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On-Ground Market Research on POS Penetration and Aggregator Integration Among Restaurants in Pune: A Field Study

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ABSTRACT

Point-of-sale (POS) software and food-delivery aggregators have become central to how restaurants in urban India operate, yet most published work on their spread rests on surveys filled out after the fact rather than on direct, outlet-level field verification. This paper reports the findings of a two-month field study conducted across eleven micro-markets of Pune, in which 1,650 restaurants were visited in person to record the billing software in use, integration status with Zomato and/or Swiggy, and whether the outlet was a single unit or part of a chain. Petpooja emerged as the single largest POS brand among outlets that had adopted any structured billing system, though it held less than a third of that segment, and the wider market remained split across more than twenty competing products. Aggregator integration was found in roughly seven out of ten restaurants, but nearly a third of the outlets surveyed, mostly small, independently run establishments, had no presence on either platform. Single-owner restaurants outnumbered chains by a wide margin, though the smaller population of chains represented a disproportionate share of the largest adoption opportunities encountered. The paper discusses what these patterns suggest for POS vendors competing in fragmented, price-sensitive local markets, and for the broader literature on technology adoption among small food-service businesses in India.

Keywords: point-of-sale systems, restaurant technology, food-delivery aggregators, Zomato, Swiggy, POS adoption, field survey, Pune

1. INTRODUCTION

Anyone who has eaten out in an Indian city over the last decade has noticed the change at the counter. A decade ago, most bills were handwritten or, at best, printed from a standalone billing machine with no connection to anything else. Today a large share of that same billing counter is tied into a cloud-based system that also prints kitchen orders, tracks inventory, and pushes menus onto Zomato and Swiggy at the same time. This shift has not happened evenly. Large chains adopted integrated technology early, mostly because they had the capital and in-house staff to manage it. Independent, single-outlet restaurants, which still make up the bulk of India's food-service establishments, have adopted more slowly and unevenly, and a fair number continue to run without any structured billing software at all.

The Indian food-service sector is large enough that even small shifts in technology adoption carry real commercial weight. Industry estimates put the sector's value at roughly \$85 billion in 2025, with the organised segment growing faster than the market overall, and the National Restaurant Association of India projecting the country will become the world's third-largest food-service market by 2028 [1], [2]. For a POS company such as Petpooja, which builds its business on selling billing, kitchen-display, and aggregator-integration software to exactly this population of restaurants, understanding where the gaps in adoption actually lie shapes where the sales team goes next.

This paper grew out of a market-research internship at Petpooja, during which the author physically visited restaurants across Pune over two months, recording what software each one used and whether it was connected to the major delivery platforms. Rather than relying on a questionnaire that restaurant owners might fill out selectively, the study used direct observation and short, structured conversations at each outlet. The resulting dataset of roughly 1,650 restaurants offers a reasonably fine-grained, if geographically limited, picture of how POS and aggregator adoption actually look on the ground in one of India's fastest-growing IT and residential corridors.

The remainder of this paper is organised as follows. Section 2 reviews existing literature on POS adoption and aggregator-restaurant relationships. Section 3 states the study's objectives, and Section 4 describes the field methodology. Section 5 presents the data and results, Section 6 discusses what they mean, Section 7 offers practical recommendations, Section 8 notes the study's limitations, and Section 9 concludes.

2. REVIEW OF LITERATURE

Much of the existing research on POS adoption in food service draws, directly or indirectly, on the Technology Acceptance Model, which holds that a user's willingness to adopt a new system depends mainly on perceived usefulness and perceived ease of use. Ramos and Ojeda-Castro [3] reviewed 28 studies applying this framework to the food and beverage industry and found that attitudes toward POS systems were shaped less by the technology itself than by training and organisational support, while perceived usefulness tracked closely with the quality of information the system fed back to the owner. That finding matches a pattern that came up repeatedly in the present study's field conversations: restaurant owners who had abandoned a POS system rarely complained about what it could or could not do, and complained instead about how slowly problems got resolved once something went wrong.

Industry-level surveys point in a similar direction. Hospitality Technology [4] found that four in five independent restaurant operators were still running legacy point-of-sale systems even though three-quarters intended to switch within the following year, and the ability to integrate with other software was the most commonly cited reason for wanting to switch. This gap between stated intent and actual behaviour suggests that adoption lags are not simply a matter of restaurant owners being unaware of better options; something in the switching process itself, cost, disruption, uncertainty about service quality, is holding many of them back.

A separate strand of work has looked at the restaurant-aggregator relationship directly. Mudgal et al. [5] compared Zomato and Swiggy in the Indian market and described a duopoly in which most sizeable restaurants eventually list on both platforms to maximise reach, while noting that thin operating margins on the aggregator side create recurring friction over commissions and discounting. Broader reviews of the food-technology industry's impact on conventional restaurants [6] make a related point: aggregators have genuinely expanded restaurants' reach, but the same platforms have introduced new sources of operational strain.

Moreno and Tejada [7] conducted a longer historical review of ICT research in the restaurant sector, covering 68 articles published between 2000 and 2018 across 29 journals, and noted a persistent difference in how chain and independent restaurants approach technology adoption, with chains typically moving faster because decisions are centralised and budgets are larger. This distinction between chain and independent adoption behaviour recurs throughout the present study's findings and is examined directly in Section 5.

Taken together, this literature suggests three things worth testing against ground-level data: that a large share of independent restaurants remain on outdated or informal billing methods despite general awareness of better alternatives; that switching decisions are driven more by service quality than by product features once a restaurant has already adopted some form of POS; and that chain and independent restaurants show meaningfully different adoption patterns. What is comparatively rare in this body of work is direct, outlet-by-outlet field verification of these patterns within a specific Indian city market, as opposed to survey-based self-reporting. That is the gap this study attempts to address, even if only for one city and one two-month window.

3. RESEARCH OBJECTIVES

The study set out to answer four questions: (i) what POS software, if any, are restaurants across selected micro-markets of Pune currently using, and how fragmented is that market; (ii) to what extent are these restaurants integrated with Zomato and Swiggy; (iii) does adoption of POS and aggregator technology differ meaningfully between single-outlet restaurants and multi-outlet chains; and (iv) what do the patterns of non-adoption, switching, and complaint observed in the field suggest about where the largest, most accessible opportunities for a POS vendor lie.

4. RESEARCH METHODOLOGY

The study used a descriptive, field-based research design built around direct observation rather than a mailed or online questionnaire. Between April and June 2026, the author visited restaurants across eleven areas of Pune, Ravet, Punawale, Tathawade, Wakad, Hinjewadi, Balewadi, Bharti Vidyapeeth, Koregaon Park, Hadapsar, Viman Nagar, and Aundh, along with eight major mall and organised commercial complexes within these areas. Within each assigned zone, the intention was to cover every operating restaurant rather than a random subset, so the resulting dataset functions as a near-census of the assigned areas rather than a probability sample of Pune as a whole.

At each outlet, a short conversation with the owner, manager, or counter staff was used to record five items: operational status, POS software in use, Zomato/Swiggy integration, single-outlet or chain status, and a contact for follow-up. Roughly 60 to 70 outlets were covered on an average field day, consolidated into fortnightly progress reports shared with the company mentor. Over the full two-month period this produced a dataset of approximately 1,650 restaurants.

Because responses were collected verbally and mostly not cross-checked against billing records, the data reflects what staff reported at the counter rather than independently verified system logs, a limitation discussed further in Section 8.

5. DATA ANALYSIS AND FINDINGS

5.1 Coverage Across Micro-Markets

Table 1 shows how the 1,650 surveyed restaurants were distributed across the eleven areas covered. Hinjewadi, Wakad, and Balewadi together accounted for close to 40 percent of the total, unsurprising given the density of eateries serving the IT workforce and residential population in that corridor.

Table 1. Area-wise Distribution of Restaurants Surveyed

Area	Count	%
Hinjewadi	240	14.5%
Wakad	220	13.3%
Balewadi	200	12.1%
Viman Nagar	150	9.1%
Tathawade	150	9.1%
Koregaon Park	140	8.5%
Aundh	130	7.9%
Ravet	120	7.3%
Punawale	110	6.7%
Hadapsar	110	6.7%
Bharti Vidyapeeth	80	4.8%
Total	1,650	100%

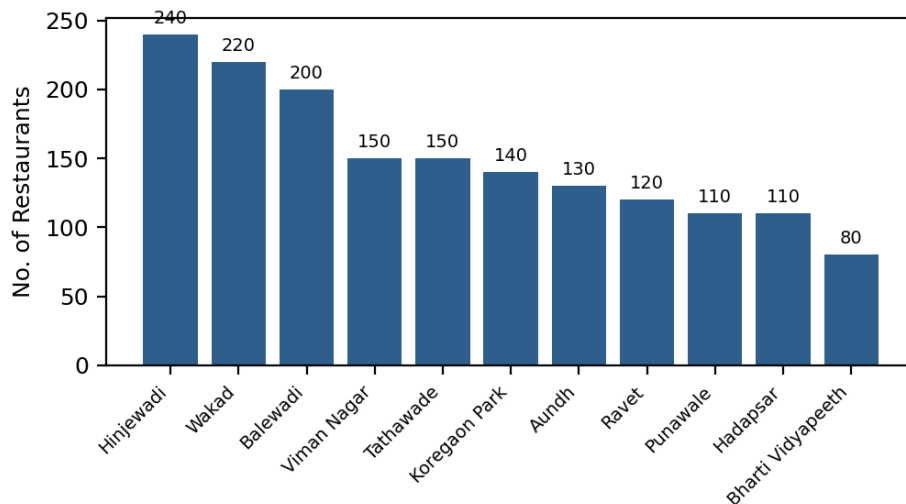


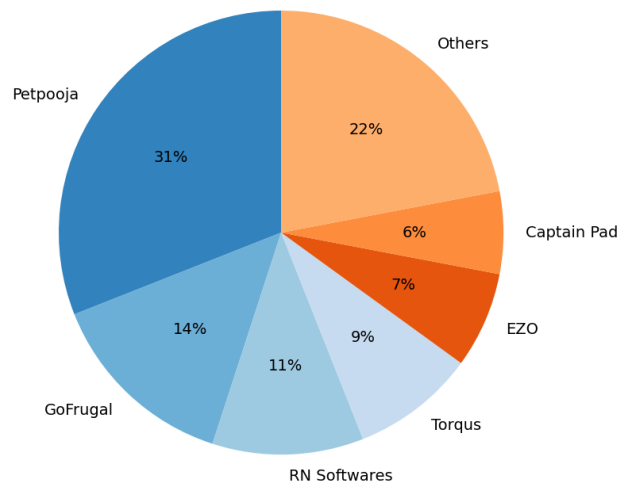
Figure 1. Area-wise Distribution of Restaurants Surveyed

5.2 POS Software Adoption

Among restaurants that had adopted some structured billing software, Petpooja held the largest single share at 31 percent, but the remaining market was split across an unusually large number of competitors: GoFrugal, RN Softwares, Torqus, EZO, and Captain Pad each held single-digit-to-low-double-digit shares, and a long tail of more than twenty smaller or regional brands, several of which had not previously been logged in Petpooja's internal competitor database, accounted for roughly a fifth of installed systems between them.

Table 2. POS Software Distribution

POS Software	Share
Petpooja	31%
GoFrugal	14%
RN Softwares	11%
Torqus POS	9%
EZO	7%
Captain Pad	6%
Others (20+ brands)	22%

**Figure 2. POS Software Distribution**

What stands out is not Petpooja's lead so much as how thin that lead is. A market where the largest player holds under a third of identified installations, and more than twenty other brands are each fighting for single-digit shares, is not close to consolidating. This suggests both room for a reliable vendor to gain share through service quality, and a sizeable opportunity in the pool of restaurants with no structured billing software at all, since these owners are not being asked to switch away from anything.

5.3 Aggregator Integration

Just under half of restaurants surveyed (46 percent) were listed on both Zomato and Swiggy, with a further 25 percent on one or the other, leaving 29 percent with no aggregator presence at all. This group skewed heavily toward small, single-outlet, dine-in or takeaway-only restaurants, many of which also lacked structured POS software, suggesting POS and aggregator adoption move together more often than not.

Table 3. Aggregator Integration Status

Status	%
Both Zomato & Swiggy	46%
Only Zomato	14%
Only Swiggy	11%
None	29%

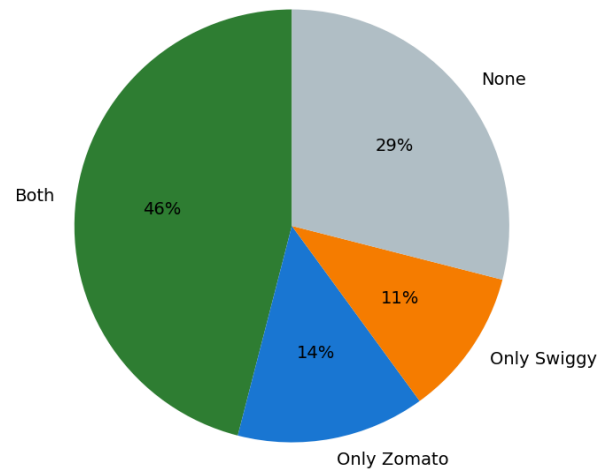


Figure 3. Aggregator Integration Status

5.4 Chain versus Single-Outlet Restaurants

Single, independently owned restaurants made up 78 percent of the sample, against 22 percent operating as part of a chain of two or more outlets. What is more interesting is what happened at the tail end of the chain segment: a small number of large multi-outlet operators accounted for a disproportionate share of the highest-value leads generated during the survey, including a 99-outlet regional bakery/QSR chain escalated directly to Petpooja's Vice President, and a 58-outlet chain avoiding Petpooja specifically on pricing grounds.

Table 4. Outlet Type Distribution

Outlet Type	%
Single Outlet	78%
Chain (2+ outlets)	22%

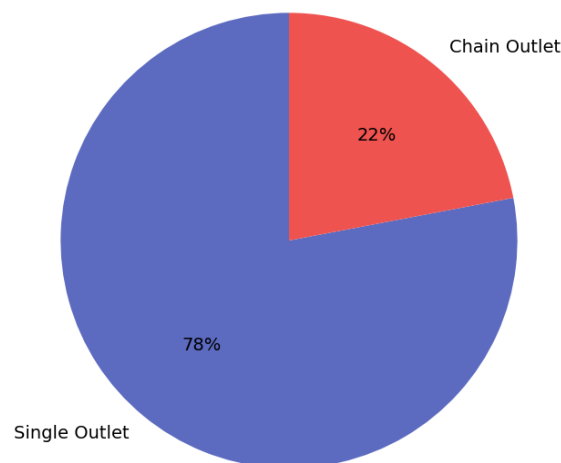


Figure 4. Outlet Type Distribution

Single-outlet restaurants are numerous but individually small in value; selling to them is a volume game won mostly on price and service reliability. Chains are rare but individually large, and pricing structure, specifically whether cost scales sensibly with outlet count, appears to be the deciding factor for accounts worth many times a typical single-outlet subscription.

5.5 Patterns in Switching and Complaints

Of the restaurants identified as having previously used Petpooja and since moved away, service quality was cited as the reason far more often than product functionality or missing features. By contrast, complaints from restaurants still actively using Petpooja were mostly narrow and technical, a menu update not syncing, a printer configuration issue, prices not refreshing, the kind of problem a faster support response would likely resolve. This distinction is consistent with the literature reviewed in Section 2 and points toward after-sales responsiveness, rather than product development, as the more urgent lever for retention.

6. DISCUSSION

The picture that emerges from this fieldwork is of a market that looks, from a distance, like it should be maturing quickly, but that up close is still unsettled. Almost a fifth of restaurants surveyed had no structured billing at all, and even among those that had adopted something, brand loyalty appeared thin: the market leader held less than a third of identified installations, and multiple restaurants had already switched providers at least once.

The consistency with which service quality, rather than product features, came up as the reason for leaving is probably the single most actionable finding here, because it is also the easiest one to be wrong about internally. Product teams tend to hear about feature requests; they hear less directly from customers who left quietly after a slow support response. This gap between what gets built and what actually drives churn is a familiar problem in B2B software generally, and this study's field evidence suggests it applies equally to a fragmented, offline-heavy customer base of small restaurants.

The chain-versus-single-outlet divide is worth dwelling on further. Twenty-two percent of restaurants being chains sounds like a minority worth deprioritising, but the two largest individual leads generated during this survey were both chains, and both cases turned on pricing structure rather than product interest. A single pricing model applied uniformly across outlet counts appears to work against POS vendors in exactly the accounts where potential revenue is largest.

Finally, POS adoption and aggregator adoption moved together in the data, suggesting these are not two independent decisions restaurant owners make separately, but a single decision about whether to digitise at all. A vendor pitching POS software to a restaurant with no aggregator presence is effectively selling that restaurant's first step into organised digital operations, a different and arguably harder sales conversation than upgrading a restaurant that already has some technology in place.

7. RECOMMENDATIONS

POS vendors operating in markets like Pune's would likely see a stronger return from investing in faster, more responsive after-sales support than from further feature development aimed at existing customers, given how consistently service quality, not functionality, came up as the reason restaurants left. Pricing structures that scale sensibly with outlet count, rather than a flat per-outlet rate that becomes prohibitive at chain scale, would probably do more to win large multi-outlet accounts than incremental product improvements. Because the largest, most defensible opportunities in this market appear to sit at a small number of large chains rather than the much larger population of single outlets, a dedicated enterprise or key-account sales process, distinct from the standard field-sales visit, seems justified. And because restaurants with no POS also tend to have no aggregator presence, framing a first-time sales pitch around digitisation broadly, rather than billing efficiency narrowly, may resonate better with this segment.

8. LIMITATIONS OF THE STUDY

This study covers eleven micro-markets of one city over a two-month window and cannot capture seasonal variation or longer-term switching behaviour. Data was collected through a single visit and short conversation at each outlet and was not cross-verified against billing system logs or aggregator dashboards; some responses may be imprecise. The near-census sampling approach was not formally randomised, and coverage across areas was somewhat uneven due to practical constraints on field-day allocation. Finally, because the fieldwork was conducted on behalf of a POS company, restaurant owners' responses may have been shaped by who was asking.

9. CONCLUSION

This study set out to describe, as directly as possible, how POS software and food-delivery aggregators have actually been adopted across a defined set of Pune's restaurant markets, rather than relying on self-reported survey data collected at a distance. Across 1,650 restaurants, the picture that emerges is one of a still-fragmented, still-undecided market: no single POS brand comes close to dominating, a substantial minority of restaurants have adopted no structured technology at all, and switching between providers is common enough to suggest low loyalty rather than settled preference. Service quality, not product capability, was the recurring reason restaurants gave for leaving a provider, and the handful of large restaurant chains encountered during the survey represented value out of proportion to their numbers, mostly held back by pricing structures that do not scale well with outlet count. Future research extending this field-survey approach to other Indian cities, and tracking how the leads and switching patterns identified here actually convert over time, would help establish how far these findings travel beyond Pune.

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