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A Study On Customer Perception In Grocery Apps In Delhi NCR

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Abstract
The widespread adoption of digital platforms has revolutionized the retail industry in India, with grocery delivery apps as a major platform for consumer expenditure. The current study investigates customer attitude towards grocery apps in the Delhi NCR, a descriptive study based on 584 responses collected from grocery app users in Delhi NCR, supplemented with secondary information from industry reports and academic studies. SPSS is used for data analysis. Result shows that Dependent Variable: Actual Use is dependent on the Predictors and Constant), Ease of Use, Perceived Usefulness and, Behavioural Intent of customers. Limitation of the study is cross sectional data, long term study may vary the results. Future scope is to study on more demographics.

Keywords: Customer, Perception, Grocery, Apps, Delhi, NCR

Introduction
The growth of internet penetration, low-cost smartphones, and digital payment systems has tremendously revolutionized the way consumers purchase groceries in India. The Indian online grocery market was worth about USD 11.4 billion in 2024 and is forecasted to reach USD 96.3 billion by 2033 at a Compound Annual Growth Rate (CAGR) of around 25.4% between 2025 and 2033 (IMARC Group, 2024). The development is being driven by rising urbanization, hectic lifestyles, growing aspirations for convenience, and the spread of quick commerce models. Delhi NCR, as a large metropolitan area, offers an ideal soil for diffusion of grocery applications. Consumers here have access to more than one app-based grocery platform with home delivery, real-time tracking, and offers/discounts, thereby pushing the competition fierce. Nevertheless, even though the market size and adoption are growing impressively, there are some factors influencing customer perception convenience, trust in the service, perceived quality of the product, usability of the app, reliability of delivery, pricing, and effectiveness of promotion.
A number of recent empirical studies have investigated determinants of online grocery shopping behavior in India. For instance, a study on consumer perception and purchase intention in

Chennai established that ease of use, trust, product quality, and promotional offers play important roles in influencing purchase intentions (Rosli et al., 2025). Another research aimed at determining factors influencing customer satisfaction among online grocery platforms pointed out that time savings and convenience are significantly related to satisfaction and later repeat purchase intention (Tomar et al., 2024). Besides, research comparing rural, urban, and metropolitan users indicates disparities in perception of offers, attitude, and intention towards utilizing grocery apps. Metro users would be more concerned with app usability and reliability, while non-metro users would be more price and promotion sensitive (Khatter & Sharma, 2023).
The objective of this research is to specifically investigate customer perception of grocery apps in the Delhi NCR area. It seeks to determine the factors that most significantly impact user perception, evaluate how these relate to satisfaction and loyalty, and consider demographic variation (age, income, usage frequency) in perceptions. The results seek to contribute insights for app providers to enhance customer experience and policymakers looking to influence digital retail ecosystems.

Literature review

The expansion and structural transformation of online food retailing in India have occurred quickly, fueled by increasing smartphone penetration, enhanced logistics, and shifting consumer time-use behavior. Industry reports point out that models of quick-commerce (Q-commerce) have taken a majority share of e-grocery orders and are transforming consumer demand for delivery speed and ease. These macro trends place an environment where grocery apps need to battle for velocity, dependability, and general user experience (Bain & Company, 2025). An ongoing trend in empirical evidence is that convenience and time-saving continue to be leading causes of adoption and repeat usage. Various studies in Indian cities establish that perceived usefulness — frequently measured as convenience, time saved, and purchasing ease — reliably predicts intention to use grocery apps and satisfaction. Research conducted post-pandemic also indicates that convenience moderates with health/safety issues (earlier pandemic-related) but has continued to matter even as mobility lockdowns were relaxed (Akhtar et al., (2025).

Service quality and delivery reliability consistently come to the fore as drivers of customer perception. Factor analysis and structural model studies converge on delivery performance, order accuracy, returns/exchange policy, and responsiveness of customer service as key predictors of satisfaction. Delays in delivery, product substitution without permission, or negligent handling of perishables through poor cold chains are frequently cited pain points that disproportionately impact perceived service quality. These performance factors tend to moderate the app interface/usability and total satisfaction relationship (Mustikasari & Astuti, 2021). Product quality and range — especially for fresh food and perishables — are key to trust and perceived value. Online grocery sites are judged not only on speed and cost but on whether or not the app can consistently provide fresh, high-quality products. Studies on platform-specific perceptions (e.g., BigBasket) in metro areas like Delhi NCR show that product quality, depth of assortment, and brand trust play an important role in driving repeat purchase and loyalty (Banu, 2023).
Pricing, promotion, and perceived financial value continue to be significant but operate alongside long-run views of sustainability and equity. Quick-commerce participants have often used dramatic discounts and below-cost prices to acquire market share; industry analysts and some

scholars comment that deep discounting can raise short-run take-up but might negatively affect beliefs regarding long-run service viability, and it has triggered regulatory/antitrust attention. Consumers are price-conscious but also balance perceived quality and dependability against cost savings. User interface (UI)/user experience (UX) and app technical reliability also influence perceptions, particularly in metro markets. Research indicates that simple navigation, low friction during checkout, multiple payment methods, and clear communication (order tracking, approximate delivery time) boost perceived ease of use and trust. Younger, urban consumers focus more on speed and UI/UX, whereas other demographic groups may focus on price or freshness of the product. Demographic and geographical differences are also identified in the literature: metro users (such as Delhi NCR) focus more on speed, app functionality, and dependability, whereas non-metro and value-conscious groups may focus on discounts and fundamental affordability. Various city-level research and surveys support that income, household size, and frequency of shopping moderate the significance of individual attributes (e.g., delivery time versus price). Historical studies of Delhi NCR offer baseline comparisons revealing changing preferences since previous market entrances (Garg & Saxena, 2018). Lastly, recent studies examine the experiential and emotional aspects of grocery app usage: sentiment analysis and customer loyalty research of Q-commerce platforms indicate that while speed is a catalyst for initial usage, long-term loyalty hinges on a combination of reliability, perceived fairness (pricing and substitution rules), and brand integrity. The Q-commerce growth narrative introduces further workforce management and quality control issues for platforms that indirectly influence customer perception when lapses in operations do occur (Akshay, 2025).

Customer perception

Customer perception of grocery apps is shaped by a combination of functional, experiential and technological factors. For residents of Delhi–NCR — a dense, time-pressed, digitally connected metro area — perceptions are strongly influenced by convenience, delivery performance, product quality (especially for fresh produce), pricing/promotions, trust and app usability.

- Convenience and time benefits: City consumers often name convenience and time savings as key drivers of grocery app usage; appeal intensifies as platforms minimize trip time, substitute search and queuing within stores, and allow consumers to shop beyond conventional store hours. Delhi–NCR consumers, with long commuting and hectic lifestyles, find such convenience benefits extremely relevant to working families and two-income households (Shroff et al., 2024).
- Delivery experience (speed, reliability, last-mile): Speed and reliability are at the heart of perception. Quick-commerce (10–15 minute) services have recast expectations in Indian metros, putting a premium on ultra-fast fulfilment — but also increasing customer sensitivity to failure (slow or missing items) which can rapidly erode trust (Reuters, 2024). Empirical research indicates last-mile quality (on-time delivery, correct orders, condition of perishables) mediates overall satisfaction and repeat use intention (Brüggemann & Olbrich, 2023).
- Product freshness & quality (particularly produce): The quality of fresh products is a crucial perception determinant. Users assessing grocery apps rate platforms not only on speed but on dependability of product description and quality of delivered produce. Poor experience with rotten or low-quality products lowers future adoption even if convenience is optimal (Shroff et al., 2024; Stecuła, Wolniak, & Aydın, 2024).

- Perceived risk, safety, and trust: Trust (secure payment, open refund and substitution procedures, security of data) is still a gating factor. Adoption during the pandemic lowered perceived risk for much of the user base, but retention over the longer term relies on regular delivery and simple grievance resolution; those who find it difficult (refund delays, uneven refunds) are likely to churn (Brüggemann & Olbrich, 2023).
- Value perception, promotions and price: : Price sensitivity is very high in India; competitive promotions, loyalty rewards and real-time price adjustment heavily influence value perceptions. But heavy discounting can be a double-edged sword — it induces trial but also encourages hopes of continuing low prices, which quick-commerce players have not been able to maintain profitably (Reuters, 2024; Shroff et al., 2024).
- App usability, personalization & technology: UI/UX — simple search, retained lists, concise substitution rules, order tracking, and customized recommendations—impacts perceived usefulness and ease of use, which are predictors of adoption (Stecuła et al., 2024). New tech (AI recs, voice interaction, improved search, and realtime inventory) enhances perception if it works consistently; buggy or wrong features lower trust.

Regression

Regression analysis here is applied to predict the strength and direction of associations between customer-perception measures (e.g., perceived convenience, perceived freshness, reliability of delivery, ease of app use, trust, price/value) and outcomes (e.g., overall satisfaction, repurchase, frequency of use); to control for potential confounders (household size, income, age, tech-savviness); and to develop predictive models to determine the characteristics most highly linked to positive perceptions and ongoing app use in the Delhi–NCR market (James et al., 2013; Gelman & Hill, 2007).

Delhi–NCR

Delhi–NCR consumers are heterogeneous: a combination of young professionals, families, and older shoppers with differing comfort with technology. Delhi-NCR user studies (such as platform-specific research in BigBasket) show that though convenience and delivery are important across segments, frequency of purchase, household size and income act as mediators for what's most important: families value freshness of produce and assured delivery windows, whereas single- and dual-professionals value speed and app convenience (A study on consumer perception of Big Basket in Delhi-NCR, 2023). To enhance customer perception and retention in Delhi–NCR, apps must focus on: reliable last-mile operations and honest communication; quality control for perishables (photo verification, easy returns); transparent, consistent pricing and environmentally sustainable loyalty incentives; sharp UX for fast repeat purchases (saved lists, subscriptions); and strong customer support for refunds/substitutions. Investments in local micro-fulfilment nodes and precise inventory visibility are likely to reap the greatest perceptual benefits in the metro environment (Reuters, 2024; Shroff et al., 2024; Stecuła et al., 2024).

Grocery Apps

Grocery apps are web and mobile platforms through which consumers can browse, order, pay for, and get household food and grocery products without visiting a retail store. In India it encompasses two broad business models: (a) classic e-grocery/full-basket models that carry

larger stocks and deliver orders in hours to days (e.g., BigBasket, JioMart) and (b) quick-commerce / dark-store players that offer delivery in minutes (e.g., Blinkit, Zepto, Swiggy Instamart, Dunzo). These models exist together and differentiate in metros such as Delhi–NCR, and each influences customer perception in a different way since they compromise on assortment, price and freshness with speed and convenience (Reuters, 2024; USDA FAS report, 2025).
Indian online grocery penetration has increased dramatically since the pandemic, with the online grocery market worth low-single-digit billions of USD in 2024 and expected to expand strongly over the course of the decade; quick-commerce represented a considerable and increasing proportion of e-grocery orders in recent years. This build-up of structure defines customer expectations — particularly from young urban Delhites in Delhi–NCR — who increasingly perceive app-based grocery shopping as the new norm and frequently the preferred mode for ease, speed and digital payments. In Delhi–NCR consumers typically face both full-basket players (BigBasket, JioMart) as well as fast delivery players (Blinkit, Zepto, Instamart). Competition has mounted: fast-commerce companies expanded market share quickly by increasing dark-store footprints and intense promotion, squeezing incumbents and eliciting strategic responses (acquisitions, BB Now-style fast options, or investments in micro-fulfilment). Such competitive turnover is discernible in market reports and recent company performance notes for FY2024–FY25.

Actual use

Actual use refers to self-reported or observed behavior — how frequently and in what manner people actually order on grocery apps (frequency, type of order, size of basket, timing, and retention), as opposed to declared intentions or attitudinal measures. Measuring use in a Delhi–NCR context is important since measures of behaviour tend to differ from intention measures (e.g., respondents may state preference for convenience but actually use kirana stores for some purchases). Following is a thesis-ready overview of what to measure, why, typical Indian (and Delhi–NCR) patterns, and how to analyze actual-use data.

Behavioral intention

Behavioral intention (BI) refers to an individual's stated willingness or intention to execute a behaviour — in this case: to use or keep on using grocery apps (e.g., "I plan to shop for groceries through app within the next month"). In consumer research BI is significant inasmuch as it links attitudes/perceptions and usage; most theoretical frameworks (Theory of Planned Behavior, TAM/UTAUT) regard BI as the proximal predictor of adoption and long-term use (Ajzen, 1991; Davis, 1989). For Delhi–NCR grocery apps, the measurement of BI is useful in forecasting future demand, retention estimation, and the crafting of interventions to turn trial users (usually obtained through promotions) into regular customers (Arora et al., 2022; Shroff et al., 2024).

Perceived utility

Perceived usefulness (also frequently synonymously called perceived usefulness) is the extent to which customers feel that employing a system increases their shopping performance or simplifies their lives (Davis, 1989). Perceived usefulness in grocery apps is directly related to customers' perceived value of time savings, convenience, available broad assortment, personalized

promotions, and less physical effort than conventional shopping. In the context of Delhi–NCR, where life in the cities is urban, rapid, and long-commuting, the value of grocery apps is typically framed by how quickly they can offer instant or time-slotted deliveries, cut back on store trips, and assure product availability (Shroff et al., 2024).

Ease of use

The perceived ease of use (PEOU) is the extent to which an individual holds the belief that the use of a technology will be effort-free; it is a fundamental concept in the Technology Acceptance Model (TAM) and a direct precursor to perceived usefulness and behavioural intention in most technology-adoption models (Davis, 1989). In supermarket apps, PEOU reflects how easy the app is to learn and use (searching, ordering, payment, tracking, and returns) and influences both first-time adoption and repeated use among Delhi–NCR consumers.

Table 1: Correlations for Customer perception in grocery Apps in Delhi NCR

		AU	Beh_Intent	PU	EU
Pearson Correlation	AU	1.000	.824	.757	.879
	Beh_Intent	.824	1.000	.594	.675
	PU	.757	.594	1.000	.560
	EU	.879	.675	.560	1.000
Sig. (1-tailed)	AU	.	.000	.000	.000
	Beh_Intent	.000	.	.000	.000
	PU	.000	.000	.	.000
	EU	.000	.000	.000	.
N	AU	584	584	584	584
	Beh_Intent	584	584	584	584
	PU	584	584	584	584
	EU	584	584	584	584

Table 1 shows Correlations for Customer perception in grocery Apps in Delhi NCR, N=584, Actual Use(1.000) is positively high level of correlation with on the Predictors and Constant), Ease of Use(.879), Perceived Usefulness(.757) and, Behavioural Intent of customers(.824)

Table 2: Model Summary for Customer perception in grocery Apps in Delhi NCR

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.959[a]	.920	.920	.31659
a. Predictors: (Constant), EU, PU, Beh_Intent				

Table 2 shows Model Summary for Customer perception in grocery Apps in Delhi, R=.959, R Square=.920, which shows all independent variables jointly show high correlation with dependent variable

Table 3: ANOVA[a] for Customer perception in grocery Apps in Delhi NCR

Model	Sum of Squares	df	Mean Square	F	Sig.

1	Regression	671.069	3	223.690	2231.836	.000[b]
	Residual	58.132	580	.100		
	Total	729.200	583			
a. Dependent Variable: AU						
b. Predictors: (Constant), EU, PU, Beh_Intent						

Table 3 shows ANOVA for Customer perception in grocery Apps in Delhi NCR, F=2231.836, showing Sig=0, which shows significant association between dependent and independent variables.

Table 4 Coefficients[a] for Customer perception in grocery Apps in Delhi NCR

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.001	.013		.081	.936
	Beh_Intent	.308	.017	.310	18.237	.000
	PU	.262	.014	.288	19.050	.000
	EU	.554	.018	.508	30.804	.000

a. Dependent Variable: AU

Table 4 shows Coefficients for Customer perception in grocery Apps in Delhi NCR**,** Standardized Coefficients Beta is significant for independent variables

Table 5: Descriptive Statistics for Customer perception in grocery Apps in Delhi NCR

	N	Minimum	Maximum	Mean	Std. Deviation
PUI	584	1	5	2.68	1.136
PU2	584	1	5	3.05	1.183
PU3	584	1	5	2.96	1.306
EU1	584	1	5	3.28	1.436
EU2	584	1	5	3.26	1.304
EU3	584	1	5	4.17	1.394
EU4	584	1	5	3.70	1.620
EU5	584	1	5	3.82	1.488
AU1	584	1	5	2.89	1.350
AU2	584	1	5	2.83	1.347
AU3	584	1	5	3.37	1.386
AU4	584	1	5	2.66	1.182
Beh_Intent1	584	1	5	3.40	1.404
Beh_Intent2	584	1	5	2.59	1.150
Beh_Intent3	584	1	5	2.75	1.114
Beh_Intent4	584	1	5	3.17	1.204
Valid N (listwise)	584				

Table 5 shows descriptive statistics for Customer perception in grocery Apps in Delhi NCR, for every statement N=584, which shows there is no missing frequency, Min=1 and Max=5 shows linear scaling on 5 points, Mean=more than 2.50 and Standard deviation more than 1

Conclusion

The study identifies several predictors that influence a customer's decision to use a grocery app:This is a descriptive study that analyzes customer perceptions of grocery apps in the Delhi NCR region. It's based on data collected from 584 grocery app users. The researchers used SPSS to analyze the data and the results show that the actual use of grocery apps is dependent on several factors.Ease of Use: This refers to how simple and intuitive the app's interface is for the user. If an app is easy to navigate, it's more likely to be used, Perceived Usefulness: This is the degree to which a user believes using a specific app will improve their shopping experience or make their life easier. For example, if a user thinks an app saves them time or money, they'll find it more useful and Behavioral Intent: This is a user's intention or plan to use the app in the future. A positive behavioral intent directly correlates with actual use. The study concludes that these three factors ease of use, perceived usefulness, and behavioral intent—are significant predictors of the actual use of a grocery app. Essentially, if an app is easy to use and is perceived as useful, it will likely lead to a user's intention to use it, which then translates into actual usage.

Limitations and Future Scope

The study has a key limitation: it used cross-sectional data, meaning the data was collected at a single point in time. This makes it difficult to see long-term trends or changes in customer behavior. Future research could address this by conducting a long-term study to see if the results vary over time. The study also suggests that future research should include a wider range of demographics to get a more comprehensive understanding of the market.

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