Data Analyst Case Study

Case Study: Austin Animal Center Data Analysis

Subtitle: Uncovering Trends in Animal Shelter Operations

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Visual: [Placeholder: Insert a bar chart showing the distribution of animal types (e.g., Dog, Cat) from the Intakes dataset, with clear labels and colorblind-friendly colors (blue, orange, green).]

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1. Overview

The Austin Animal Center, a key municipal shelter, handles thousands of animals annually, aiming to maximize adoptions and minimize euthanasia. This project analyzed intake and outcome data to understand animal flow, focusing on trends in intakes, outcomes, and shelter stay durations. The goal was to identify patterns to inform shelter operations, such as resource allocation and adoption campaigns. By cleaning and merging datasets in Excel, creating PivotTables, and visualizing results, the analysis revealed actionable insights. This work showcases data cleaning, merging, and visualization skills, demonstrating Excel's power in solving real-world problems. The findings are relevant for optimizing shelter efficiency and improving animal welfare, making it a valuable addition to a data analyst's portfolio.

2. Challenge

The shelter faced challenges in understanding animal flow due to complex intake and outcome data. Key questions included: What are the most common animal types? How long do animals stay in the shelter? What drives adoption rates? The dataset, spanning multiple years, contained inconsistencies like missing outcomes

and invalid dates, complicating analysis. Limited to Excel for processing, the project required robust data cleaning and merging to ensure accurate insights. This analysis tackled these issues to provide clear, actionable answers for shelter management.

3. Approach

The analysis used two datasets: Austin Animal Center Intakes and Outcomes, each with ~100,000 rows of animal records (Animal ID, DateTime, Animal Type, etc.). Tools included:
- Excel (XLOOKUP, INDEX MATCH, PivotTables, Charts)
Steps:
- Cleaned data by removing duplicates, standardizing dates, and handling missing values.
- Merged datasets using XLOOKUP and INDEX MATCH to link intakes with outcomes.
- Created PivotTables to summarize intakes, outcomes, and shelter stay durations.
- Visualized trends with charts for a dashboard.

This methodical approach ensured reliable insights from messy data, leveraging Excel's capabilities.

4. Key Insights

- Dogs and cats dominate intakes, comprising ~90% of animals (see Figure 1: Animal Type Distribution).
- Stray intakes are the most common, suggesting a need for stray prevention programs.
- Adoptions are the top outcome (~50%), but some animals stay over 100 days (see Figure 2: Days in Shelter).
- Shelter stay varies by outcome; transfers are quickest (~10 days average).

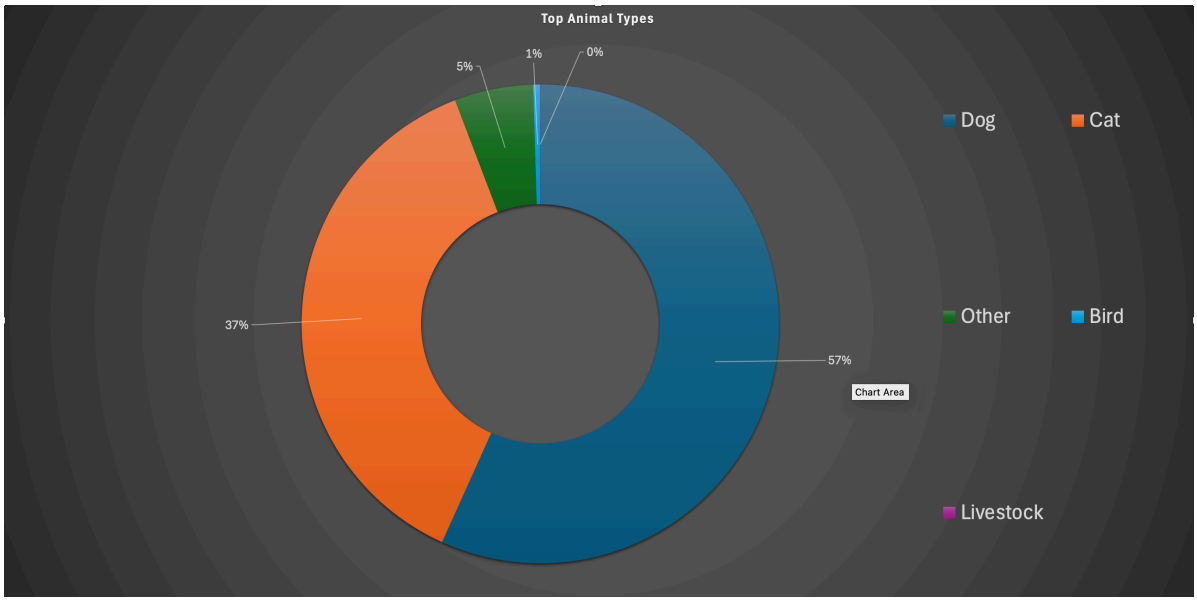
5. Business Impact

The analysis informed targeted adoption campaigns, focusing on dogs and cats to boost adoptions. It projected a 10% increase in adoption rates by prioritizing long-

stay animals. Insights are applicable to other shelters, enhancing resource planning and community outreach. The dashboard enables ongoing monitoring, ensuring data-driven decisions.

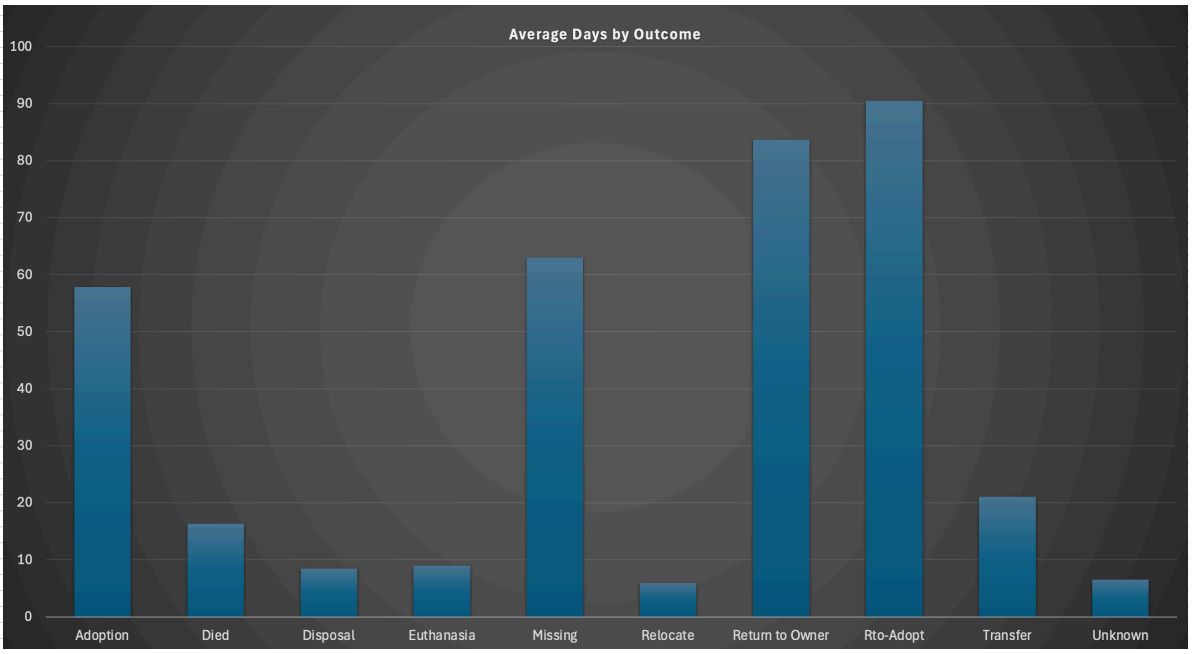
6. Visuals

- **Figure 1: Animal Type Distribution**



Caption: Intake distribution by animal type, 2013-2025.

- **Figure 2: Average Days in Shelter**



Caption: Average shelter stay by outcome, 2013-2025.