

Platform Economy and the Food Service Sector: Economic Analysis of Food Delivery Apps in Kollam District, Kerala

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ABSTRACT

Food delivery applications such as Swiggy and Zomato have significantly altered food consumption patterns in urban and semi-urban areas like Kollam, Kerala. This study explores the economic implications of these platforms on three major stakeholder groups: consumers, delivery partners, and food establishments including restaurants, hotels, and eateries. The objectives include examining shifts in consumer spending and youth consumption behaviour, increased adoption of digital payments, economic benefits and constraints faced by delivery workers, effects on the revenue and operations of food businesses, and environmental concerns due to packaging-related plastic waste. Primary data was collected from 130 respondents using structured questionnaires and interviews. The study found a rise in impulse spending, especially among younger consumers, driven by ease of access, app-based discounts, and digital transactions. Digital payment systems like UPI and mobile wallets have become the dominant modes of payment, contributing to a cashless local economy. Delivery partners enjoy income flexibility but face long working hours, job insecurity, and limited social protection. Restaurants benefit from higher visibility and order volumes but are negatively affected by high commission fees and stiff competition, impacting profitability. Additionally, increased use of single-use plastic packaging has raised environmental concerns. The study concludes that food delivery platforms are reshaping Kollam's food economy, offering new opportunities while presenting economic and environmental challenges that warrant regulatory attention.

Keywords: Food Delivery Apps, Economic Impact, Consumer Behaviour

I. INTRODUCTION

Online food delivery platforms such as Swiggy and Zomato have rapidly transformed the food service industry in India. These platforms offer consumers unprecedented convenience, broader culinary choices, and user-friendly digital payment systems. In regions like Kollam District, Kerala, their popularity has grown steadily, especially among the youth, who are quick to adopt digital lifestyles and app-based consumption habits. For restaurants, these platforms provide increased visibility and order volumes, while for many delivery partners, they offer flexible gig-based employment opportunities. However, these conveniences come with significant trade-offs. Restaurants often face high commission charges, unstable demand, and pressure to maintain promotional pricing, which can reduce profitability. Delivery workers, many of whom are young and semi-skilled, operate without fixed contracts, social protection, or predictable earnings. Additionally, the growing reliance on single-use plastic packaging for deliveries contributes to environmental degradation, raising questions about the sustainability of this delivery model.

II. LITERATURE REVIEW

Several researchers have studied these developments. Agarwal and Singh [1] explored consumer satisfaction with food delivery apps in India, emphasizing the role of price sensitivity and app usability. Thomas and Joseph [2] examined the impact of food delivery platforms on restaurant businesses in Kerala, noting both increased revenue potential and operational strain. Narayanan and Ghosh [3] highlighted the environmental concerns associated with increased packaging waste, while Kumar and Suresh [4] analyzed the precarity faced by delivery partners in South India. Ray and Dey [5] discussed how digital literacy and cashless infrastructure influence user behavior in Tier-1 cities. Other studies have further broadened understanding. Venkataiah [6] examined stress factors in gig workers, especially Swiggy and Zomato delivery staff, showing the psychological implications of unstable working hours.



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Bhatia and Gupta [7] described the overall rise of food delivery apps in India and their disruption of traditional dining. Nair and Menon [8] focused on Kerala's digital transformation in food delivery and how local adoption patterns reflect broader economic shifts. Joseph and Kumar [9] explored how restaurants balance benefits and burdens of platform partnerships, while Balan and Suresh [10] studied Kerala's gig economy to contextualize delivery work within broader labour trends.

Despite this growing body of literature, most research remains focused on metro or large urban areas. There is a clear lack of district-level, empirical studies exploring the economic and social effects of food delivery platforms in Tier-2 and Tier-3 cities like Kollam.

III. PROBLEM STATEMENT

While food delivery apps are increasingly shaping consumer habits and service sector dynamics in India, their impact on local economies in semi-urban regions like Kollam remains underexplored. This study addresses this gap by analysing how food delivery platforms affect spending patterns, employment quality for delivery partners, restaurant revenues, and environmental sustainability in Kollam District, Kerala.

IV. OBJECTIVES OF THE STUDY

The primary objective of this study is to assess the economic impact of food delivery apps on consumers, delivery partners, and restaurants in Kollam District. Specifically, the study seeks to examine changes in consumer spending and youth consumption behaviour, analyse the shift towards digital payments, evaluate income generation and challenges for delivery partners and study the effects on restaurant revenue.

V. HYPOTHESIS

- H_0 : Food delivery apps do not affect consumer spending.
 H_1 : Food delivery apps significantly affect consumer spending.
- H_0 : There is no significant change in youth food consumption behaviour.
 H_1 : Food delivery apps have significantly changed youth food behaviour.
- H_0 : Food delivery apps do not impact digital payment usage.
 H_1 : Food delivery apps significantly increase digital payment usage.
- H_0 : Working with delivery apps does not impact delivery partner income.
 H_1 : Delivery apps have a significant impact on delivery partner income.
- H_0 : Food delivery apps do not influence restaurant revenue.
 H_1 : Food delivery apps significantly influence restaurant revenue

VI. METHODOLOGY

This study employed a descriptive research design to systematically examine the economic effects of food delivery applications on three key stakeholder groups in Kollam District: consumers, delivery partners, and restaurants. A total of 130 individuals participated in the investigation, comprising 100 members of the general public who regularly use food delivery apps, 15 active delivery partners associated with Swiggy or Zomato, and 15 representatives from partnered restaurants and eateries. Respondents were selected through a random sampling process to ensure that our findings would be representative of the broader population in Kollam. Data were gathered using a structured questionnaire designed specifically for this study, drawing from previous research on digital platforms, gig economy work, and consumer behavior. The questionnaire was divided into three sections: (1) General consumers, (2) Delivery partners, and (3) Restaurant owners or managers. Each section included a mix of closed-ended and Likert-scale questions to capture usage patterns, economic impact, and perceptions of sustainability. A pilot test was conducted with 10 respondents from each category to ensure clarity, and minor modifications were made based on feedback. The final version was distributed via Google Forms and WhatsApp to a randomly selected sample. The questionnaire's internal consistency was tested using Cronbach's alpha, which yielded a score of 0.82, indicating high reliability. Validity was

ensured through expert review by faculty members at the School of Management, Bishop Jerome Institute.

Once collected, the responses were analysed using both descriptive and inferential statistical techniques. Percentage analysis provided an overview of demographic distributions and basic usage trends, while t-tests were conducted to assess mean differences (e.g., changes in average monthly consumer spending and delivery partner income satisfaction). Chi-square tests were employed to examine associations between categorical variables, such as the relationship between youth age groups and shifts in consumption behaviour or between restaurant partnership status and reported revenue changes. Together, these tools allowed for a comprehensive understanding of how food delivery platforms are economically reshaping the local ecosystem in Kollam.

VII. DATA ANALYSIS

Table I
Consumer Behavior Related To Food Delivery Apps

Indicator	% of Respondents
Age group 18–25	63%
Use Swiggy	55.9%
Order 1x/week or more	29%
Monthly spending ₹500–₹1000	45%
Spending increased	55%
Use UPI/digital payments	44% much more; 31% slightly more
Prefer eco-friendly packaging	78%
Believe plastic waste increased	71%

The analysis of consumer behaviour is summarised in Table I. A majority of consumers were in the 18–25 age group (63%), with 55.9% using Swiggy. Nearly half of the respondents reported spending ₹500–₹1000 per month on food delivery, and 55% indicated that their overall food expenditure had increased after adopting these apps. Additionally, digital payments became the dominant mode of transaction, with 44% reporting much higher use and 31% reporting slightly higher use. A significant 71% believed that plastic waste had increased, although 78% preferred eco-friendly packaging.

Table II
Characteristics Of Delivery Partners

Indicator	% of Respondents
Age group 18–25	53.3%
Diploma education or higher	86.6%
Use Swiggy/Zomato	100%
Food delivery as main income source	66.6%
Satisfied with earnings	53.3%
Work 6+ hours/day	73.3%
Recommend this job	60%

Delivery partner characteristics are presented in Table II. The majority were young (53.3% aged 18–25) and well-educated, with 86.6% holding a diploma or higher. About two-thirds relied on food delivery as their primary income source, while 73.3% worked more than six hours per day. Although 53.3% expressed satisfaction with earnings, others highlighted instability and long hours.

Table III
Restaurant/Eatery Responses To Delivery Platforms

Indicator	% of Respondents
Partnered with Swiggy/Zomato	100%
Revenue increased	66.6%
Profit margin decreased due to commission	53.3%
Use eco-friendly packaging	60%
Reported increase in plastic waste	80%

Restaurant responses are summarised in Table III. While 66.6% reported increased revenue due to partnerships with Swiggy and Zomato, 53.3% noted a decline in profit margins due to high commission rates. Moreover, 80% observed a rise in plastic waste, despite 60% adopting eco-friendly packaging initiatives.

Hypothesis Testing Summary

The statistical tests conducted validated the study hypotheses across multiple dimensions. Consumer spending showed a significant increase with food delivery usage ($t = 3.56, p = 0.0005$). Youth consumption behaviour was also significantly affected ($\chi^2 = 12.42, p = 0.002$), indicating that younger users are more likely to modify their eating patterns due to app-based promotions and convenience. Digital payment adoption increased substantially ($t = 4.28, p = 0.0001$), confirming the role of food delivery apps in advancing cashless transactions. Delivery partners' income levels were found to be significantly influenced ($t = 2.84, p = 0.01$), reflecting both the opportunities and uncertainties of gig work. Finally, restaurant revenues were shown to have a statistically significant relationship with delivery platform partnerships ($\chi^2 = 10.32, p = 0.004$), though accompanied by reduced profit margins.

VIII. FINDINGS

A. General Public (n = 100)

Among consumers in Kollam, the convenience of app-based ordering is accompanied by noticeable behavioural and economic shifts. A substantial share reported higher monthly food expenditure after adopting food delivery apps, with many indicating that ordering has become a routine rather than an occasional choice. Health-related perceptions were mixed: more than half felt these platforms are nudging youth toward less healthy eating patterns, amplified by social media promotions and the ease of impulse ordering. Payment behaviour has clearly migrated toward cashless modes, with most respondents preferring UPI and mobile wallets for their transactions, reflecting a broader digital transition. Environmental concerns were prominent—most participants perceived an uptick in plastic and packaging waste, while simultaneously expressing support for eco-friendly alternatives and voicing doubts about durability during transport. In open comments, users appreciated convenience and choice but pointed to higher total costs (menu markups and delivery fees), occasional inconsistency in food quality, and perceived reductions in portion sizes compared to dine-in experiences, aligning with the patterns summarized in Table I.

B. Delivery Partners (n = 15)

Delivery partners reported a blended experience that combines income opportunities with operational strain. Slightly over half viewed platform work as a reliable and flexible income source, especially valuable for younger workers balancing other commitments. At the same time, a sizable minority conveyed dissatisfaction related to limited platform support, delayed settlements, and a general lack of recognition for their efforts. Sustainability preferences were evident—most supported eco-friendly packaging in principle—but they highlighted practical challenges such as leakage and package integrity that can damage delivery bags and slow service. Several respondents suggested that basic training, clearer operating guidelines, and greater professional respect could improve job quality and service standards. These perspectives complement the descriptive indicators presented in Table II.

C. Restaurants and Eateries (n = 15)

Restaurant representatives described a trade-off between heightened reach and margin pressure. Many acknowledged sales growth due to platform visibility and access to younger, digitally savvy customers; however, most also emphasized that high commission rates erode profitability and intensify the need for discounts to remain competitive. Some reported a decline in dine-in traffic, with implications for staffing and in-house service roles. Operational concerns included slower payment settlements, quality loss during transit for certain dishes, and the challenge of maintaining packaging standards at scale. While there was broad support for more sustainable packaging, many noted that current options are costlier and can be less reliable during longer deliveries. These business-side observations are consistent with the patterns summarized in Table III.

IX. DISCUSSION OF RESULTS

Consumers in Kollam reported higher spending and increased reliance on digital payments, particularly among the youth. While delivery partners benefitted from income opportunities and flexible hours, they faced instability, long working hours, and limited protections. Restaurants gained visibility and order volume but suffered reduced profit margins due to high commission fees. Plastic waste emerged as a pressing concern, with both consumers and businesses recognising the environmental burden of packaging.

X. IMPLICATIONS OF THE STUDY

The findings highlight several implications. From a policy perspective, there is a need to introduce fair commission limits and enforce eco-packaging regulations. The study demonstrates the contribution of food delivery apps to the growth of the digital economy in Kollam by encouraging widespread adoption of cashless transactions. From an employment perspective, gig work provides much-needed income but requires stronger labour protections. Finally, the sustainability aspect underscores the necessity of greener packaging practices to balance convenience with environmental responsibility.

XI. CONCLUSION

Food delivery apps have profoundly influenced the way people in Kollam District, Kerala engage with food services, bringing both opportunities and challenges. On the one hand, these platforms have made food more accessible and convenient for consumers, especially the younger population. They've played a key role in promoting digital payments, supporting the gig economy, and helping local eateries expand their customer base without significant physical expansion. However, these benefits come with notable concerns. The increased use of plastic packaging adds to environmental waste, especially in urban centres. Many delivery partners work under uncertain conditions with irregular incomes and limited job security, while restaurants often face financial strain due to high platform commissions and changing customer loyalty patterns driven by app-based promotions. For food delivery services to have a positive and lasting impact, it's important to find a balance between innovation and responsibility. Thoughtful policies, environmental guidelines, and fair platform practices can help ensure that the growth of this sector supports not only convenience and economic development but also sustainability and equity. As this industry continues to evolve, the focus should remain on creating a food delivery ecosystem that benefits all stakeholders—consumers, workers, and businesses alike—in Kollam District, Kerala and similar regions.

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