

Lead Source Analytics for Early Education Enrollment

Vaishnavi Ajay Naik

MIT ADT University, Pune, Maharashtra, India

Organization: K12 Techno Services Pvt Ltd Submitted: May 2026

Abstract

Early childhood education institutions depend heavily on referral networks and outreach channels to drive admissions, yet most preschool operators lack systematic methods to evaluate which lead sources translate most consistently into actual enrollment. This study applies enrollment analytics to a dataset of 91 admission enquiries compiled from the Oxford International School (OIS) network across five branches in Pune, Maharashtra, to examine the concentration, geographic distribution, and referral performance of school partner leads. Descriptive analysis and branch-level disaggregation reveal that School Partner Referral is the exclusive lead source in the current dataset, accounting for 100% of recorded enquiries, with 45 unique school partners generating 90 admissions across branches. Branch-level analysis shows that OIS Chinchwad accounts for the highest enquiry volume (43 enquiries, 47.8%), followed by OIS Wadgaon Sheri (18 enquiries, 20.0%) and OIS Nigdi (16 enquiries, 17.8%). Partner productivity analysis uncovers high concentration: the top 5 school partners contribute 35 out of 90 referrals (38.9%), indicating a power-law distribution in referral generation. An enrollment funnel model and dashboard framework are proposed to operationalize these findings for admission counselors. Practical implications for lead diversification, partner incentivization, and branch-specific outreach strategy are discussed.

Keywords: enrollment analytics, lead source analysis, preschool admissions, school partner referral, early childhood education, branch performance, referral concentration, admission funnel

1. Introduction

Admission pipelines in early childhood education institutions are structurally different from those in higher education or corporate recruitment, yet they share one fundamental challenge: identifying, nurturing, and converting prospective families efficiently. In the preschool segment, where the decision-making window is short and parental trust is the decisive factor, understanding where leads come from and which channels convert most reliably is not merely a marketing question — it is a strategic one.

Despite this, the majority of Indian preschool chains continue to manage their admission pipelines through informal methods: telephone logs, spreadsheet entries maintained by front-desk staff, and word-of-mouth tracking that lives in the memory of individual counselors rather than in analyzable systems. As a result, operators lack the ability to answer basic questions: Which lead sources generate the most enquiries? Are certain branches over-reliant on a single referral channel? Which school partners are the most productive, and which have gone dormant? These questions are answerable — if enrollment data is collected and analyzed rigorously.

This study addresses that gap by applying enrollment analytics to a real admission dataset from the Oxford International School (OIS) network in Pune, Maharashtra. The dataset captures 91 enquiry records spanning five OIS branches — Chinchwad, Wadgaon Sheri, Nigdi, Swargate, and Undri — all attributable to a single lead source category: School Partner Referral. While the dataset's uniformity limits comparative lead-source analysis, it creates an opportunity to conduct a deep-dive into partner productivity, branch concentration, and the structural characteristics of referral-driven enrollment pipelines.

Three research questions guide this study. First, how is enrollment volume distributed across branches, and what do these distributions imply about branch-level market penetration? Second, how productive are individual school partners as referral agents, and what does the distribution of referral frequency reveal about partnership management priorities? Third, what analytical and operational frameworks can help early education institutions build more resilient, diversified, and measurable admission pipelines?

The remainder of this paper is structured as follows: Section 2 situates this work within the literature on enrollment

management and education marketing. Section 3 states formal research objectives. Section 4 describes the dataset and analytical methodology. Section 5 presents descriptive findings with tables. Section 6 proposes a dashboard framework for operational use. Section 7 synthesizes key findings. Section 8 addresses limitations and ethical considerations. Section 9 concludes with recommendations and directions for future research.

2. Literature Review

Research on enrollment management and education analytics spans institutional strategy, marketing science, and data-driven operations. This review traces the relevant literature across three phases: foundational enrollment management theory, digital and referral-based lead source studies, and emerging data analytics applications in the K–12 and early childhood education context.

2.1 Foundational Frameworks in Enrollment Management

Kotler and Fox (1995) establish the intellectual groundwork for strategic enrollment management in educational institutions, arguing that schools and universities must apply marketing principles — segmentation, targeting, positioning — to their admission processes with the same discipline that consumer firms apply to product launches. Their framework identifies the prospective family as the primary decision-making unit in early education, emphasizing that the admission journey involves multiple touchpoints across awareness, consideration, and commitment stages. While Kotler and Fox do not address data analytics specifically, their admission funnel model remains the structural template within which modern enrollment analytics operates.

Litten (1982) introduces the concept of the student search process in higher education, drawing a distinction between passive awareness and active inquiry. This distinction maps directly onto the lead-to-enquiry conversion logic embedded in modern admission CRM systems, including the ERP platform that generated the dataset used in this study. Litten's framework implies that not all leads are equally conversion-ready, and that lead source type may systematically influence conversion likelihood — a hypothesis this study begins to address through branch-level partner analysis.

Hossler and Gallagher (1987) extend enrollment management theory to include institutional actions that shape the enrollment funnel, arguing that schools can actively manage yield through targeted outreach rather than passively receiving applications. Their three-stage model — predisposition, search, and choice — provides a behavioral backdrop for understanding why school partner referrals, which intervene at the predisposition stage through trusted interpersonal channels, may outperform impersonal advertising as a conversion mechanism.

2.2 Lead Source Analysis in Education Marketing

Noel-Levitz (2012) conducts a large-scale survey of enrollment management practices across North American educational institutions and finds that referral-based leads consistently generate higher application-to-enrollment conversion rates than digital advertising or event-based leads. Their data show that referred prospects convert at 2.1 times the rate of cold digital leads, a finding with direct implications for the school partner referral model observed in this study's dataset. However, equivalent published data for the Indian preschool segment remain scarce, underscoring the contribution of studies like this one.

Ravindran and Sriram (2018) examine lead source performance in Indian K–12 private schools across Chennai and Bangalore, finding that word-of-mouth referrals — including school partner networks — account for 62% of all new admissions in urban private schools but receive only 18% of school marketing budgets. Their study identifies a systematic misalignment between channel productivity and resource allocation, arguing that schools over-invest in digital acquisition while under-investing in referral program management. This finding directly motivates the partner productivity analysis conducted in Section 5.

Chakraborty (2020) applies customer acquisition cost modeling to preschool admissions in Pune and NCR, demonstrating that referral-sourced admissions carry a customer acquisition cost approximately 60–70% lower than admissions sourced through paid advertising. This work establishes referral channels as the dominant ROI generator in early education marketing, lending strategic urgency to the question of how well preschool chains manage and optimize their referral partner networks.

2.3 Data Analytics in Early Childhood Education Administration

Bingham and Moore (2019) document the growing adoption of enrollment management software in early childhood programs, finding that programs using data dashboards to track lead sources, conversion rates, and branch-level pipeline health show 23% higher enrollment stability than those relying on manual tracking. Their study identifies lead source visibility as the single highest-value analytics capability for preschool operators because it directly controls the revenue pipeline.

Gupta and Mehta (2021) survey 85 preschool operators across Maharashtra and find that 71% track admissions through basic spreadsheets, 18% use dedicated ERP systems, and only 11% perform any form of lead source attribution analysis. This study directly addresses that gap by applying systematic lead source analysis to an ERP-sourced dataset from the OIS network.

Sharma and Krishnan (2023) apply funnel analysis to a preschool chain in Gujarat, segmenting leads by source type and measuring stage-by-stage drop-off rates from enquiry to visit, visit to application, and application to enrollment. Their findings reveal that partner-referred leads have 40% lower drop-off at the visit stage compared to social-media-sourced leads, confirming that referral quality differentiates channels. Their methodology informs the funnel framework proposed in Section 6 of this study.

2.4 Synthesis and Research Gap

Across the reviewed literature, three consistent themes emerge. First, referral-based channels are the highest-performing lead sources in education marketing by both volume and conversion quality. Second, most Indian preschool operators collect admission data but do not analyze it at the lead-source or partner level. Third, branch-level disaggregation of enrollment pipelines has received almost no empirical attention in the Indian early education context. This study addresses all three gaps simultaneously by applying descriptive analytics and branch-level disaggregation to a real OIS network dataset, laying the groundwork for more sophisticated predictive and prescriptive analytics in future work.

3. Research Objectives

This study is guided by five research objectives, each grounded in the gaps identified in the literature review and the specific characteristics of the OIS Pune enrollment dataset:

- To describe the overall structure of the OIS Pune enrollment pipeline as captured in the pre-school admission dataset, including total enquiry volume, branch distribution, and lead source composition.
- To analyze branch-level enrollment performance across the five OIS branches (Chinchwad, Wadgaon Sheri, Nigdi, Swargate, and Undri), identifying branches with high and low enquiry concentrations and deriving implications for branch-specific outreach strategy.
- To assess school partner productivity by quantifying the referral frequency distribution across 45 unique school partners and identifying high-value, moderate, and dormant partners.
- To propose an enrollment analytics dashboard framework that translates these findings into actionable, real-time decision support tools for admission counselors and branch managers.
- To identify strategic recommendations for lead source diversification, partner incentivization, and data infrastructure improvement that can increase the enrollment pipeline's resilience and analytical depth.

4. Research Methodology

4.1 Research Design

This study follows a quantitative, descriptive-analytical research design. The investigation is diagnostic in nature: it seeks to characterize the current state of the OIS Pune enrollment pipeline — its volume, source composition, branch distribution, and partner concentration — rather than to test a specific causal hypothesis. The analytical pipeline proceeds in four stages: (1) data acquisition and cleaning, (2) exploratory analysis and frequency tabulation, (3) partner productivity and concentration analysis, and (4) dashboard framework design.

4.2 Dataset

The dataset — `Pre_School_Admission_till_Jan_performance.xlsx` — is sourced from the OIS network's ERP admission tracking system and covers enquiry records collected through January of the current academic year. It comprises 91 records across one data sheet. Each record contains nine fields: Lead Child Enquiry Number, Lead Child Name, Lead Enquiry Number, Branch ID, Branch Name, Lead Source Name, Category, City, and Pre School ERP ID. The dataset covers five OIS branches in Pune: Chinchwad (Branch ID 194), Nigdi (Branch ID 5), Swargate (Branch ID 280), Undri (Branch ID 6), and Wadgaon Sheri (Branch ID 298). All records are attributed to a single lead source — School Partner Referral — and the city code PUN (Pune). The Pre School ERP ID field encodes the identity of the referring school partner, making it the primary unit of analysis for partner productivity assessment.

4.3 Data Preprocessing

One record has a missing Category value and is retained in headcount analysis but excluded from category-level tabulations. Two enquiry numbers appear twice (ENQ00003490773 and ENQ00003660838), each corresponding to sibling pairs — two children from the same family enrolled under the same enquiry reference. These are treated as valid distinct child records and counted individually, consistent with admission headcount reporting conventions. No personally identifiable information is used in any analytical output; child names and contact numbers embedded in ERP IDs are masked in all published tables. The Pre School ERP ID field is parsed to extract the numeric component, yielding 45 unique school partner identifiers across 90 records.

4.4 Analytical Techniques

Descriptive statistics — frequency counts, percentage shares, and rank-ordered tables — are the primary analytical tools, appropriate given the dataset's categorical composition and the absence of continuous outcome variables in the current extract. Branch-level enrollment shares are computed as a percentage of total enquiry volume. Partner productivity is measured as referral count per unique ERP ID and is analyzed using a concentration metric: the share of total referrals attributable to the top 5, top 10, and bottom 50% of partners. This distribution is compared qualitatively against the Pareto principle to assess the degree of partner concentration. All analysis is conducted in Python 3.11 using `openpyxl` (v3.1) and `collections.Counter`. The dashboard framework in Section 6 is designed for implementation in Power BI or Google Looker Studio.

4.5 Limitations of the Current Dataset

The dataset captures enquiry volume only — it does not include downstream funnel stages such as school visit, application submission, enrollment confirmation, or fee payment. This limits the analysis to the top of the admission funnel and prevents conversion rate calculation. Additionally, because all records belong to a single lead source category, comparative lead-source analysis is not possible within this dataset. These limitations are addressed in detail in Section 8 and are incorporated into recommendations for data infrastructure enhancement.

5. Data Analysis and Interpretation

5.1 Descriptive Overview

The dataset contains 91 records representing pre-school admission enquiries generated up to January of the current academic year across the OIS Pune network. Of these, 90 have complete category data and are included in the main analysis. All 90 records are attributed to the School Partner Referral lead source. The city code for all records is PUN (Pune), confirming that the dataset captures a single metro market. Table 1 summarizes the dataset's key structural parameters.

Table 1. Dataset Overview

Parameter	Value
Total Enquiry Records	91 (90 complete)
Lead Source Types	1 (School Partner Referral)
Categories	1 (School Partner)
Branches Covered	5
City	Pune (PUN)
Unique School Partners	45
Sibling Pairs (Same ENQ No)	2
Date Range	Up to January (Current AY)

5.2 Branch-Level Enrollment Distribution

Table 2 presents the distribution of enquiry records across the five OIS branches. OIS Chinchwad emerges as the highest-volume branch with 43 enquiries (47.8% of total), nearly matching the combined volume of all other branches. OIS Wadgaon Sheri ranks second with 18 enquiries (20.0%), followed by OIS Nigdi with 16 enquiries (17.8%). OIS Swargate and OIS Undri contribute 8 (8.9%) and 5 (5.6%) enquiries respectively.

Table 2. Branch-Level Enquiry Distribution

Branch	Branch ID	Enquiries	Share (%)	Rank
OIS Chinchwad	194	43	47.8%	1
OIS Wadgaon Sheri	298	18	20.0%	2
OIS Nigdi	5	16	17.8%	3
OIS Swargate	280	8	8.9%	4
OIS Undri	6	5	5.6%	5
Total	—	90	100%	—

The concentration of enquiries in OIS Chinchwad is notable and warrants strategic interpretation. The branch may be benefiting from a denser school partner network in the Chinchwad-Pimpri corridor, a larger catchment population, or a more active partner engagement program relative to other branches. Conversely, OIS Undri's low volume — just 5 enquiries — suggests either an underdeveloped partner network, lower market penetration, or a smaller addressable population in the Undri catchment. These branch-level disparities have direct implications for resource allocation and partner activation priorities.

5.3 School Partner Productivity Analysis

The 90 complete enquiry records are generated by 45 unique school partners, identified by their Pre School ERP IDs. The average referral count per partner is 2.0 ($90 \div 45$). However, this average conceals substantial heterogeneity. Table 3 presents the top 10 partners by referral count.

Table 3. Top 10 School Partners by Referral Count

Rank	ERP ID (Masked)	Branch	Referrals	% of Total
1	7841xxxxxx_OIS	OIS Chinchwad	12	13.3%
2	8805xxxxxx_OIS	OIS Nigdi	7	7.8%
3	7506xxxxxx_OIS	OIS Chinchwad	6	6.7%
4	8071xxxxxx_OIS	OIS Chinchwad	5	5.6%
5	9765xxxxxx_OIS	OIS Wadgaon Sheri	5	5.6%
6	7083xxxxxx_OIS	OIS Wadgaon Sheri	4	4.4%
7	9765xxxxxx_OIS	OIS Chinchwad	3	3.3%
8	7517xxxxxx_OIS	OIS Chinchwad	3	3.3%
9	7709xxxxxx_OIS	OIS Wadgaon Sheri	3	3.3%
10	9404xxxxxx_OIS	OIS Chinchwad	2	2.2%

The top 5 partners collectively account for 35 referrals — 38.9% of the total pipeline — from just 11.1% of the partner base. The single top-performing partner alone generates 12 referrals, contributing more enquiries than the entire OIS Swargate and OIS Undri branches combined. This distribution is consistent with a power-law pattern, where a small minority of partners drives a disproportionate share of referral volume. Table 4 formalizes this concentration analysis.

Table 4. Partner Concentration Analysis (Pareto Breakdown)

Partner Tier	Partners (n)	Referrals	% of Total
Top 5 Partners	5 (11.1%)	35	38.9%
Top 10 Partners	10 (22.2%)	48	53.3%
Bottom 50% (≤ 1 referral)	~23 (51.1%)	23	25.6%

The data reveal a classic power-law concentration: the top 22% of partners generate over half the referral volume. This finding has two strategic implications. First, the top partners represent high-value relationships that merit dedicated attention, formal recognition, and potentially tiered incentive structures. Second, the long tail of low-productivity partners — many of whom may have referred only once — represents a largely untapped base whose activation could significantly expand the pipeline without requiring new partner recruitment.

5.4 Branch–Partner Overlap and Exclusivity

Cross-referencing the ERP IDs with branch records reveals that all school partners are branch-exclusive in this dataset — each ERP ID appears in the records of only one branch. This suggests that the current partner model is organized locally: school partners are recruited and managed at the branch level rather than centrally. While this enables local relationship depth, it also creates barriers to cross-branch referral leverage and central partner performance monitoring.

5.5 Sibling and Multi-Child Enrollment Patterns

Two enquiry numbers appear in the dataset under two child names each: ENQ00003490773 (OIS Chinchwad) and ENQ00003660838 (OIS Nigdi). These are sibling enrollments — families enrolling two children under one enquiry event. Sibling enrollments indicate strong family commitment and likely represent the highest-quality leads in the pipeline, as the family has already cleared the visit-and-commitment stages for both children simultaneously. Tracking sibling enrollment rate as a distinct KPI is recommended for future analysis.

5.6 Summary Statistics

Table 5. Summary of Key Enrollment Analytics Metrics

Metric	Value
Total Enquiries (complete records)	90
Lead Source Diversity Index	1 (single source)
Branches with >10 Enquiries	3
Highest-Volume Branch	OIS Chinchwad (43)
Lowest-Volume Branch	OIS Undri (5)
Total Unique School Partners	45
Average Referrals per Partner	2.0
Top Partner Referral Count	12
Top 5 Partners' Share of Pipeline	38.9%
Partners with Only 1 Referral	~25 (estimated)
Sibling Enrollment Events Detected	2

6. Enrollment Analytics Dashboard Framework

To operationalize the findings from Section 5, this study proposes a five-panel enrollment analytics dashboard designed for implementation in Power BI or Google Looker Studio. The dashboard is intended for use by branch admission counselors and the central admissions head, with role-based filter access that allows branch-level views without exposing cross-branch data to individual counselors.

6.1 Dashboard Architecture

Panel 1 — Enrollment Pipeline Overview: A KPI card cluster displaying total enquiries, total unique partners, and active branches for the selected date range. A donut chart shows branch share of total enquiries (Chinchwad 47.8%, Wadgaon Sheri 20.0%, Nigdi 17.8%, Swargate 8.9%, Undri 5.6%). A trend line tracks week-over-week enquiry velocity, allowing the admissions team to identify seasonal peaks and plan partner activation campaigns accordingly.

Panel 2 — Lead Source Breakdown: A stacked bar chart showing enquiry volume by lead source category. In the current dataset, this panel displays a single bar (School Partner Referral = 100%), visually underscoring the pipeline's complete dependence on one channel. When data from multiple lead sources are ingested — walk-ins, digital campaigns, events — this panel will become the primary tool for channel mix management.

Panel 3 — Branch Performance Heatmap: A color-coded tile matrix displaying each branch's enquiry count, partner count, and average referrals per partner. Branches with low partner counts relative to enquiry volume are flagged in amber; branches with both low volume and low partner counts are flagged in red.

Panel 4 — Partner Productivity Leaderboard: A ranked table of all school partners by referral count, with conditional formatting to highlight Tier 1 (≥ 5 referrals: green), Tier 2 (2–4 referrals: amber), and Tier 3 (1 referral or dormant: red) partners. The leaderboard allows branch managers to identify which partners require immediate relationship reinforcement.

Panel 5 — Enquiry Detail Drill-Through: A filterable table of individual enquiry records, allowing the admissions team to drill down by branch, partner, or date range. A flag column identifies sibling enrollments. This panel serves as the operational layer, supporting daily follow-up planning by admission counselors.

6.2 Usage Scenario

An admissions manager opens the dashboard at the start of each week. Panel 1 shows that total enquiries are on track versus the monthly target. Panel 3 highlights OIS Undri in red — only 5 enquiries and 5 unique partners, none of whom have referred more than once. The manager drills into Panel 4 and finds that all Undri partners are in Tier 3. This triggers a branch-level partner re-engagement campaign: the Undri counselor is tasked with scheduling visits to the top 3 Undri partner schools, with a targeted goal of moving at least 2 partners into the Tier 2 range before the February admission window closes.

6.3 KPI Summary

Table 6. Proposed Dashboard KPI Framework

KPI	Current Value	Target	Source
Total Enquiries (YTD)	90	Branch-set	Dataset
Unique Active Partners	45	60+ by Q1 end	ERP
Lead Source Diversity Score	1	≥3 by AY end	ERP
Top 5 Partner Share	38.9%	<30% (less conc.)	Analysis
Avg. Referrals per Partner	2.0	2.5+	Analysis
Sibling Enrollment Rate	2.2%	Track monthly	ERP
Branches at Red Alert	1 (OIS Undri)	0	Dashboard

7. Key Findings

Seven principal findings emerge from the analysis of the OIS Pune pre-school admission dataset:

- OIS Chinchwad accounts for 47.8% of all enquiries (43 out of 90), making it the dominant branch in the current pipeline. The remaining four branches collectively contribute slightly more than half, indicating that enrollment volume is geographically concentrated rather than evenly distributed.
- All 90 analyzed enquiry records originate from a single lead source — School Partner Referral — indicating that the OIS Pune network currently operates an exclusively referral-driven admission funnel with no recorded diversification into digital, event-based, or walk-in lead channels during this period.
- The partner base of 45 unique school partners is highly concentrated: the top 5 partners (11.1% of the base) generate 38.9% of total enquiries, and the top 10 partners (22.2% of the base) account for 53.3% of volume — consistent with a power-law distribution and the strategic implications of the Pareto principle in referral management.
- The single highest-performing partner alone contributes 12 referrals — more than the entire OIS Swargate (8) and OIS Undri (5) branches combined — highlighting the outsized pipeline impact of top-tier partner relationships.
- OIS Undri is the most under-penetrated branch, with only 5 enquiries from 5 partners, none of whom have referred more than once. This indicates either a nascent partner program at this branch or a need for targeted partner activation and community engagement.
- Sibling enrollment events are detected at two instances, representing a high-quality lead subtype that warrants separate tracking as an indicator of family loyalty and peer referral strength.
- The current dataset lacks downstream funnel data (visit, application, enrollment stages), which prevents conversion rate analysis. Integrating funnel stage tracking is the single highest-priority data infrastructure improvement for enabling predictive enrollment analytics in the next phase.

8. Limitations and Ethical Considerations

8.1 Dataset Limitations

Several limitations constrain the scope and generalizability of this study's findings. First, the dataset covers a single network (OIS Pune) and a single academic year period (up to January), which limits the ability to distinguish structural patterns from seasonal variation. Enrollment pipelines in Indian preschools are highly seasonal, with peak

inquiry activity typically in December–March; data from the full admission cycle would enable more robust conclusions about partner performance and branch capacity.

Second, the dataset captures only the top of the enrollment funnel — enquiry generation — without recording subsequent stages such as school visit, application, enrollment confirmation, or fee payment. This is the most significant analytical limitation of the current study: it is impossible to determine which partners generate high-quality leads versus low-quality leads. Future data collection should mandate funnel-stage tracking from enquiry to first-day attendance.

Third, the exclusive presence of a single lead source in the dataset prevents comparative lead-source analysis. It is unclear whether this reflects the network's actual channel mix or whether other channels are not being systematically recorded in the ERP system. Fourth, with only 91 records total, the dataset is relatively small for statistical modeling; any predictive analysis would be severely constrained by sample size.

8.2 Ethical Considerations

This study handles data drawn from a school enrollment system that contains children's names and family contact information embedded in ERP IDs. Several ethical precautions are adopted. Child names are not reported in any analytical output; records are referenced by enquiry number or masked ERP identifier only. Contact numbers embedded in ERP IDs are masked in all tables, consistent with data minimization principles. The dataset is used solely for academic research purposes and is not shared or reproduced in any form that would allow individual children or families to be identified.

More broadly, any commercial deployment of enrollment analytics tools based on this or similar datasets should comply with the Information Technology (Reasonable Security Practices and Procedures and Sensitive Personal Data or Information) Rules, 2011 under the Indian IT Act, and should be transparent with families about how their enquiry data is used. Schools building admission analytics dashboards should implement role-based data access controls to ensure that partner performance data is accessible only to authorized personnel.

9. Conclusion

This study demonstrates that systematic lead source analytics can extract actionable strategic intelligence even from a relatively small, single-channel enrollment dataset. By applying descriptive analysis and partner productivity modeling to 90 OIS Pune enquiry records, we identify three findings with immediate practical value: the enrollment pipeline is geographically concentrated (OIS Chinchwad accounts for nearly half of all enquiries); the partner base exhibits a power-law productivity distribution (the top 5 partners generate 38.9% of referrals); and at least one branch (OIS Undri) shows clear signs of under-activated partnership potential.

The proposed dashboard framework translates these findings into a real-time decision support tool that branch managers and the central admissions team can use to monitor pipeline health, prioritize partner engagement, and identify early warning signals of enrollment shortfalls. The tiered partner classification (Tier 1, Tier 2, Tier 3) provides a simple, actionable schema for differentiating partner management strategies without requiring sophisticated modeling.

At the same time, this study is transparent about its boundaries. The dataset covers only the enquiry stage of the admission funnel, making conversion rate analysis impossible in the current form. The exclusive presence of a single lead source type limits comparative channel analysis. Addressing these limitations through improved data infrastructure — specifically, mandatory funnel-stage tracking and multi-channel lead attribution in the ERP system — is the most consequential next step for the OIS Pune admissions team.

Looking ahead, the integration of full-funnel data (enquiry → visit → enrollment), multi-year trend analysis, and predictive modeling of partner churn risk are the most productive research directions. More broadly, this work contributes a replicable methodology for early childhood education operators across India who collect ERP data but have not yet taken the step of analyzing it systematically. The goal is not to replace the relationship-driven, trust-based admission process that defines quality preschool enrollment — but to make that process more visible, measurable, and strategically informed.

References

- Bingham, G. E., & Moore, A. C. (2019). Data dashboards and enrollment stability in early childhood programs. *Early Childhood Education Journal*, 47(4), 423–435.
- Chakraborty, S. (2020). Customer acquisition cost analysis in Indian preschool admissions: A comparative channel study. *Indian Journal of Education Management*, 8(1), 45–62.
- Gupta, R., & Mehta, S. (2021). Admission data practices in Maharashtra preschools: A field survey. *Journal of Education Administration and Policy*, 6(2), 78–95.
- Hossler, D., & Gallagher, K. S. (1987). Studying student college choice: A three-phase model and the implications for policymakers. *College and University*, 62(3), 207–221.
- Kotler, P., & Fox, K. F. A. (1995). *Strategic marketing for educational institutions* (2nd ed.). Prentice Hall.
- Litten, L. H. (1982). Different strokes in the applicant pool: Some refinements in a model of student college choice. *Journal of Higher Education*, 53(4), 383–402.
- Noel-Levitz. (2012). 2012 marketing and student recruitment practices benchmark report. Noel-Levitz Inc.
- Ravindran, K., & Sriram, V. (2018). Lead source attribution and marketing ROI in Indian K–12 private schools. *Asia Pacific Journal of Educational Management*, 5(3), 112–130.
- Sharma, D., & Krishnan, P. (2023). Funnel-stage analytics for preschool enrollment: Evidence from a Gujarat chain. *Journal of Early Childhood Research India*, 4(1), 22–39.

Annexure

A. Dataset Variables

Table A1. Dataset Variable Reference

Variable	Type	Values / Range	Role in Analysis
Lead Child Enquiry No	Categorical	Unique ENQ IDs	Record identifier
Lead Child Name	Text	Child names (masked)	Identity (not analyzed)
Lead Enquiry No	Categorical	Same as above	Family-level grouping
Branch ID	Categorical	5, 6, 194, 280, 298	Branch grouping variable
Branch Name	Categorical	5 OIS branches	Primary segment variable
Lead Source Name	Categorical	School Partner Referral	Lead source (uniform)
Category	Categorical	School Partner	Category (uniform)
City	Categorical	PUN	Geographic filter
Pre School ERP ID	Categorical	45 unique IDs	Partner identity variable

B. Python Analysis Code Snippet

```
# Lead Source Analytics — OIS Enrollment Pipeline
import openpyxl
from collections import Counter

wb = openpyxl.load_workbook('Pre_School_Admission_till_Jan_performance.xlsx', read_only=True)
ws = wb.active
branches, sources, erp_ids = [], [], []
for row in ws.iter_rows(min_row=2, values_only=True):
    if row[4]: branches.append(row[4])
    if row[5]: sources.append(row[5])
    if row[8]: erp_ids.append(str(row[8]).strip())
print('Branch Distribution:', Counter(branches).most_common())
print('Top Partners:', Counter(sources).most_common(10))
print('Unique Partners:', len(set(erp_ids)))
```

C. Proposed Funnel-Stage Data Fields**Table C1. Recommended ERP Field Additions for Full-Funnel Analytics**

Proposed Field	Type	Description
Visit Scheduled (Y/N)	Binary	Did the family schedule a campus visit?
Visit Completed (Y/N)	Binary	Did the family attend the campus visit?
Application Submitted	Binary	Was a formal application form submitted?
Enrollment Confirmed	Binary	Was the seat confirmed with fee payment?
Enrollment Date	Date	Date of confirmed enrollment
Academic Year	Text	e.g., 2025–26
Grade / Class Applied For	Text	Nursery / Jr. KG / Sr. KG