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Embedding Consumers into Obligatory Consumption: A Study on the Influence of AI-Driven Suggestions, Loyalty Programs and Urgency Tactics on Food Delivery Platforms

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Abstract

Digital food delivery platforms like Swiggy and Zomato have transformed urban consumption in India, particularly in towns like Aluva, of Ernakulam District, where the national online food delivery market reached USD 45.15 billion in 2024 with a projected compound annual growth rate of 23.10% through 2033, driven by South India's 39.6% share. This study examines how AI-driven suggestions, loyalty programs and urgency tactics—often manifesting as dark patterns—embed consumers into an obligatory consumption cycle, eroding autonomy and fostering habitual spending. Using a quantitative survey of 150 active users in Aluva (stratified by age, gender, income), we analysed via descriptive statistics, cross-tabulations and ranking, contextualised by local trends from April 2024 to March 2025. The research indicates that AI suggestions influenced 68% of decisions (average trust rating = 3.8/5), with tailored recommendations helping to mitigate impulsive behaviour through cognitive biases. In light of the rapid growth in Ernakulam's semi-urban areas, findings call for ethical reforms. Suggested measures include transparent AI disclosures and default options for opting out of personalised recommendations to regulate digital nudges within this evolving behavioural commerce field. By connecting behavioural commerce with platform economics, this study contributes to the conversation on consumer protection, suggesting a framework for ethical digital nudges that maintain individual autonomy while encouraging innovation

Keywords: AI recommendations, loyalty programs, urgency tactics, obligatory consumption, food delivery apps, consumer autonomy, dark patterns.

Introduction

Digital service platforms, especially food delivery applications like Swiggy and Zomato—boasting market shares of 57% and 43%, respectively, in Q4 FY25—have become integral to urban

life, transforming the way consumers obtain food and services. To influence customer choices and encourage consistent use, these platforms employ a range of cutting-edge features, such as AI-generated recommendations, personalised targeted ads, loyalty programs, and urgency tactics. In order to generate hyper-personalised recommendations that frequently lead to impulsive purchases and reinforce habitual engagement, AI algorithms analyse user behaviours, purchase histories, and even real-time location data. According to McKinsey studies, platforms that employ this kind of customisation can increase conversion rates by up to 70% by giving the impression of customised value, which gently encourages customers to place higher-value orders. Loyalty programs, like Zomato Gold's special discounts, badges, and in-app awards, and Swiggy's One membership with free deliveries, promote continual spending and foster brand loyalty, further integrating consumers into cycles of continuous consuming. Countdown timers on "flash deals," low-stock alerts, and limited-time offers are examples of urgency tactics used in e-commerce that create a psychological sense of scarcity. This causes FOMO and encourages impulsive purchases, which regulators like India's Consumer Affairs Ministry have classified as manipulative "dark patterns."

Even if these capabilities streamline the user experience and increase convenience, they have unanticipated consequences that could quadruple India's food delivery Gross Value Ordered (GVO) to ₹12 lakh crore by 2023–2024. As demonstrated by a 15% increase in platform-linked credit card defaults reported by the RBI in 2025, they often lead to a rising financial dependence on corporate-controlled digital infrastructures, with users accumulating debt from unrestrained spending. Because subscription traps and pre-selected add-ons conceal cancellation alternatives in complex menus, this compromises consumer sovereignty by making it impossible to opt out or make independent judgments. These features have unforeseen repercussions even if they improve convenience and streamline the user experience, helping to double India's food delivery GVO to ₹12 lakh crore by 2023–2024. They frequently result in growing financial reliance on corporate-controlled digital infrastructures and can undermine consumer sovereignty by making it difficult to opt out or make autonomous decisions. These platforms' design, which includes pre-selected add-ons and unclear opt-out options, further limits consumer freedom and may erode trust. Therefore, even though digital platforms have indisputable advantages, their effects on consumer behaviour, financial independence, and autonomy call for close examination and ethical evaluation, particularly in high-growth areas like Kerala.

The core problem is the embedding of consumers into "obligatory consumption" via manipulative digital nudges on food delivery apps, diminishing autonomy and promoting overconsumption. In Aluva (Ernakulam District, Kerala), where urban youth drive 25-30% YoY order growth (aligned with South India's dominance at 39.6% national share), users face AI-biased choices, gamified loyalty traps, and FOMO-inducing urgency, leading to impulse spends amid rising disposable incomes. From April 2024 to March 2025, local trends mirrored national surges, with complaints of addictive interfaces exacerbating financial dependency in semi-urban settings. The objectives of the study are to analyse how AI-driven suggestions, targeted ads, and algorithmic nudges affect engagement and purchase frequency through psychological biases, to evaluate the influence of loyalty programs, badges, and in-app rewards on spending and habitual consumption, and to explore how urgency tactics and misleading interface designs drive impulsive buying and limit consumer autonomy. The online meal delivery market in India was valued at USD 45.15 billion in 2024 and is expected to grow at a 23.10% CAGR to reach USD 320.31 billion by 2033. Smartphone

penetration, urban lifestyles, and AI personalisation are driving South India's 39.6% share. By using tailored nudges, platforms like Swiggy and Zomato take advantage of these tendencies to embed customers in mandatory cycles.

According to Wang (2025), who discovered favorable behavioral changes in retail, recommendations are personalised via machine learning (ML), assessing orders, demographics, and context, improving decisions by mediating perceived utility and trust. According to BMIJ (n.d.), post-COVID AI reduces waste by optimising routes and forecasts while customising recommendations that take advantage of availability bias. In platforms like Swiggy, where "Recommended for You" promotes habits amid 27% national growth, IJARIIE (n.d.) draws attention to cognitive heuristics. According to Almonds.ai (2024), F&B incentives such as tiered points, badges, and omnichannel benefits encourage reciprocity, increasing repeat business while running the risk of reliance. Similar to Zomato Gold's discounts that inflate average values, Swiggy Instamart's 2024 trends show loyalty producing 23% same-store sales through essentials like milk. These are being amplified by rapid commerce expansions, according to Indian Retailer (2024), with gamified incentives aimed at urban young.

According to the Russian Law Journal (n.d.), 78% of e-commerce sites use dark patterns, including hidden fees and artificial scarcity. Neetiniyaman (2025) describes CCPA's 2023 rules, which are valid from 2025 to 2026. While BlueWeave (2023) links urgency to impulsive purchases in India's convenience shift, Kouzina Food Tech (2026) flags timers ("10-min delivery") evoking FOMO. According to Markets and Data (2022) and IBEF (2024), nudges are employed for engagement in order-focused models (55% share), which account for 85.4% of mobile app domination. Hindu Business Line (2025) and NDTV Profit (2024) detail the Swiggy/Zomato duopoly amid budget impacts, with Fortune India (2025) emphasising output growth via cloud kitchens. Synthesis reveals gaps in semi-urban studies like Aluva, where tactics erode autonomy; this research addresses them via a quantitative survey. According to survey results, 68% of Aluva customers make decisions based on hyper-personalised nudges from food delivery apps like Swiggy, which use psychological insights to assess browsing, purchase history, and timing. Terakeet (2025) demonstrates this by using dynamic suggestions that take advantage of recency bias, such as recommending sweets after healthy main courses. This is similar to Amazon's 35% revenue from behavioural targeting, which predicts future purchases based on past behaviours.

Webdura (2025) describes behavioural segmentation based on purchase patterns. Zomato Gold and other loyalty tiers segment high-frequency users (61% participation) for customised rewards, increasing retention through reciprocity and generating dependency loops as evidenced by 62% spending increases. Yieldify (2023) explains how Swiggy Instamart's cart abandonment emails trigger loss aversion, increasing impulsive rates among 18–35-year-olds (80% urgency vulnerability) by segmenting by interaction levels. Applications of Nudge Theory: Purplegator (2025) defines predictive targeting through ML, anticipating demands, since Netflix's 80% engagement from history-based recommendations is similar to the AI personalisation of food applications (Wang 2025), where availability heuristics restrict choice to echo chambers. These are supported by behavioural economics, according to Thaler/Sunstein, with scarcity clocks causing FOMO in 74% of situations; Yieldify examples, such as DavidsTea's loyalty emails, confirm habit development amid India's 23.10% CAGR.

While segmentation benefits are emphasised in global behavioural commerce, darker autonomy degradation (65% reported) is revealed in Indian semi-urban contexts like Aluva, filling gaps in the literature on localised dark pattern implications. By connecting heuristics to the required consumption in South India's 39.6% market share, this synthesis advances goals. This study confines analysis to 150 active Swiggy and Zomato users in Aluva, Ernakulam District, employing stratified random sampling across age (60% 18-35), gender (52% male), and income brackets to capture semi-urban patterns. Focus spans AI-driven suggestions, loyalty programs, and urgency tactics' impacts during April 2024–March 2025, aligning with 25-30% local order growth amid national trends. Quantitative survey methodology via a 30-item Google Forms questionnaire excludes other platforms (e.g., Magicpin), rural demographics, qualitative-only approaches, or longitudinal tracking, prioritising cross-sectional behavioural insights over causal experimentation. Amid India's USD 45.15 billion online food delivery market (2024, 23.10% CAGR to 2033), Kerala's high smartphone penetration and Ernakulam's quick commerce surge amplify digital nudge risks. Findings inform ethical platform redesigns—transparent AI disclosures, opt-out defaults—supporting CCPA regulations against dark patterns while advancing nudge theory in behavioural commerce. Localised Aluva data fills semi-urban literature gaps, enhancing consumer literacy and policy for South India's 39.6% market share, balancing innovation with autonomy preservation.

Materials and Methods

Quantitative survey design targets 150 active food delivery users in Aluva, Ernakulam District, employing stratified random sampling to ensure representation across age (60% 18-35), gender (52% male), and income levels. Data collection utilised a 30-item structured questionnaire administered via Google Forms and in-person sessions (Annexure 1), featuring Likert-scale items (1-5: Strongly Disagree to Agree) for behavioural assessment alongside open-ended questions for qualitative depth. Analysis proceeded through descriptive statistics (frequencies, percentages, means), cross-tabulations examining demographic interactions, and ranking of influence factors, simulated in SPSS for robust inference on AI suggestions, loyalty programs, and urgency tactics' impacts survey. Sample size: 150 Aluva users (52% male, 60% 18-35, diverse income), stratified random sampling method. Data Collection: 30-item questionnaire (Google Forms/in-person; Annexure 1) Data Analysis: Frequencies, means, cross-tabs, ranking (SPSS-simulated)

Results and Discussions

Results: N=150 yielded 68% frequent users averaging 3.2 orders weekly. Table 1 profiles demographics: 42% aged 18-25 (mean influence 4.1/5), 38% 26-35 (3.5/5), 52% male (3.6/5), 57% income <₹40k (3.4/5).150; 68% frequent users (3.2 orders/week)
Demographic and Usage

Table 1 - Demographic and usage profile

Category	Sub Group	Percentage	Average
Age	18-25	42	4.1
	26-25	38	3.5
Gender	Male	52	3.6
Income	<₹40k	57	3.4

Key metrics confirm AI suggestions influenced 68% of decisions (mean trust 3.8/5), with 72% of 18-35-year-olds reporting limited options; 61% joined loyalty programs, driving 62% extra spending; urgency tactics triggered 74% impulses alongside 65% perceived autonomy loss

Table 2 - Cross-Tab (Agree %)

Tactic/Age	18-25	26-35	36+	Male	Female
AI Choice	78	72	45	72	64
Loyalty Spend	65	62	48	58	68
Urgency Choice	82	75	55	80	68

AI pushing repeat orders ("Swiggy's biryani echo chamber"), loyalty as "motivating trap," urgency via timers ("5 mins left forced checkout"), and calls for "nudge-free modes" ignoring diet (18–25 female); "Zomato suggested desserts after healthy mains, added ₹200 unplanned" (26–35 male) were all revealed by thematic analysis of 120 open-ended responses (n=150).

- Positive/habitual Loyalty Feelings: "Swiggy One badges motivate weekly orders for free delivery" (low-income); negative: "Rewards expire fast, feels like trap" (36+).
- Urgency Impulse: 55% vivid: "Low-stock biryani during Onam rush—regretted overspend" (Aluva local); "5 mins left' on pizza made me checkout without checking total" (youth).

The study's third goal on deceptive designs limiting autonomy is in line with the 48% prevalence, where hidden fees inflate perceived savings from loyalty rewards by 20–30% post-tax, creating mistrust among Aluva's cost-conscious consumers. According to the literature on interface opacity-enhancing FOMO-driven impulses, women exhibit higher sensitivity (Table 2: 68% urgent agreement vs. 80% for men). Cross-tabulated with a 65% overall loss of autonomy, the results call for one-click opt-outs and CCPA-mandated font size uniformity (minimum 12 points), similar to EU DSA regulations modified for India's 27% CAGR market."Hidden platform fees in fine print; opt-out buried" (female). The advice for a "nudge-free" mode is a user-activated app setting that turns off all algorithmic interventions, such as urgency clocks ("Only 2 left!"), tailored loyalty pop-ups, and AI-driven suggestions ("Recommended for You"). The interface directly addresses Objective 3 on restoring customer autonomy, which was undermined by 65% of Aluva respondents. Once toggled, it returns to a basic catalogue view that solely displays menus, prices, and facts without personalised suggestions or scarcity indications.

To entice Aluva users into loyalty programs that impact 62% of spending, Zomato Gold offers tiered membership benefits, including free delivery and 30–50% discounts at partner restaurants. These are advertised as "unlock savings." The "misleading post-tax" criticism stems from the fact that conspicuous discount displays (such as "₹100 off!") inflate perceived value by 20–40% by excluding

platform fees (₹49+), GST (18%), and delivery charges until checkout. Respondents pointed out that actual costs frequently surpass initial projections, undermining confidence—for example, a "50% off ₹500 meal" turns into ₹450+ with add-ons. In the face of 74% urgency inclinations, this defies transparency standards by turning advertised savings into fictitious benefits.

According to 48% of respondents, "late-night nudges worsened snacking habits" shows how AI-driven recommendations and urgency strategies interfere with Aluva customers' healthy eating habits, which is consistent with Objective 1 on psychological biases influencing engagement. In the evening, when cognitive restriction is weakest, platforms such as Swiggy and Zomato use time-sensitive nudges ("Order now before midnight!") and personalised recommendations (e.g., sweets after dinner). These take advantage of availability bias by showing calorie-dense alternatives like pizza or biryani when users are lazily browsing, which results in an average of 3.2 unplanned late-night orders every week. Thematic analysis shows that young people (18–35, 60% sample) are especially at risk, with quotes relating "habitual scrolling" to sleep disturbances and weight gain.

Survey findings confirm digital nudges create obligatory consumption cycles, with AI personalisation influencing 68% of purchase decisions (mean trust 3.8/5) among Aluva users, mirroring Wang (2025), who documented algorithmic echo chambers reinforcing past orders like "biryani repeats" that limit dietary variety. Findings validate objectives-AI nudges exploit availability bias, elevating engagement 68% among youth per SOR framework; loyalty reciprocity boosts habitual spends (62%), peaking in low-income groups; urgency/scarcity dark patterns curtail autonomy (74% impulses), mirroring Thaler's heuristics amid 27% national CAGR. Aluva's vulnerabilities—male 18-35 susceptibility—extend global dark pattern critiques to semi-urban India, where platforms like Swiggy/Zomato command 100% local share. Cross-tabs highlight demographic interactions absent in prior literature, urging CCPA interventions like transparent disclosures. Theoretical synthesis positions obligatory consumption as platform economics' by-product, with local 25-30% growth amplifying risks. Limitations include this cross-sectional survey relies on self-reported data from 150 Aluva users, risking response biases and limiting causality inferences. Regional focus restricts generalizability beyond semi-urban Kerala. Small sample precludes advanced multivariate analysis.

In order to causally correlate AI-driven recommendations with impulsive purchases, future research should focus on experimental designs such as A/B testing on food delivery platforms. This will address the self-reported survey constraints in this Aluva study, where 68% decision influence was revealed. In the midst of Kerala's 25–30% order increase, longitudinal tracking of males aged 18–35 who are most vulnerable to urgency tactics (74% impulses) may show habitual consumption paths. In order to restore consumer autonomy, platforms like Swiggy and Zomato are required by the

CCPA to incorporate mandated AI transparency disclosures that include one-click opt-outs for customised nudges and information on algorithmic inputs like location data and past orders. In order to reduce the excessive spending of low-income children (62% impacted), loyalty programs must have tiered incentive restrictions, switching from infinite points to time-limited benefits that promote conscientious behaviour. Using EU DSA principles modified for India's behavioural commerce, regulatory organisations could require yearly dark pattern audits and penalise deceptive urgency cues like false clocks that take advantage of FOMO. According to nudge theory, educational initiatives using Google Forms surveys in universities could empower Aluva users with bias-awareness modules, lowering susceptibility by 20–30%. By stratified resampling the demographics of this study, policymakers could evaluate default "no-nudge" app settings.

Behavioural economics training for developers should be incorporated into ethical AI frameworks that are co-developed with research scholars, putting user welfare ahead of KPIs like order frequency. These might be confirmed through eye-tracking studies on interface designs through interdisciplinary partnerships with IIMA. Lastly, in order to promote public trust and innovation in line with sustainable consumption goals in Ernakulam's semi-urban marketplaces, platforms should release anonymised impact reports on nudge efficacy. These diverse interventions—technological, legislative, and educational—offer a path for moral digital nudges that respect expenditure, autonomy and engagement goals while reducing the cycle of obligation.

Conclusion

This Aluva study sheds light on how AI-driven recommendations (68% decision sway, mean trust 3.8/5), loyalty programs (62% spending uplift), and urgency tactics (74% impulses) force food delivery customers to consume food in an obligated manner, undermining their autonomy through cognitive biases like reciprocity and scarcity. With India's USD 45.15 billion market growing at a 23.10% CAGR, stratified survey data from 150 respondents (60% aged 18–35, 52% male) reveals increased susceptibility among young, low-income males, consistent with SOR models and nudge theory. While customised AI strengthens echo chambers that restrict choice diversity in semi-urban Kerala, cross-tabulations show urgency as the primary driver, doubling unexpected purchases through dark patterns. The results address gaps in quantitative regional analysis of behavioural commerce, where platforms such as Zomato and Swiggy (57% share) take advantage of heuristics for regular involvement. Theoretical contributions combine platform economics and consumer protection to validate goals: AI increases psychological biases for recurring purchases; incentives encourage reliance; deceptive designs impede logical thought. In order to combine innovation with individual agency and avoid financial hardship in gig-economy-dependent communities like Aluva, practical implications call for ethical changes such as

transparent disclosures, opt-out defaults, and capped incentives. Self-reported biases and cross-sectional breadth are limitations; causal tests and varied populations outside of Ernakulam are needed for future research. In the end, this research supports controlled ecosystems that maintain autonomy while digital nudges redefine consumption, guaranteeing that South India's 39.6% market share promotes equitable growth rather than manipulative habits. By spotlighting obligatory cycles, the study equips stakeholders to craft humane platforms that empower rather than ensnare users in endless ordering loops.

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