

Outreach Data Best Practices Guide: Lessons from the Enrollment Optimization Project

This guide synthesizes key lessons learned during the data visualization Internship, offering actionable best practices for future teams to ensure data integrity, drive efficient analysis, and communicate impactful strategic insights.

1. Data Management and Cleaning: The Foundation of Trust

Our project encountered a significant challenge: the inability to directly link Outreach activity (outcomes/university) with Applicant demographics (University/Country), proving that **data integrity starts before analysis begins**. The absence of a consistent joining key was the single largest obstacle to integrated analysis. Although the Outreach Data & Application Data have a column which is University that join method could be apply on but both columns have the same value which could bring problem (duplicate) why joining.

DO's for Data Management

Mandate a Universal Primary Key (UPK)

Rationale & Action: Crucial for linking. Ensure every lead receives one, consistent ID at ingestion. This UPK must be carried without modification across the Outreach system, Campaign Tracker, and Application Database.

Standardize Text Fields

Rationale & Action: Create a master list of standardized outcomes (e.g., Success, Reschedule, Not Connected, Invalid). Use drop-down lists instead of free text entry to prevent analyst time wasted cleaning variations like "Completed App," "Completed application," or "Success."

Validate Contact Data Upfront

Rationale & Action: Implement a pre-cleaning step to scrub out leads flagged as "Invalid" or "Wrong number" based on past failure rates. This is the fastest way to increase team efficiency by removing uncallable leads from the queue.

Document Data Lineage

Rationale & Action: Keep a log of where each dataset originated and when the last cleanup was performed. This ensures transparency and helps track transformation steps.

DON'TS for Data Management

- **Don't** assume primary keys in different systems will align. If keys must differ, create a **manual cross-reference table** as a mandated part of the data ingestion process.
- **Don't** allow mission-critical campaign details (e.g., Campaign ID, Caller Name) to be misspelled or inconsistently cased (e.g., "IANF23" vs. "ianf23").
- **Don't** allow missing values in essential fields like Outcome or Recieved_At. Treat blank values as a data quality error that must be resolved.

II. Dashboard Design and Key Performance Indicators (KPIs)

Effective dashboards simplify complex data into a clear story. Focus on metrics that measure both efficiency and conversion.

KPI Selection: Focus on Action

Selecting the right KPIs turns data into strategy. Focus on measuring the performance of **controllable variables** (Callers, outcomes, Campaign).

Success Rate (Conversion)

Formula: Total Calls Made / Successful Outcomes

Why it Matters: The ultimate measure of conversion effectiveness. Use this to benchmark caller and campaign performance.

Contact Rate (Reachability)

Formula: Total Calls Made / Calls with an Outcome

Why it Matters: Measures data quality and lead reachability. Low contact rates signal bad data or poor calling times.

Wasted Call Rate

Formula: Total Calls Made / Invalid/Wrong Number Outcomes

Why it Matters: Measures lost efficiency due to poor data. This metric justifies investment in data validation tools.

Dashboard Design Advice

- **Prioritize Controllable Variables:** The dashboard should immediately answer: "Which **Caller** is performing best?" and "Which **Campaign** is most profitable?"

- **Benchmark Performance:** Use the overall team/campaign average as a baseline on charts to highlight top performers (Green) and those needing coaching (Red).
- **Use Strategic Grouping:** Since we could not join Applicant demographics, design a **parallel dashboard view** that shows Applicant Demand by Geography next to Outreach Success by Campaign. This structure guides the business to manually synthesize the two datasets for better targeting.

III. Communicating Data Insights in a Business Context

Analysis is only as valuable as its communication. The goal is to move from data points to **decisions**.

Principle: Focus on Impact, Not Math

Description: Never present a statistic without translating it into an action or predicted ROI. Use language that speaks to the business goal (enrollment, cost savings, productivity).

Example (Translating Data to Decision): Instead of: "Caller A has a 15% higher success rate than Caller B." Say: "Action: Implement a coaching plan for Caller B using Caller A's script and schedule to potentially increase application volume by 5%."

Principle: Bridge Siloed Findings

Description: When you cannot join data perfectly, use synthesis to connect insights logically.

Example: "While we could not link calls to applicants directly, the high organic interest from Country X (Applicant Data) combined with the proven high conversion of Campaign IANF23 (Outreach Data) justifies launching a specialized, high-priority campaign for that market."

Principle: Start with the Recommendation

Description: Structure your presentations with the most important action item first. Use the subsequent slides to provide the supporting data. This ensures stakeholders get the main point even if they lose focus later.

Example: Recommendation (First): We must shift 80% of resources to Campaign IANF23. Support (Next): Here is the data showing IANF23 converts at 12%, while others are at 4%.