purchase using digital applications for groceries and willingness-to-recommend the service. Results were collected using a five-point Likert scale from 1 (Strongly Disagree) to 5 (Strongly Agree).

Data Collection Procedure

All data were then collected over a three-month period through Google Forms. Survey link was shared via WhatsApp groups, emails with professionals working in relevant fields, Educational institutions and social media. Data were collected from volunteers, who were told their answers would be kept confidential and used solely for academic research.

Statistical Analysis

IBM SPSS Statistics was used to code and analyse the data. Frequencies, percentages, mean values and standard deviations were computed to describe respondent characteristics and assess consumer perceptions. Mean ranking

was used to determine the relative importance of factors determining online grocery shopping. A correlation analysis using Pearson. correlation was then conducted, to find out the relationships between some variables related to consumer loyalty and behavioural intentions.

RESULTS AND DISCUSSION

Respondent Profile

Respondent demographics give context to consumer behaviour Sample: The survey collected data from 622 respondents, representing a varied cross-section of online grocery shoppers in Pune City.

Table 1. Demographic Profile of Respondents

Variable	Percentage (%)
Male	52.4
Female	45.2
Others	2.4
Age 26–35 Years	35.5
Age 36–45 Years	26.5
Graduates	43.9
Postgraduates	36.0
Private Employees	49.4

Demographic Profile: Working Age Affluent Dominate Online Grocery Need Help? Almost 50% were from the private sector and around 80% had graduate or postgraduate qualifications. These results are in line with earlier research indicating that greater digital media literacy and being placed, determined to be utilized tends to yield more positive association from retail technologies.

The high proportion of respondents between the ages of 26 and 45 years old mirror how economically active consumers are increasingly reaching out to digital buying platforms for regular household purchases. Job-specific time constraints with mobile and digital payments remain the two key driving factors towards grocery shopping trends in e-commerce.

Consumer Preferences: Several factors influenced respondent’s decision to purchase grocery online. Using the determinant items, mean scores were computed to show how important they were.

Table 2. Consumer Preference Factors

Factor	Mean	Rank
Free Shipping	3.82	1
Discounts	3.77	2
Product Information	3.60	3
Coupons & Promotions	3.58	4
Brand Loyalty	3.55	5
Instant Delivery	3.31	6
Advertisements	3.23	7
Premium Delivery	3.20	8

The findings reveal that free shipping is the most crucial factor for online grocery shopping behaviour. Consumers are consistently in search of opportunities to maximize value, especially when buying items they frequently consume at home. Competitors with free delivery over a specific minimum order value therefore have an edge in this pursuit of attracting customers. High mean scores were also reflected in the discounts and promotional offers available at stores, highlighting again how most grocery shopping is driven by price. The results show that shoppers constantly check prices on different platforms before making a purchase. Such as running promotional

campaigns, offering cashback on certain categories or purchases, and providing loyalty rewards are still renowned tactics for on boarding customers and retaining them.

Another significant determinant was product information. Consumers are often dependent on product description, nutrition information, expiry date, customer reviews and product images before making a purchase. Accurate information minimizes uncertainty and increases confidence in online transactions. What was really fascinating though, is that instant delivery lagged behind economic incentives and product information. While consumers do love to receive their deliveries quickly, it seems that they ultimately value a lower price and transparency over super-fast delivery.

Customer Satisfaction

Satisfaction was assessed across various service dimensions to determine strengths and weaknesses requiring managerial focus. Application usability received the highest satisfaction rating, indicating that respondents generally perceive online grocery applications as intuitive, responsive, and easy to navigate. Continuous investments in mobile application design, intelligent search functions, and streamlined checkout processes have contributed positively to customer experiences.

Table 3. Customer Satisfaction Dimensions

Dimension	Mean
App Usability	3.47
Product Information	3.40
Delivery Services	3.33
Product Quality	3.31
Return Policy	3.27
Pricing	3.20
Customer Service	3.00

Satisfaction with product information and delivery services was also relatively high. Consumers appreciated detailed product descriptions and reliable delivery performance, although moderate satisfaction scores suggest opportunities for further improvement.

Customer service received the lowest satisfaction rating among all dimensions. This finding indicates that complaint resolution, communication, refund processing, and after-sales support require greater managerial attention. Since customer service directly influences long-term customer relationships, improvements in these areas may significantly strengthen consumer loyalty.

Consumer Loyalty

Revisit intention and recommendation intention were used to reflect consumer loyalty.

Table 4. Consumer Loyalty Indicators

Variable	Mean
Revisit Intention	3.72
Recommendation Intention	3.67

The mean scores of both variables were fairly high, which suggests that consumers had positive attitudes on purchasing groceries online. Repeat purchases and positive electronic word-of-mouth from all satisfied store visitors play a key role in the sustainable expansion of a business.

The results indicate that while promotional incentives help in attracting customers, the act of retention and loyalty is primarily driven by quality service over time, credible information and positive shopping experience.

Correlation Analysis

In this case we performed Pearson's correlation analysis to see the relationships between some selected variables influencing revisit intention.

Table 5. Correlation with Revisit Intention

Variable	Pearson's <i>r</i>
Brand Loyalty	0.115
Product Information Satisfaction	0.102
Return Policy Satisfaction	0.059
Product Quality Satisfaction	0.049
Coupons & Promotions	0.049

Brand loyalty had the highest positive association with revisit intention, meaning that consumers who trust certain brands are likely to buy from online grocery platforms again. This also indicates a positive relationship between satisfaction with product information and revisit intention, addressing the importance of clear communication and accurate description of products.

The role of discounts and promotional offers was strongly correlated to initial purchase but less so for revisit intention. This result indicates that while economic incentives lure customers, it is trust, satisfaction and holistic customer experience that build long-term loyalty.

DISCUSSION

The results of this study corroborate earlier studies suggesting that the impact of economic, technology and service on online grocery shopping behaviour is mixed. The heightened sensitivity of consumers to delivery charges and promotion prices does seem to be more consistent with personal on-demand views. Expectedly, they appreciate convenient pick up as well as transparent information of where the products come from (expectable quality), but how consistently the service is delivered.

The great priority given to free shipping and discounts indicates the cut-throat competition in India's online grocery market. Retailers are running promotional campaigns and delivery incentives after each other to get consumers who paying conscious. These analyses underpin the meaning of the most policy actions and incentives and in themselves are not enough to ensure lasting loyalty as indicated by correlation analysis.

Rather, it appears as if consumers ultimately forge long-lasting relationships with retailers that deliver reliable product information, stable service quality and an enjoyable shopping experience. These findings underscore that trade-off between short-term promotional tactics to make sales today versus long-term investments in customer relationship management.

CONCLUSIONS

The evolution of digital commerce has profoundly changed filling up the grocery shopping cart behaviour in urban India. The increased smartphone penetration, digital payment acceptance, logistics infrastructure development and changing consumer lifestyle have boosted the usage of online grocery shopping platforms throughout the metropolitan cities. Pune City: A digitally connected and economically active population PUNE CITY is an important market to study these changing consumer behaviours.

The results of the current study show that online grocery shopping are an integral part of consumers purchasing behaviour. The most powerful variables affecting purchase decisions were identified as economic incentives like free shipping and discounts. Products and brands in terms of info, brand equity & usability played a heavy role too indicating that honest messaging (transparency) and ease of use digital experiences were core elements to total online shopping adoption as well. An analysis of customer satisfaction turned up relatively positive assessments for application usability and product information, which is a reflection of the ongoing improvements

to digital retail platforms. On the contrary, customer service was rated lower; retailers much to nurture customer relations should focus on complaint management, communication and after-sales along lines.

Respondents positive revisit and recommendations intents reflect optimism regarding India `s ability to host a successful online grocery ecosystem for continued market growth. However, the analysis of correlations reveals that promotions incentives on its own do not seem to be adequate to drive sustained customer loyalty. Instead, retailers need to offer an experience of constant service quality, product reliability information, and secure shopping in order to compete.

In conclusion, the research shows that online grocery retailers must take an integrated approach if they want to succeed and retail factors can be combined into data interpreters in order to have a complete picture of efficient pricing, digital experiences, logistics provisions, communication with stakeholders and fast customer support. Such strategies would continue to enhance customer satisfaction, fortify consumer loyalty and help drive sustainable growth in the evolving Indian digital commerce industry.

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