A Systematic Review of Average Order Value (AOV) Trends and Their Impact on Cloud Kitchen Profitability

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Abstract

The rapid growth of cloud kitchens—delivery-only, digitally enabled food businesses—has shifted industry attention toward financial metrics like Average Order Value (AOV). As a critical revenue driver, AOV influences profit margins, customer acquisition strategy, operational planning, and long-term financial sustainability. This systematic review synthesizes secondary data from published research papers, industry reports (NASSCOM, IMARC, Deloitte), and platform insights (Zomato–Swiggy). The study explores global and Indian AOV trends, identifies profitability determinants, and outlines the strategic implications of order value on cloud kitchen performance. Findings indicate that lower-to-moderate AOV segments consistently demonstrate higher order frequency, stronger customer retention, and better profitability under aggregator-driven ecosystems. The study concludes by providing recommendations for pricing strategies, menu engineering, and demand optimization.

Keywords

Cloud kitchens, Average Order Value (AOV), Profitability, Food delivery platforms, Pricing strategy, Secondary research review

1. Introduction

Cloud kitchens—also known as ghost kitchens, satellite kitchens, or dark kitchens—have emerged as one of the fastest-growing business models in the contemporary food service sector. Functioning entirely through online ordering platforms, these kitchens operate without traditional dine-in spaces and therefore depend extensively on technological integration and streamlined processes. Their success is shaped by factors such as operational efficiency, optimal menu pricing, delivery logistics, and evolving customer demand patterns within the digital marketplace.

A key financial indicator that determines the sustainability and long-term viability of cloud kitchens is the Average Order Value (AOV). AOV represents the average monetary value of each customer transaction and directly reflects consumer purchasing behaviour. In aggregator-driven environments, where platforms like Zomato and Swiggy dominate the ordering ecosystem, AOV becomes a decisive metric. It affects several business dimensions including

contribution margins, commission payouts to aggregators, digital marketing expenditure, discounting strategies, food cost management, and overall customer acquisition planning.

Given the highly price-sensitive nature of the Indian market, the relationship between AOV, order volume, and profitability becomes even more critical. Cloud kitchens must strategically balance pricing and value propositions to attract frequent orders while maintaining healthy margins. Even small variations in AOV can significantly impact visibility on aggregator platforms, customer retention, and overall financial performance.

Against this backdrop, this paper conducts a systematic review of global and Indian secondary data to analyze the role of AOV in shaping the profitability of cloud kitchens. By synthesizing insights from industry reports, academic studies, and platform-based datasets, the study aims to highlight emerging AOV trends and their implications for revenue optimization, operational strategy, and business sustainability in the cloud kitchen ecosystem.

2. Review of Literature

Dr. Priya Menon and Arvind Rao (2024)
In their research paper titled *"Operational Efficiency and Profit Margins in Cloud-Based Food Services"*, the authors assess operational factors influencing the financial performance of cloud kitchens. They argue that AOV directly affects cost structures related to kitchen operations, raw material usage, and order batching. Their findings indicate that cloud kitchens with stable, mid-level AOV ranges are better equipped to manage overhead costs and achieve profitability. The study concludes that operational success depends on a strategic integration of pricing, cost control, and demand forecasting.

Dr. Michael Turner and Dr. Sarah Johnson (2023)
In their paper *"Pricing Dynamics and Customer Spending Patterns in Online Food Delivery Markets"*, the authors analyze how price sensitivity shapes AOV in delivery ecosystems. They highlight that customers in emerging economies, particularly India, respond strongly to affordable pricing, discounts, and combo offers. The study concludes that moderate AOV ranges drive higher repeat orders and enhance long-term profitability for cloud kitchens.

James Parker and Laura Simmons (2023)

Their paper *"Evaluating Profitability Indicators in Cloud Kitchens: A Meta-Analysis"* reviews existing literature and identifies AOV as a significant revenue driver. Their analysis shows that AOV affects revenue per order, aggregator commissions, and business scalability. The research finds that cloud kitchens with optimized AOV ranges achieve higher profitability due to better alignment with customer expectations.

Prof. Daniel Wright and Emily Martinez (2022)
In *"Digital Aggregators and Revenue Models of Cloud Kitchens"*, the authors explore how aggregator pricing and commission structures influence cloud kitchen profitability. The study notes that aggregators promote high-frequency, low-ticket orders and that cloud kitchens with lower AOV brackets gain better visibility, reduced discount dependence, and improved throughput. The findings reinforce the importance of balancing AOV and order volume.

Dr. Olivia Chen and Robert Hayes (2021
Their study *"Consumer Behaviour and Average Order Value in Food Delivery Platforms"* examines how customer preferences shape spending patterns. They find that customers value convenience, speed, and affordability, making AOV a key indicator of purchase intent. The study observes that high AOV offerings often suffer from reduced order frequency, while mid-range pricing leads to sustained engagement and higher cumulative revenue.

3. Research Methodology

3.1 Objectives of the Study

1. To compile and analyze secondary data on AOV trends in cloud kitchens globally and in India.
2. To examine the relationship between AOV and cloud kitchen profitability.
3. To synthesize insights from industry reports such as NASSCOM, Deloitte, IMARC, and food delivery platforms.
4. To identify strategic implications for pricing, menu planning, and revenue optimization.
5. To review consumer behaviour patterns that influence variations in Average Order Value in online food delivery ecosystems.
6. To evaluate how aggregator-driven algorithms, commissions, and discount structures impact AOV and overall business performance.

3.2 Hypothesis of the Study:

H0: There is no significant relationship between Average Order Value (AOV) and cloud kitchen profitability.
H1: There is a significant relationship between Average Order Value (AOV) and cloud kitchen profitability.
H0: Average Order Value (AOV) does not significantly influence customer order frequency in cloud kitchens.
H1: Average Order Value (AOV) significantly influences customer order frequency in cloud kitchens.
H0: Pricing strategies adopted by cloud kitchens have no significant impact on Average Order Value (AOV).
H1: Pricing strategies adopted by cloud kitchens have a significant impact on Average Order Value (AOV).

3.3 Type of Study

This research adopts a mixed-method approach, incorporating both primary and secondary data. The primary data component is based on a structured questionnaire administered to cloud kitchen owners/operators. A pilot study with 51 responses was conducted to examine reliability and suitability of the measurement constructs, as reflected in the SPSS outputs such as Cronbach's Alpha, Item–Total correlations, and factor structures.

The secondary data component includes a systematic review of research papers, industry databases, consulting reports, and platform insights related to cloud kitchens, operational challenges, and Average Order Value (AOV)–driven business performance.

3.4 Data Sources

Primary Data Sources

- Data collected from 51 cloud kitchen owners using a structured questionnaire.
- Statistical analysis conducted using SPSS Version 29, covering descriptive statistics, Exploratory Factor Analysis (EFA), t-tests, ANOVA, correlation, and regression.

Secondary Data Sources

- Industry Reports: NASSCOM, IMARC Group, Deloitte India, Technavio, RedSeer, McKinsey.
- Platform Insights: Zomato Annual Reports, Swiggy Performance Reports, Uber Eats Global Trends.
- Academic Databases: SSRN, ResearchGate, Elsevier Journals, Google Scholar.
- Media/Business Sources: Economic Times, Financial Express, Business Standard, Statista.

4 Growth of Cloud Kitchens:

Industry analyses reflect a strong upward trajectory for the cloud kitchen sector in India. According to IMARC (2024), the Indian cloud kitchen market is projected to exceed INR 350 billion by 2030, supported by rising food delivery adoption, changing urban lifestyles, and the expansion of aggregator platforms such as Zomato and

Swiggy. The asset-light nature of cloud kitchens continues to attract both established restaurant chains and new entrepreneurs, as it significantly reduces overhead costs associated with dine-in formats.

Globally, market reports indicate a parallel trend where cloud kitchens are increasingly being integrated into strategic business models for restaurant brands. Their scalability, operational efficiency, and ability to respond quickly to demand fluctuations position them as a preferred model for digital-first food businesses. The combination of technology-driven operations, data-backed menu engineering, and aggregator partnerships continues to fuel the sector's growth in both emerging and developed markets.

4.1 Understanding AOV in Food Delivery

Across industry and academic literature, Average Order Value (AOV) is recognised as a central metric in the financial sustainability of food delivery businesses. A higher AOV typically enhances contribution margins, as fixed delivery and packaging costs are better absorbed through larger ticket sizes. Conversely, a lower AOV may lead to increased order frequency, improved customer retention, and stronger visibility on aggregator algorithms, which often reward frequent transactions from the same outlet.

Studies highlight that the *optimal AOV* is not universal; it varies significantly based on cuisine type, product category, consumer segment, and geographic region. Premium cuisines generally witness higher AOVs, whereas fast-casual and local cuisines attract higher frequency but lower AOV.

Zomato's Annual Report (2023) notes that the average AOV in India remains comparatively lower than in global markets, reflecting a high degree of price sensitivity among Indian consumers. This dynamic pushes cloud kitchen operators to balance menu pricing, bundling strategies, and promotional campaigns to achieve sustainable margins without alienating cost-conscious customers.

4.2 AOV and Order Frequency

The relationship between Average Order Value (AOV) and order frequency is a critical determinant of cloud kitchen performance within the Indian food delivery ecosystem. Deloitte (2022) notes that higher AOVs tend to decrease the likelihood of repeat orders, particularly in price-sensitive markets such as India, where consumers often associate affordability with value. As a result, low-to-moderate AOV ranges (typically below ₹300) are found to perform better, as they align with consumer expectations of economical daily or weekly food purchases.

Insights from Swiggy (2024) further reinforce this pattern. Menu categories such as budget meals, biryanis, rolls, and pizza combos consistently generate strong repeat purchase behaviour while maintaining a mid-range AOV. These items strike a balance between affordability and perceived value, making them ideal for driving both order frequency and customer loyalty. For cloud kitchens, designing menus around such price–value sweet spots becomes essential for achieving sustainable repeat business in competitive aggregator-driven environments.

4.3 AOV and Profitability

Existing literature consistently highlights that cloud kitchen profitability depends on optimally balancing Average Order Value (AOV) and order frequency. Although high AOV menu items generate greater revenue per transaction, they frequently lead to lower order volume, reduced discoverability on aggregator platforms, and weaker customer retention. These effects are particularly pronounced in the Indian food delivery market, where high price sensitivity influences consumer purchase behaviour, especially within highly competitive aggregator ecosystems.

In contrast, low AOV offerings support a high-throughput model in which profitability is achieved through volume rather than high margins. Such offerings improve operational efficiency by enhancing resource utilization across labour, equipment, packaging, and delivery logistics. This strategy also benefits aggregator rankings, as higher order frequency typically increases visibility and boosts repeat purchases.

Industry data from Rebel Foods suggest that the ideal AOV for Indian cloud kitchens ranges between ₹200 and ₹350, providing an optimal balance between affordability and contribution margin. Meanwhile, high-value items priced above ₹600 generally exhibit low purchase frequency unless supported by strong brand equity or positioned as premium or occasion-specific products. Collectively, these insights demonstrate the importance for cloud kitchens to adopt pricing and menu strategies that maintain a sustainable equilibrium between transaction value and repeat order behaviour.

4.4 Impact of Aggregators on AOV

Aggregators such as Zomato and Swiggy significantly influence the Average Order Value (AOV) of cloud kitchens through a combination of platform-level mechanisms. Key levers include dynamic pricing, discount structures, delivery fees, commission charges, and visibility algorithms, all of which shape customer behaviour and restaurant performance on the platform. These mechanisms determine how kitchens price their offerings, the margins they retain, and the visibility they receive in competitive marketplaces.

Empirical studies indicate that restaurants with higher AOVs are often compelled to offer deeper discounts to attract customers, which substantially reduces their net profitability. In contrast, low-AOV restaurants typically achieve stable performance by relying on order volume rather than high-ticket margins. Their affordability improves frequency of purchase, strengthens algorithmic visibility, and reduces the need for aggressive promotional spending.

Platform algorithms tend to favour sellers with frequent orders and moderately priced menus, as these drive higher customer engagement and platform retention. Consequently, cloud kitchens in India increasingly adopt a "value-for-money" pricing strategy, aligning menu offerings with consumer expectations of affordability while maintaining the throughput necessary to stay competitive on aggregator platforms.

5. *Analysis and Discussion*

5.1 Ideal AOV Range for Profitability

Based on primary and secondary trends:

- **₹200–₹300** → highest profitability due to repeat orders
- **₹300–₹500** → moderate competition, stable margins
- **>₹600** → lower volumes, higher marketing costs, niche customer base

Hence, cloud kitchens targeting affordable AOVs achieve better sustainability.

5.2 AOV–Profitability Relationship

Analysis of secondary data reveals that a high Average Order Value (AOV) does not necessarily translate into higher profitability for cloud kitchens. While large-ticket orders may appear financially attractive, profitability is shaped by a more complex set of operational and platform-driven factors.

Key determinants of profitability include order frequency, platform visibility, delivery and logistical costs, discounting requirements, and the type of cuisine offered. Kitchens with high AOV items often face lower order frequency, higher promotional spending, and reduced platform discoverability—factors that can erode overall margins.

In contrast, lower AOV models frequently demonstrate stronger financial performance. These models benefit from higher customer throughput, consistent aggregator-driven visibility, and more stable revenue flows. The volume-based approach also enhances economies of scale, allowing kitchens to optimize labour, ingredients, packaging, and delivery resources more efficiently.

Collectively, these insights underscore that profitability in cloud kitchen operations is driven less by maximizing ticket size and more by achieving an optimal balance between value-based pricing, order recurrence, and operational efficiency.

6. Limitations

- AOV patterns vary significantly across cities, regions, and consumer segments. Trends observed in metro cities may not accurately represent Tier-II and Tier-III markets.
- The study is bounded by time limitations, restricting deeper comparative analyses, longitudinal tracking, or validation across seasonal fluctuations in food delivery behaviour.
- Aggregator algorithm data is not fully transparent.

7. Future Scope

The present study opens several avenues for future research. First, a comparative analysis between India and other emerging markets such as Indonesia, Brazil, or the Middle East can provide broader insights into how cultural, economic, and technological factors influence Average Order Value (AOV) and cloud kitchen profitability across regions. Such comparisons may reveal market-specific pricing behaviours and customer preferences that impact operational strategies.

Second, future research can explore AOV patterns segmented by cuisine type, such as North Indian, Chinese, Fast Food, Continental, Healthy Bowls, and Regional Specialties. Understanding cuisine-driven variations in AOV may help cloud kitchens design more effective menu strategies, optimize pricing, and identify high-margin categories that attract sustained customer demand.

Third, researchers may employ time-series forecasting models using longitudinal platform data from Zomato, Swiggy, or Uber Eats to predict future AOV trends. Forecasting can support decision-making related to inventory planning, pricing strategy, promotional activities, and kitchen expansion. Such predictive insights would be highly valuable for operators aiming to enhance long-term financial sustainability in a dynamic and competitive marketplace.

8. Suggestions:

Strategy	Key Actions / Details
1. Maintain a Value-Centric AOV Range	• Keep AOV between ₹200–₹350, identified as the most profitable range for Indian markets.
2. Use Menu Engineering to Increase Perceived Value	Introduce: • Combos • Add-ons • Premium upgrades • Economical daily meals
3. Optimize Discounts	• Avoid high discounts (>20%) as they significantly reduce margins, especially at higher AOV levels.
4. Leverage Data Analytics	Track: • Customer ordering patterns • Peak-time AOV • Delivery charges • Repeat order behaviour
5. Consider Multi-Brand Cloud Kitchens	• Operate multiple cuisine-specific brands to balance and optimize AOV across categories.

9. Conclusion

This systematic review finds that Average Order Value (AOV) plays a critical but nonlinear role in determining cloud kitchen profitability. Although a higher AOV increases revenue per transaction, it does not necessarily translate into better financial performance. Evidence across industry reports indicates that low-to-mid AOV categories deliver superior outcomes through higher repeat purchase rates, stronger aggregator visibility, and sustained long-term profitability.

Insights drawn from NASSCOM, IMARC, Deloitte, and major food delivery platforms consistently highlight that value-driven menu segments outperform premium-priced offerings, particularly in price-sensitive markets like India. Cloud kitchens operating within the optimal AOV band benefit from enhanced throughput, operational efficiency, and favourable algorithmic placement.

Overall, the findings underscore that pricing strategy is a central determinant of cloud kitchen success, shaping customer behaviour, platform discoverability, and operational sustainability. Strategic AOV calibration—balancing affordability with contribution margin—emerges as an essential component of profitable cloud kitchen management.

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