

# Recruiting Analytics Case Study

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Data Cleaning · Dashboard Design · Recruiting KPIs · Strategic Recommendations

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# Overview

## Context

A company adopted a new applicant tracking system (ATS) to support a data-driven approach to recruiting. Leadership requested an analytics deliverable to operationalize this data.

## Datasets Provided

- Recruiting ATS data - 14,181 candidate records, 93 columns, Jan–Dec 2023
- Location opening data - 19 locations with opening dates

## Deliverables

- Cleaned & unified dataset
- Recruiting dashboard with interactive filters
- KPI framework with definitions and business rationale
- Data-driven recommendations for recruiting strategy

# Data Cleaning – Dataset #1

## Dataset Profile

### recruiting\_ats\_data.csv

- Historical recruiting data from the ATS system
- 93 columns · 14,181 rows

Columns represent:

- Applications (Jan – Dec 2023)
- Candidates
- Locations
- Jobs
- Recruiting Stages
- Offers, Rejections, Sources

## Data Quality Issues

### Duplicative columns

- job\_id, job\_post\_id, and jobs\_id represented the same field

### Incomplete data

- NULL columns with no populated values
- NULL values in key fields

### Inconsistent values

- Dash encoding inconsistency: “-” vs. “—” vs. garbled UTF-8
- Location and city name mismatches between datasets

# Data Cleaning – Dataset #2

## Dataset Profile

### location\_opening\_data.csv

- Contains location names and opening dates
- 2 columns · 19 rows

## Data Quality Issues

### Incomplete data

- Opening dates available for only 19 of the company's locations, limiting tenure-based analysis

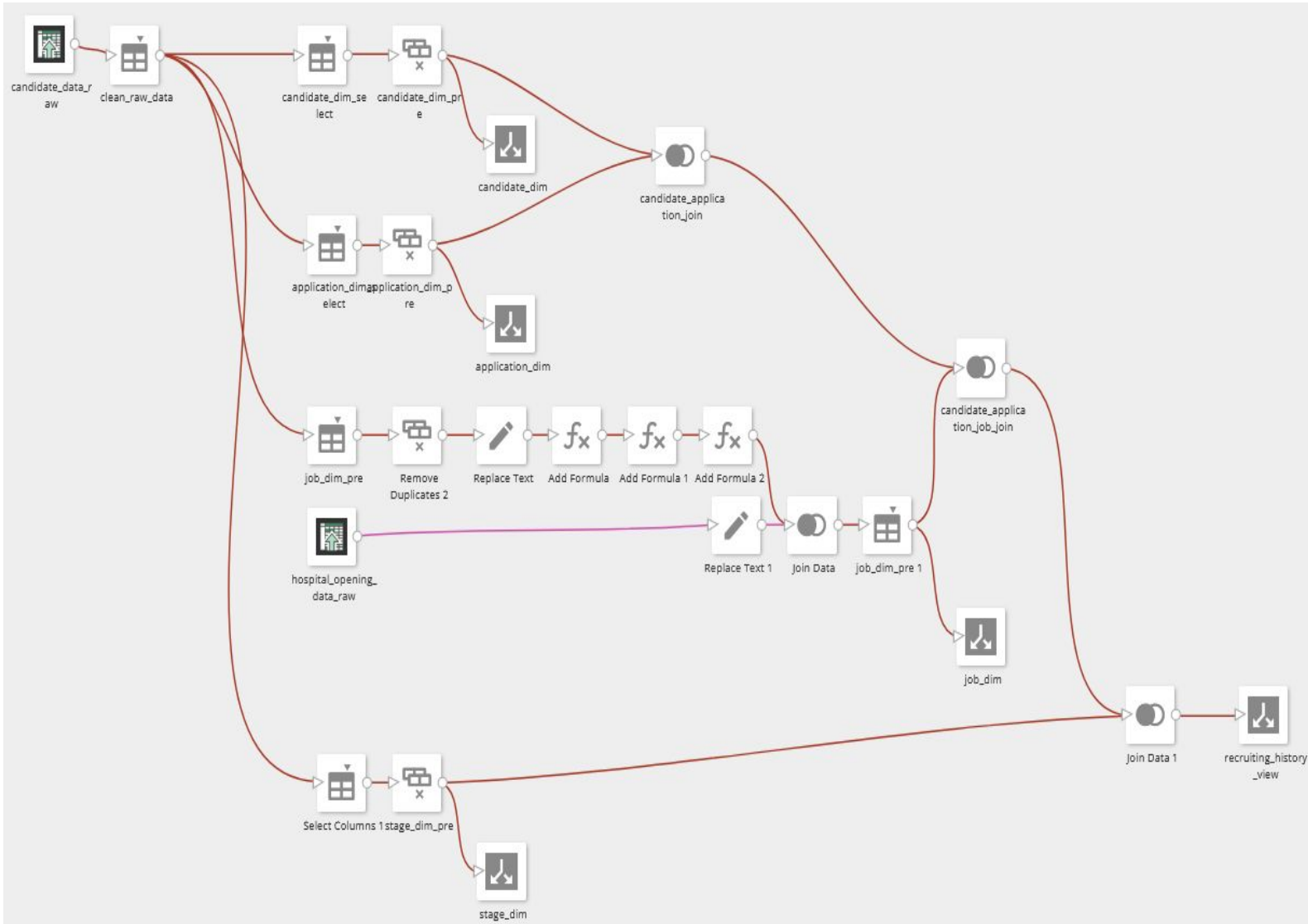
### Inconsistent location naming

- Location names did not match the recruiting dataset, preventing a direct join

### Example:

- “Atlanta” in Dataset #1
- “Atlanta (Perimeter Marketplace)” in Dataset #2

# Data Cleaning – ETL Pipeline



## Inputs

- recruiting\_ats\_data.csv (Dataset #1)
- location\_opening\_data.csv (Dataset #2)

## Outputs

- candidate\_dim
- application\_dim
- job\_dim
- stage\_dim
- **recruiting\_history\_view**

# Data Cleaning – Transformation Logic

## Key Transformations

### Column reduction

- Selected only analytical columns to reduce dataset size and noise

### Deduplication

- Removed duplicate records to ensure accurate candidate counts

### Value standardization

- Unified dash encoding: “–”
- UTF-8 variants normalized to “-” in job name values
- Location name variants standardized around singular names for consistency

### Job name parsing

- Split combined job + location strings and trimmed whitespace (e.g. “Operations Manager - Old Town”)

### NULL handling

- Applied COALESCE() logic to populate job\_name where null or blank
- Used CASE logic with location names to infer and overwrite missing city values

# Recruiting Dashboard

## Recruiting Funnel Summary

• Summary funnel metrics highlighting the total number of Jobs, Prospects, Applications, Application Reviews, Phone Screens, Offers, and Accepted Offers



## Recruiting KPI Summary

• Summary KPI metrics highlighting Qualified Candidate %, Avg Days to Offer, Offer Acceptance Rate, and Open Jobs Without Offers



## Qualified Candidates

### Qualified Candidates by Job

- The percentage of qualified candidates is determined by how many candidates progressed to a phone screen following a completed application review
- **Takeaway #1:** Hospital Operations Manager, Veterinary Assistant, and Veterinary Receptionist roles have a comparatively lower qualified candidate pool (<30%)
- **Recommendation:** Refine and improve ATS intake to filter out more candidates prior to application review

### Qualified Candidates and Hire Rates by Source

- Percentages of Qualified Candidates and Hired Candidates by Source Type, drillable to Source Name
- **Takeaway #2:** Qualified Candidate (26%) and Hire Rate (4%) are lowest for Prospecting, though Hire Rate is comparable to Third Party Boards (5%)
- **Recommendation:** Improve prospecting methodology by comparing with qualified candidate commonalities from other sources to ensure more productive outreach
- **Takeaway #3:** Referrals are the strongest source of qualified candidates and hires, while "jobs page on your website" and "Third-party Boards offer comparable rates of qualified candidates (60%+). The hire rate for these is 10% and 5%, respectively, with the latter made up entirely of Indeed.
- **Recommendation:** Prioritize referrals as a prime recruiting source. Prioritize candidates applying to the job page as they may be more likely to be hired in comparison to third-party sources like Indeed.

Qualified Candidates per Opening



## Design

Funnel-first layout: Top section surfaces total volume at each pipeline stage (Jobs → Prospects → Applications → Screens → Offers → Hires)

KPI summary row: Four metrics visible at all times regardless of filter state

Cascading filters: Job status, application status, city, location, and role allow flexible slicing without separate views

## Key Metrics at a Glance

- **33% Qualified candidate rate**
- **25 days Average time to offer**
- **85% Offer acceptance rate**
- **16 Open jobs without accepted offers**

# KPI Framework

## KPI 1

### Qualified Candidates %

**Definition:**

% of applicants who advanced to a phone screen after application review.

**Why it matters:**

Measures pipeline quality and ensures recruiters focus on the right candidates.

## KPI 2

### Avg. Days to Offer

**Definition:**

Average days from application date to offer date.

**Why it matters:**

A faster process ensures proper staffing, better candidate experience, and lower dropout risk.

## KPI 3

### Offer Acceptance Rate

**Definition:**

% of offers accepted by candidates.

**Why it matters:**

Signals offer competitiveness. Can be paired with rejection reasons to improve offer packages.

## KPI 4

### Open Jobs Without Offers

**Definition:**

Count of active positions with no offer extended.

**Why it matters:**

Focuses recruiter attention on the most urgent unfilled roles.

# Recommendations – Qualified Candidates

**33%**

Avg. Qualified Candidate Rate

## Takeaway 1

### Finding:

Operations Manager, Assistant, and Receptionist roles have a comparatively low qualified candidate pool (<50%)

### Recommendation:

Refine ATS intake requirements for these roles to filter candidates more effectively prior to application review, raising pipeline quality before recruiters engage.

**26%**

Prospecting Qualified Rate

## Takeaway 2

### Finding:

Prospecting yields the lowest qualified (26%) and hire rates (4%) of any source channel

### Recommendation:

Analyze the profile of qualified candidates from higher-performing channels and apply those filters to prospecting outreach to improve conversion.

**10%**

Job Page Hire Rate

## Takeaway 3

### Finding:

Referrals are the strongest source; the company's own job page and Indeed offer comparable qualified rates (60%+) but very different hire rates (10% vs 5%)

### Recommendation:

Prioritize referrals as the primary recruiting channel. For sourced candidates, prioritize direct applicants from the company job page over third-party boards.

# Recommendations – Offers, Hires & Rejections

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NYC Hires

## Takeaway 4

### Finding:

Receptionists and Technicians drive the most hiring volume, while Operations Managers and Assistants are low. New York has a surprisingly low hire count (2) for a major market.

### Recommendation:

Prioritize Operations Manager and Veterinary Assistant searches in high-volume markets like New York where the gap between market size and hiring volume is widest.

85%

Offer Acceptance Rate

## Takeaway 5

### Finding:

Offer acceptance rate is very high across all roles. Time-to-hire varies:

- Assistants/CSRs ~3 weeks
- Receptionists/Technicians ~4 weeks
- Operations Managers ~5 weeks

### Recommendation:

Given the strategic importance of Operations Managers and the longer hiring cycle, aim to reduce TTH by one week to minimize the risk of candidate dropout.

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Top Rejection Reasons

## Takeaway 6

### Finding:

Post-screen rejections are driven by unavailability. Post-offer rejections cite competing offers, compensation, and unavailability as the top three reasons.

### Recommendation:

Benchmark compensation against market rates to reduce offer rejections. Accelerating the process reduces competition risk and candidate unavailability.