



Article

Consumer Behavior Patterns in O2O Grocery Shopping : An Empirical Investigation of Jiomart Preferences in Odisha's Tier-2 and Tier-3 Urban Markets

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INTRODUCTION

The retail industry in India is identified as one of the vibrant and fast-moving sectors in the economy, due to increasing incomes, urbanization, and the use of digital platforms. As the last mile of the supply chain, the retail industry bridges the gap between producers and consumers, making it a crucial part of the Indian economic system. Contributing about 10% of the country's gross domestic production, both in the urban and rural sectors. The retail industry in India comprises a huge number of small neighborhood shops and kirana stores to large organized retail chains and online retailers. Organized retailing has gained momentum in recent years, giving a new face to the traditional retail industry and providing new experiences to consumers. India is a retail sector that is widely recognized as one

Abstract: The purpose of this research is to draw conclusions about customer satisfaction and loyalty to JioMart's services based on their perceptions of trust, product quality, and service timeliness in relation to online-to-offline (O2O) grocery shopping in Tier 2 & Tier 3 cities in Odisha. This research methodology is quantitative in nature, including a cross-sectional design and the use of a standardised questionnaire to gather data. The research is employed a convenience sampling design, wherein a total of 400 sample is selected for data collection, specifically from those consumers who have prior experience with O2O food purchase services, wherein data is collected through online and offline data collection tools. Before evaluating the possible link among the research variables using structural equation modelling and statistical methods, the reliability and validity of the study constructs were established. The findings show that customers have a positive attitude towards O2O grocery service, and trust, product quality, and delivery time are significant for customer satisfaction. The findings indicate that customer satisfaction significantly mediates customer service experiences as well as plans to use services, which is consistent with the evolution of customers' recurring purchase patterns and use of digital grocery services. It can be concluded that the O2O grocery service is being accepted in the emerging urban markets because of the development in terms of service performance, development in terms of digital literacy, and development in terms of consumerism. The results indicate that fostering consumer confidence, ensuring product quality, and enhancing delivery speed are crucial for the long-term growth of O2O grocery services.

Keywords: Online-to-Offline (O2O) grocery shopping, consumer behaviour, customer satisfaction, trust, product quality, delivery timeliness, continued usage intention, digital retail, emerging urban markets.

of the most significant in the world, ranking in the top five. It is also renowned for being among the nation's industries with the quickest growth rate. It is growing tremendously over the last few decades, becoming a staple of the Indian economy. This is mainly because people's lives and incomes are changing, particularly in the middle class, and because technology is becoming more and more prevalent. In order to be at the top in this competitive world, the Indian retail industry adopts different strategies and provides a unique experience to its customers. The emergence of large shopping malls has also added fuel to the growing retail industry. However, despite the presence of many large players in the market, due to the high level of competition, only a few are able to make their presence felt (Dwivedi, 2025). The retail industry in India, contributing nearly 10% to the GDP, is among the industries with the

strongest growth rates, with a combination of organized and unorganized retail. While the unorganized sector, consisting of traditional retailers, is more established in rural India, the modern retailing concept, including e-commerce, is picking up pace in urban India because of increasing per capita incomes, urbanization, and technological developments. While government support has been helpful for retail investments, infrastructure and government policies remain challenges. However, with a huge potential market and increasing connectivity, given a value in USD 1.3-1.5 trillion in 2025, the retail industry is expected to increase at a CAGR of 9-11%.

An (O2O) platform is the mechanism for executing an O2O business model that use online marketing to attract potential customers via digital channels, subsequently using various tools and methods, like the convenience of home delivery, to encourage purchases. Here is how the O2O platform's self-scheduling delivery capability works: First, prospective crowdsourced service providers have registered on the site, and food shops are engaged. Whenever a user makes a grocery shopping order using the platform's website or mobile app, according to their closeness to the place of pickup, a part-time service provider is allocated to the delivery via the app. The service providers make their own decisions on whether to accept the delivery work or not, which are based on the wages paid by the platform for the delivery and the involvement costs of the service providers (He et al., 2020).

In recent years, the shopping experience for groceries has been significantly impacted by technology and digital innovations such as self-service checkout counters, handheld scanners, AI-powered applications, and Augmented Reality (AR) (Wolniak et al., 2024). The historical development of shopping, from the Industrial Revolution era to the emergence of e-commerce, underlines the ever-changing nature of the shopping experience due to technological advancements and consumer behavior. Today, the application of digital innovations has led to the blurring of lines between the physical and digital shopping experience, providing customers with engagement, personalization, and convenience. This can be explained by the theory of technological determinism, which suggests that technological advancement is a determinant of consumer behavior (Q. Zhang et al., 2023). This shopping trend, which is enhanced by digital means, is an indication of the needs of the modern consumer who demands a speedy, accurate, and personalized experience. The technologies of AI and biometric recognition offer a paradigm shift in the role of the consumer as co-creator of the experience through personalized product suggestions. Moreover, the retailer continues to innovate as a result of competitive pressures by embracing technologies such as real-time inventory management, dynamic pricing, and seamless checkout to enhance consumer satisfaction (Heidenstrøm & Hebrok, 2022).

The Reliance Group launched Jio Mart in 2020, as well as its services are available in over 200 areas throughout India. The Jio market app quickly reached one million downloads following its introduction. It sells a wide variety of goods, such as fresh produce, snacks, beverages, dairy products, and basic food items (Singh & Rosengren, 2020). Jio Mart is keen on forming partnerships with local Kirana stores in order to increase its presence in the grocery retail industry. Jio Mart's attempt to link 30 million Kirana stores using Facebook's WhatsApp service was recently enabled by a \$5.2 billion partnership between Reliance Industries and Facebook. The firm branched out from its original focus on online grocery sales to include other product categories including fashion, home goods, and leisure items. Even in this busiest situation, Jio mart has given a test and made a massive impact in the market (V.Phreethil & Dr.R.Savithri, 2022).

Online-to-offline (O2O) online grocery shopping consumer behavior is affected by a number of factors such as digital convenience, service quality, perceived risk, and changes in purchase intentions, especially in the context of the rapid adoption of digital technologies (Yao & Osman, 2022). In an effort to expand its food retail footprint, Jio Mart is eager to establish collaborations with nearby Kirana businesses. Reliance Industries as well as Facebook recently formed a \$5.2 billion deal, which Jio Mart is using to try to connect 30 million Kirana shops via Facebook's WhatsApp service. After initially specializing in online food sales, the company expanded into other product categories such as clothing, home decor, and recreational gear. The thematic analysis of consumer behavior in O2O commerce highlights the complex factors that influence consumer behavior, suggesting that consumers evaluate both online and offline aspects of the shopping process when making purchasing decisions, which in turn affect their satisfaction and future usage intentions (X. Zhang & Wang, 2021). Comparisons of online and offline grocery shopping also suggest that consumers who use online grocery shopping platforms are, on average, interested in convenience and technology-friendly interfaces, which are often linked to lifestyle and demographic trends that influence grocery shopping across various channels (Talwar et al., 2021). The Tier-2 & Tier-3 markets in the state of Odisha, including Bhubaneswar and Cuttack, are examples of the unique characteristics that define consumer behavior, retail, and economic development. These markets are turning out to be significant ones due to the development of infrastructure and increasing incomes, which enhance demand for organized retail and internet services (Pati & Dash, 2024). Bhubaneswar and Cuttack, with the development of smart cities, promote a diverse economy that enhances modern consumer behavior. Conversely, Tier-3 markets, which have been traditionally focused markets, are witnessing an increase in online shopping due to mobile internet connectivity. In conclusion, these markets provide opportunities for brands due to unique regional factors and the shift in consumption patterns (Sharma, 2023).

Here is how the following parts are structured: A review of the relevant literature is given in Section 2. An explanation of the study technique is provided in Section 3. The data evaluation and discussion are also detailed in Section 4. Section 5 concludes the whole thing.

LITERATURE REVIEW

(Kang et al., 2021) examined the influence of service quality in Online to Offline (O2O) food delivery on customer satisfaction and examines the mediating role of customer orientation. The study used a survey among customers through a questionnaire; the data was examined utilizing Smart PLS 3.0 in order to put the theories to the test. The findings highlighted the significance of enhancing service quality across four dimensions: information, product, social, and system. Not only that, but customer orientation completely mediated the connection among service quality and happiness with service. This study concluded that O2O food delivery companies must improve their service responsiveness and communication abilities during order issues to improve customer satisfaction.

(Hu et al., 2022) showed Online to offline (O2O) takeout platforms have become a major way of food consumption in modern society. Nonetheless, complications including unauthorized operation as well as subpar service have come to light. That is why it is critical to identify what makes them happy and trust you. Having said that, research on customer satisfaction with takeaway platforms is very lacking in the existing literature. Based on surveys and data collected by web crawlers, this article validates a model it created using the evolution of the O2O takeaway sector. Lastly, the variables are analyzed using the SPSS data analysis program. Users' confidence in one-to-one platforms is influenced by both internal processes and social settings, according to the research. Users' perceptions of danger will decrease and their level of pleasure will rise as trust improves. Finally, the proposals of optimizing platform mechanisms and improving service quality and attitude are proposed.

(Jessika & Widhayani, 2025) explored the rapid evolution of online-to-offline (O2O) e-commerce platforms and their influence on the purchasing behavior of millennial consumers in Indonesia. Using PLS-SEM on a 100-person sample, researchers found that service quality and the move away from internet shopping both positively affect consumers' propensity to make in-store purchases. Integrating online and physical purchase platforms was crucial to increase service quality and consumer happiness, according to this research. The results of this study were significant in understanding the influence of O2O on improving consumer behavior.

(Y. Zhang & Kim, 2021) focused on customers of an Online-to-Offline (O2O) food delivery service to examine the factors that influence customer satisfaction and reuse intention. Online service quality (including system, information, the factors were primarily

categorized into two groups: product and delivery quality, as well as the quality of services provided online (including customer service). Using SPSS & Smart PLS, 129 valid replies were obtained from a survey that was performed. According to the results, Satisfaction among customers was positively associated with reusability, and quality of information, customer service, products, and deliveries are all significant positive antecedents of customer satisfaction. When it comes to happiness, system quality was unimportant. Recommendations were made to enhance the dining experience, customer loyalty, and sustainable development of the O2O food delivery market.

(Seyanont1, 2025) explored the key service quality elements in Online-to-Offline (O2O) food delivery services for Michelin-related restaurants, employing the Analytical Hierarchy Process (AHP) to gather data from 26 experts. The study is based on four key elements: Dependability, Maintenance of Meal Quality as well as Hygiene (MMQH), Assurance, as well as System Functionality. The findings reveal that MMQH is the paramount factor, especially the sub-element of food served at the appropriate temperature (41%), succeeded by effective communication (44%) within the Assurance dimension and delivery accuracy (33%) in the Reliability dimension, all of which are essential for enhancing service optimization. The consistency ratios indicated that the results are trustworthy, assisting Michelin-related restaurants in enhancing service quality to meet customers' needs and expectations. The paper recommended that future research should include more participants, examine technological development, and incorporate sustainability to further enhance service quality for online food delivery.

(Chen1 et al., 2026) examined the impact of online and offline service quality on consumer emotions and continued usage intentions of Online-to-Offline (O2O) food delivery services, using the Stimulus-Organism-Response (S-O-R) framework. The ease, security, and cost-effectiveness of online services are tapped, while the precision and rapidity of offline services were tapped. Despite the fact that arousal as well as dominance do not predict pleasure, the results showed that both online and offline service quality substantially affected consumers' feelings of pleasure, arousal, and dominance. However, all three emotions positively affect continued usage intentions, and pleasure has the largest effect size. Additionally, app familiarity strengthened the relationship between service quality and dominance, emphasizing the significance of app familiarity in consumer control during service encounters.

(Abhang et al., 2020) discussed in the backdrop of globalization, e-retailing has become a major revolution, with businesses adjusting to technological advancements over the last decade. There has been a clear advantage for merchants thanks to the growth of online shopping, which has allowed them to grow their operations, better manage their resources, and increase

consumer happiness. Using data from 105 participants, this research analyzed the correlation between demographics, customer satisfaction, as well as other factors. The study adopted quantitative analysis with statistical techniques to make it reliable, with real-time data gathered from surveys. By conducting structured interviews and using a 5-point Likert scale in SPSS regression analysis, the results showed a strong correlation between different variables and customer satisfaction, with customer service being the most important factor for customer satisfaction.

(Babu & Bajpai, 2022) used an interpretivism research philosophy, which focused on theoretical analysis and employed secondary qualitative methods of data collection to ensure reliability. The findings indicated that the Net Sales of Jio Mart have exceeded \$100 million in the initial stage of its operation, which is a remarkable achievement for a newcomer in the online grocery business. The research paper ended with the conclusion that the integration of different sales channels accelerates the purchasing cycle, which marks the importance of multichannel commerce, where an organization can market their products on different online platforms such as websites, social media, and mobile applications.

(Bhuvaneswari et al., 2025) analyzed the level of customer satisfaction with the JioMart mobile application for grocery shopping in the Erode district. As the online platform expands, it is necessary to understand the efficacy of the platform. This paper discussed the elements of customer satisfaction with the mobile application, such as user interface, cost, product offerings, delivery time, customer service, and overall satisfaction, through structured questionnaires of JioMart customers in Erode. The results showed moderate levels of customer satisfaction, highlighting the positives of the mobile application, such as competitive pricing and quick delivery, and negatives, such as late delivery and the absence of local products.

(H. Zhang et al., 2025) discussed that the improvement of customer satisfaction for online-to-offline (O2O) e-commerce of fresh products is the research target. Based on structural equation modeling, this study verified a conceptual framework from 313 online shopping questionnaires. The main results showed that consumers' expectations were favourably affected by corporate image, which in turn affected their perceptions of quality. A greater degree of customer pleasure was the end result of an increase in perceived value, which in turn has been caused by a rise in perceived quality. This study was beneficial for O2O e-commerce, particularly for fresh product retailers who aim to gain sustainable competitiveness.

(Sahu et al., 2024) analyzed the buying behavior of the consumer of online marketplaces in the context of Western Odisha. examined the elements that affected consumers' choices to purchase from internet

marketplaces. Additionally, the degree of customer knowledge of online markets was examined. A systematic questionnaire is created for this study in order to gather primary data. 209 individuals from Western Odisha were surveyed online using Google Forms to gather data for the study. The research employed regression as well as exploratory factor analysis to look at how people buy things on online marketplaces. The research found that customers' purchase choices are heavily influenced by price, security, and feedback methods, with security being the most influential. Additionally, the study found that western Odisha residents are aware of internet markets.

Research gap

Numerous enquiries remain about tier-2 and tier-3 cities' consumer behaviour, especially in relation to food buying, despite the wealth of study on online-to-offline (O2O) delivery of food as well as e-commerce platforms. The research presently available mostly emphasizes the significance of customer satisfaction, trust, as well as service excellence in online-to-offline food delivery services, particularly within urban environments. Similarly, the research that is now available on multichannel commerce as well as mobile apps like JioMart ignores the behavioural role of clients in tier-2 and 3 cities while highlighting the importance of sales, interface, and delivery speed. Additionally, the literature now in publication seldom mentions the sociodemographic roles, awareness, and their preferences of clients in tier-2 and 3 cities, while addressing topics like perceived quality, corporate image, and trust. Therefore, there was a need to address the specific factors that affect O2O grocery shopping behavior in these emerging markets.

‘METHODOLOGY’

‘Research Design’

In this research, the researcher used quantitative cross-sectional research methodology to examine the pattern of consumer behaviour with respect to Online to Offline (O2O) grocery shopping behaviour, with special emphasis on the online grocery shopping platform, i.e., JioMart, in Tier 2 & Tier 3 cities of the state of Odisha, India. In the present study, the interrelation between trust, quality of products, time sensitivity of products, customer satisfaction, and behavioural intention was investigated. A standardized questionnaire was utilized to gather data, and the researcher was thus able to evaluate the perception of consumers with respect to specific variables at specific points of time. The researcher utilized the measurement scales to ensure content validity, and Cronbach's alpha method was utilized to evaluate the dependability of the structural elements of the variables of the study, and thus the researcher was able to analyse the impact of specific variables on O2O behaviour with respect to grocery shopping in emerging cities.

Conceptual framework

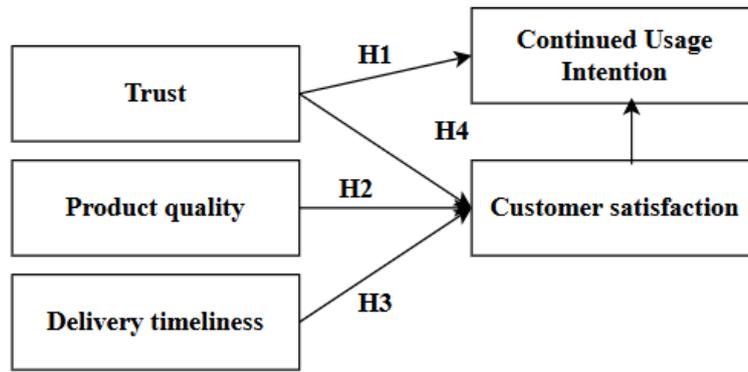


Figure 1 Conceptual Framework

Research Objectives

- ‘To examine the influence of trust on customer satisfaction in O2O grocery shopping through JioMart in Tier-2 & Tier-3 urban markets of Odisha’.
- ‘To evaluate the impact of product quality and delivery timeliness on customer satisfaction in the O2O grocery shopping context’.
- ‘To assess the relationship between customer satisfaction and continued usage intention toward JioMart in emerging urban markets’.
- To analyse how service performance factors collectively shape consumer behavior patterns in O2O grocery shopping.

Hypothesis

- **H1:** ‘Customer satisfaction is significantly positively impacted by trust in O2O grocery shopping’.
- **H2:** ‘Product quality is significantly positively influence on customer satisfaction in O2O grocery shopping’.
- **H3:** ‘Delivery timeliness is significantly positively influence on customer satisfaction in O2O grocery shopping’.
- **H4:** ‘Customer satisfaction mediates the relationship among trust and continued usage intention in O2O grocery shopping’.

‘Sample Selection and Data Collection’

The methodology that would be adopted for the purpose of the research would be based on the convenience sampling methodology, which would allow the researcher to collected a sample size of 400 consumers, ensuring that the sample also comprised consumers from Tier-2 and Tier-3 urban centers of the Odisha

State. The target population for the purpose of the research would comprise individuals who had prior experience with O2O grocery purchase platforms and would be willing to take part in the survey. The data collection methodology that would be adopted for the purposed of the research would be based on the questionnaire survey methodology. Before data collection, participants were apprised of the study's goal, and the anonymity of their responses was guaranteed. This method enabled the collection of reliable primary data suitable for statistical analysis using SPSS and Amos to assess the proposed hypotheses.

Measures

In order to gather the information, a structured survey had been utilised. Using a 5-point Likert scale, participants are going to be express their views on various research subjects. You have the option to choose between open-ended and closed-ended items on the form. In order to collect relevant data on the selected study parameters, the questions were carefully designed. A distinct questionnaire has been developed for each of the five types of respondents who will be participating in the survey. The criteria and quantity of items evaluated for the study are provided in the table below.

S.no	Variables	Statements
1	Trust	5
2	Product Quality	6
3	Delivery timeliness	6
4	Continued Usage Intention	5
5	Customer satisfaction	6

RESULTS

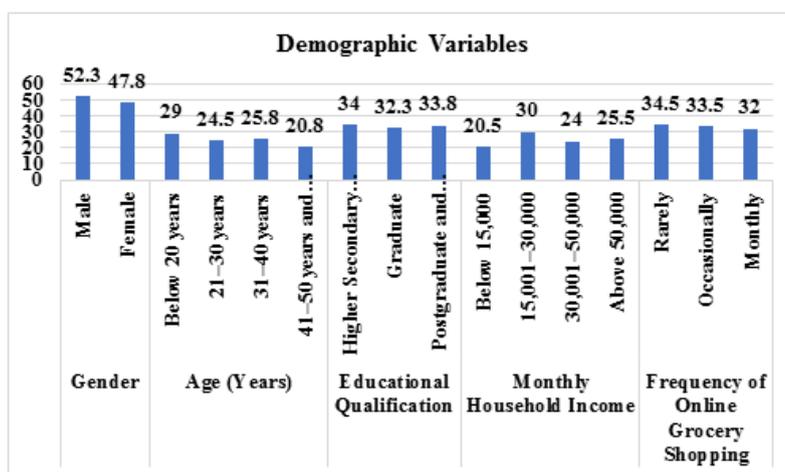
‘Demographic variables’

TABLE 1 Demographic Variables’

	‘Frequency (n)’	‘Percentage (%)’
‘Gender’		
‘Male’	209	52.3
‘Female’	191	47.8
‘Total’	400	100
‘Age (Years)’		

Below 20 years	116	29
'21-30 years''	98	24.5
'31-40 years''	103	25.8
'41-50 years' and above	83	20.8
Total	400	100
Educational Qualification		
Higher Secondary and below	136	34
Graduate	129	32.3
Postgraduate and above	135	33.8
Total	400	100
Monthly Household Income		
Below 15,000	82	20.5
15,001–30,000	120	30
30,001–50,000	96	24
Above 50,000	102	25.5
Total	400	100
Frequency of Online Grocery Shopping		
Rarely	138	34.5
Occasionally	134	33.5
Monthly	128	32
Total	400	100

The demographic information among the responders, as seen in Table 1, demonstrates a balanced representation across key socio-economic factors relevant to O2O food purchasing behaviour. The total number of samples selected was 400 respondents, with slightly more percentages of male respondents (52.3%) than female respondents (47.8%), showing that there is gender parity between those who use online grocery services. A high percentage of the samples selected were those who were below the age of 20 years (29%), followed by those who were between 31-40 years (25.8%), and those who were between 21-30 years (24.5%), showing that the younger generation is more active and uses online services more than others. The educational qualification of the respondents was diversified, with those who had higher secondary and lower educational qualifications making up 34%, those who were graduates making up 32.3%, and those who had postgraduates and higher educational qualifications making up 33.8%. Also, the respondents were evenly distributed across the various income groups, the predominant income category among responders is ₹15,001-30,000, comprising 30% of the total, followed by those who earned more than ₹50,000 (25.5%). This indicates that the population is of middle or higher income group. Regarding the behavior of the population towards O2O services such as JioMart, the majority of the respondents showed an infrequent behavior towards buying groceries online (34.5%), followed by 32% of the respondents who showed monthly behavior towards O2O services for buying groceries.



“Reliability and Validity”

“TABLE 2 Reliability And Validity”

‘Constructs’	‘Cronbach’s Alpha’	Composite Reliability	‘AVE’
Trust	0.88	0.837	0.703
Product Quality	0.892	0.824	0.665
Delivery timeliness	0.882	0.815	0.645
Continued Usage Intention	0.892	0.839	0.706
Customer satisfaction	0.893	0.831	0.682

Table 2 specifies that composite reliability as well as Cronbach's alpha, together with the mean variance extracted, are the metrics used to assess convergent reliability and validity. All research constructs had Cronbach's alpha values over 0.70, specifying their reliability. These values vary from 0.88 to 0.893. Good reliability for the research measures is shown by the composite reliability values for the study constructs, which range from 0.815 to 0.839. The findings indicate that the average variance retrieved for all study constructs varies from 0.645 to 0.706, significantly above the minimum needed value of 0.50, hence demonstrating the reliability of the measures to the research constructs. From the results obtained, it can be clearly seen that the measures for the dimensions of trust, product quality, timeliness, customer happiness, and usage intention are reliable and valid.

‘TABLE 3 Mean And Standard Deviation’

Constructs	‘Mean’	‘Std. Deviation’
Trust	3.5960	0.78315
Product Quality	3.6900	0.77925
Delivery timeliness	3.6608	0.75793
Continued Usage Intention	3.6520	0.84075
Customer satisfaction	3.7692	0.69061

Table 3 the descriptive statistics show that customers generally tend to perceive all the constructs of the O2O grocery shopping scenario at a moderate to high level. The highest mean value was recorded by customer satisfaction (M = 3.77, SD = 0.69), which reveals that customers generally tend to evaluate the overall customer experience favourably. A relatively high mean value was recorded by product quality (M = 3.69, SD = 0.78) and delivery timeliness (M = 3.66, SD = 0.76), which reveals that customers perceive the quality of grocery items and delivery services favourably. A satisfactory mean value was recorded by trust (M = 3.60, SD = 0.78), which reveals that customers possess a reasonable level of trust towards O2O grocery shopping platforms. The mean value recorded by continued usage intention was almost comparable to trust (M = 3.65, SD = 0.84), which reveals that customers possess a relatively positive inclination towards continued usage of O2O grocery shopping platforms. It can be revealed from the values of all the constructs that all the values fall within an acceptable range, which reveals that customers possess consistent perceptions towards all the constructs of the O2O grocery shopping scenario.

Hypothesis Implementation

H1: Trust is significantly positively influence on customer satisfaction in O2O grocery shopping.

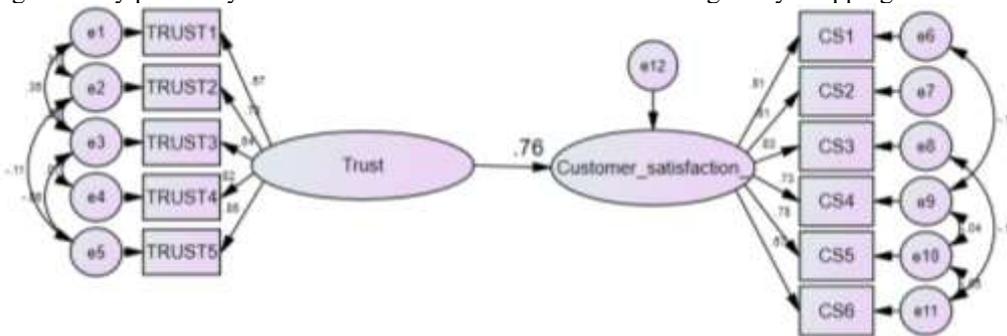


TABLE 4 Regression Weights: (Group Number 1 - Default Model)

‘Path’		‘Standard Estimate’	‘S.E.’	‘C.R.’	‘P’
Customer satisfaction	<--- Trust	0.76	0.048	13.453	***

The findings from the results in Table 4 shows that trust significantly and positively influences customer satisfaction for O2O grocery shopping services. This is because a higher standardized coefficient value, i.e., $\beta = 0.76$, indicates that trust significantly influences customer satisfaction, which confirms the significance of trust in influencing customer perceptions favourably. Further, a significant p-value ($p < 0.001$) and a high critical ratio indicate that trust significantly influences customer satisfaction, which is not random. The findings indicate that customer trust and satisfaction increase when customers perceive O2O grocery services as trustworthy and reliable, which confirms the significance of trust in influencing customer perceptions favourably.

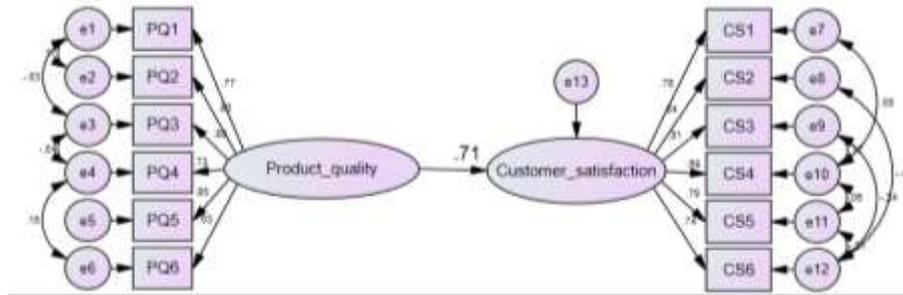
‘TABLE 5 Model Fit Summary’

‘CMIN’	‘DF’	‘CMIN/DF’	‘GFI’	‘NFI’	‘RFI’	‘IFI’	‘CFI’	‘RMR’	‘RMSEA’
72.091	33	2.185	.969	.972	.954	.985	.985	.032	.054

The data is satisfactorily to very well matched by the model. The modified chi-square value of 2.185 shows that the data is well-fitted by the model, falling within the acceptable range. As a result of exceeding the cutoff marks, the high values

of GFI (.969), NFI (.972), RFI (.954), IFI (.985), as well as CFI (.985) demonstrate an exceptional baseline and comparison model fit. The low RMR of .032 and RMSEA of .054 indicate minimal residuals and an excellent model fit to the population data. The findings have established the viability of the proposed model.

H2: Product quality is significantly positively influence on customer satisfaction in O2O grocery shopping.



‘TABLE 6 Regression Weights: (Group Number 1 - Default Model)’

‘Path’		‘Standard Estimate’	‘S.E.’	‘C.R.’	‘P’
Customer satisfaction	<--- Product quality	0.71	0.049	12.834	***

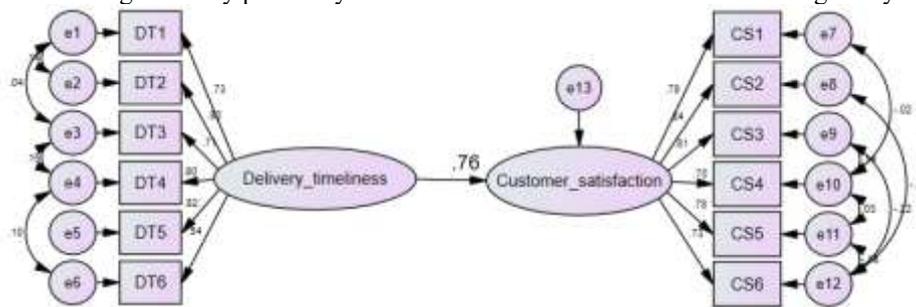
According to the findings in Table 6 of the structural path analysis, it was clear that in the O2O model of grocery shopping, product quality significantly and outstandingly affects consumer happiness. The perceived quality on the product significantly influences consumer satisfaction, as shown by the standardised coefficient ($\beta = 0.71$). The findings are accurate since the standard error is minimal (S.E. = 0.049). Nonetheless, the solidity of the connection is shown by the high critical ratio (C.R. = 12.834). The results obtained ($p < 0.001$) show strong empirical support for the proposed hypothesis. The results obtained substantiate the proposed hypothesis H2, which shows the significance of product quality as an important factor affecting customer happiness in the O2O model of grocery shopping.

‘TABLE 7 Model Fit Summary’

‘CMIN’	‘DF’	‘CMIN/DF’	‘GFI’	‘NFI’	‘RFI’	‘IFI’	‘CFI’	‘RMR’	‘RMSEA’
110.591	43	2.572	.958	.962	.941	.976	.976	.032	.063

The suggested model is adequately fitted according to the model fit indices. The chi-square value is 110.591 with 43 degrees of freedom. The chi-square value indicates a satisfactory level of model fit, since it is within the acceptable range. The model has a normalised chi-square value of 2.572. The NFI (0.962), RFI (0.941), IFI (0.976), as well as CFI (0.976) demonstrate that the model is well-fitted, resulting in a Goodness of Fit Index score of 0.958. The figures clearly exceed the threshold, so demonstrating that the proposed model is exemplary. Both the RMR of 0.032 and the RMSEA of 0.063 are below the critical threshold of 1.0, showing that the model exhibits a strong fit to the data. Relationships between the relevant variables may be better understood with the help of the suggested model.

H3: Delivery timeliness is significantly positively influence on customer satisfaction in O2O grocery shopping.



‘TABLE 8 Regression Weights: (Group Number 1 - Default Model)’

‘Path’		‘Standard Estimate’	‘S.E.’	‘C.R.’	‘P’
Customer satisfaction	<--- Delivery timeliness	0.76	0.051	13.248	***

Table 8 shows the route analysis findings; Research indicates that timely delivery substantially enhances consumer satisfaction in the purchase of O2O meals. Customer satisfaction is profoundly impacted by the punctuality of delivery, as shown by the standardised path coefficient ($\beta = 0.76$). With a standard error of just 0.051 and a critical ratio of 13.248

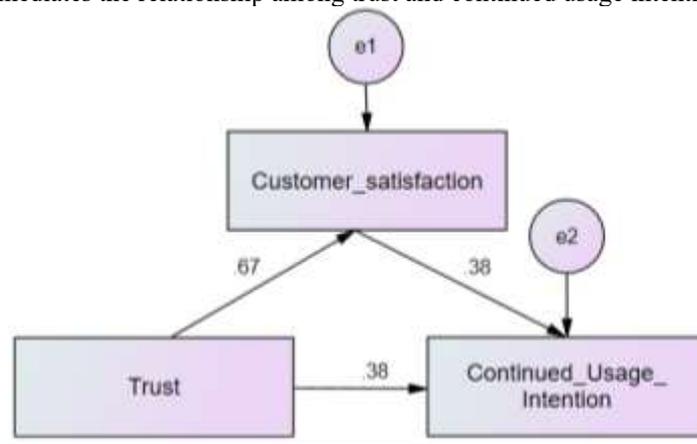
(C.R. = 13/48), the estimate is accurate, and the strength of the link is confirmed. The significant empirical support for H3, it highlights how delivery timing affects consumer satisfaction while purchasing O2O food, as shown for the level of significance ($p < 0.001$).

‘TABLE 9 Model Fit Summary’

‘CMIN’	‘DF’	‘CMIN/DF’	GFI	NFI	RFI	IFI	CFI	RMR	RMSEA
86.905	43	2.021	.965	.969	.952	.984	.984	.028	.051

The indexes of model fit clearly indicate that the model aligns well with the information. The chi-square test, with 43 degrees of freedom as well as an expected result of 86.905, the CMIN/DF result is 2.021, which is within the range of what is considered an acceptable match. Exceptional model-data fit is indicated by incremental fit indices, such as NFI (0.969), RFI (0.952), IFI (0.984), and CFI (0.984), which are all much higher than the prescribed levels. The goodness-of-fit index (GFI) is at 0.965. The model fits the data adequately and there is minimal approximation of the data by the model, as shown by the low residual values of RMR (0.028) as well as RMSEA (0.051). The model seems to be stable and suitable for hypothesis testing based on all of the model fit indicators.

H4: Customer satisfaction mediates the relationship among trust and continued usage intention in O2O grocery shopping.



‘TABLE 10 Regression Weights: (Group Number 1 - Default Model),’

‘Path’		‘Standard Estimate’	‘S.E.’	‘C.R.’	‘P’
Customer satisfaction	<--- Trust	0.666	0.033	17.814	***
Continued Usage Intention	<--- Trust	0.383	0.052	7.908	***
Continued Usage Intention	<--- Customer satisfaction	0.376	0.059	7.766	***

Among the mediators between trust and the desire to continue using O2O grocery shopping services, customer satisfaction emerged as the clear winner in the mediation study. A substantial relationship between trust and consumer contentment was found ($\beta = 0.666, p < 0.001$) in the study. What this means is that trust is crucial to the success of O2O grocery shopping services in ensuring client happiness. According to the findings, trust directly impacts the need of continuing to use ($\beta = 0.383, p < 0.001$). This proves that trust is directly related to the need of continuing to utilise O2O grocery buying services. Customer satisfaction significantly affects the willingness to continue using the service ($\beta = 0.376, p < 0.001$), according to the study. As a result, it's clear that happy customers are more likely to keep using O2O grocery shopping services. Customer satisfaction is a key mediator among trust and the desire to retain usage of O2O grocery shopping services, as shown by this. This indicates H4, which shows the significance of customer pleasure as an important mediator between trust and the intention to maintain the use of O2O groceries shopping services.

DISCUSSION

The findings of the study reveal the dynamics of the changes in the behavior of consumers as far as Online to Offline (O2O) grocery shopping is concerned, particularly in the context of the developing metropolitan cities of India. The findings reveal that the overall impression of O2O grocery platforms as perceived by consumers can be attributed to the combined influence of service-related factors such as

trust, product quality, and efficiency. This reveals that the requirements as a whole impact the overall satisfaction with O2O grocery platforms, implying that consumers of Tier-2 and Tier-3 cities are increasingly evaluating the digital grocery platforms based on the overall convenience and reliability of services, as well as the consistency of services. The positive impact of trust on O2O grocery platforms reveals the importance of the credibility of O2O platforms, which helps to

reduce the risks associated with online food purchases. The product's quality is a crucial factor, since it constitutes a significant portion of the grocery shopping experiences related to consumption. The dependability of the delivery was a crucial factor, since it fosters a sense of comfort and trustworthiness, which is one of the main drivers of the use of the O2O system. Furthermore, the mediating effect of customer satisfaction suggests that the customer experiences something positive, which contributes to the development of the intention to use the O2O system, suggesting the development of consumer behaviour in the digital space. The discourse suggests that the consumers in the smaller urban markets have moved beyond the exploratory stage of the use of the O2O system.

CONCLUSION

The study revealed that the service performance and service experience attributes of the O2O grocery buying platform were significantly increasing the acceptance rate of the platform in Tier 2 and Tier 3 metropolitan cities. It was revealed that trust acts as a core antecedent to mitigate the uncertainties, which leads to customer engagement towards the digital grocery buying systems. Apart from trust, the quality of the products and service reliability plays a crucial role in generating customer delight, which leads to customer loyalty towards the platform. It was revealed that customer satisfaction plays a vital role in generating customer behavioural intentions, which leads to the creation of a link between service perception and service usage, which indicates that the customer experience leads to the creation of continued buying habits. The implications of the study are a reinforcement of the essential truth that the development of markets within cities has evolved from being merely the consumers of digital retails to being contributors to the ecosystem of hybrid commerce. This is a reflection of the improvement of digital literacy, logistical understanding, and customer understanding of excellence in terms of convenience and service quality. From a managerial perspective, the implications of the research are that O2O grocery market operators should focus on trust-building strategies, quality of products, and delivery as a means of sustaining market competitiveness. The research contributes to a better understanding of customer behavior within underserved markets and reinforces the importance of experience-oriented strategies for the growth of O2O grocery markets.

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