Insurance Attach Percentage Analysis

Jumbo & Company (Zopper)

Data Science Internship Assignment

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Role Applied: Data Science Intern
Analysis Tool Used: Python
Submission Date: December 2025

1. Analysis Approach

This analysis was conducted using **Python** to explore, analyze, and summarize insurance attach percentage data. Python was used for data cleaning, transformation, visualization, and trend analysis. The focus of the analysis was on branch-wise, month-wise, and store-level performance, along with store categorization and January attach percentage prediction.

2. Executive Summary

This report analyzes store-level insurance attach percentage data for Jumbo & Company covering the period from August to December. The objective is to understand attach performance across branches, months, and stores, categorize store performance, and estimate attach percentage for January at the store level.

The analysis indicates that insurance attach percentages generally range between **15% and 30%**, with noticeable variation across regions and stores. Using recent performance trends, January attach percentage was predicted to remain within a similar range, providing a practical benchmark for planning and performance tracking.

3. Business Understanding

Attach percentage represents the proportion of customers who purchase device insurance or protection plans along with their device. For example, an attach percentage of 20% means that 20 out of every 100 customers opted for insurance. Improving attach percentage helps increase revenue and enhances customer protection, making it a key business metric for Zopper.

4. Dataset Overview

The dataset contains monthly insurance attach percentage data at the store level for Jumbo & Company. It spans five months from August to December and includes multiple branches and stores. Attach percentages are pre-calculated and expressed in percentage terms, making the dataset suitable for trend analysis and comparison.

5. Methodology

The dataset was first reviewed for structure and consistency. It was then transformed from a wide format to a long format to support month-wise and store-wise analysis. Attach performance was evaluated across branches, months, and stores. Stores were categorized into performance groups, and January attach percentage was estimated using a rolling average of recent months (October to December).

6. Branch-wise Analysis

Branch-wise analysis reveals significant differences in insurance attach performance. Average attach percentages across branches range approximately between **12% and 28%**.
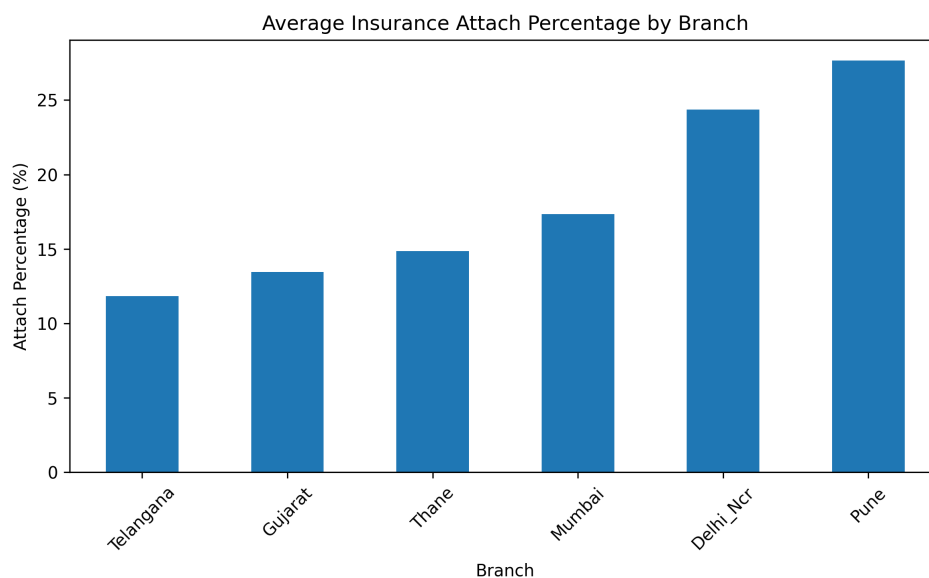
Figure 1: Average Insurance Attach Percentage by Branch

Higher-performing branches indicate stronger insurance adoption, while lower-performing branches present opportunities for focused improvement.

7.   Month-wise Trend Analysis

Month-wise analysis highlights changes in attach percentage over time. Attach performance shows visible variation across months, with values generally fluctuating between **13% and 22%**.
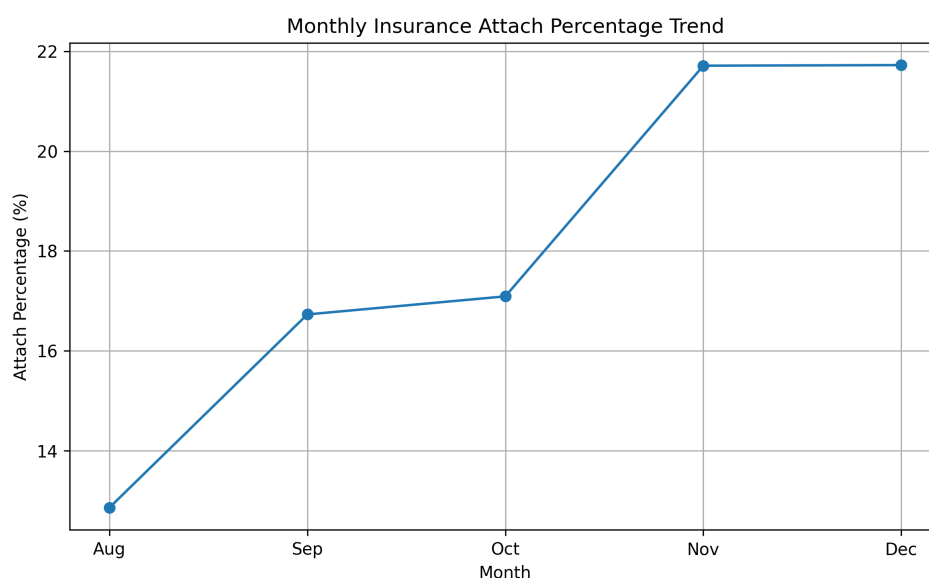

Figure 2: Monthly Insurance Attach Percentage Trend

These trends suggest possible seasonal or period-based effects and are useful for forecasting future performance.

8.   Store-wise Performance Analysis

Store-level analysis shows a wide distribution of attach performance. Top-performing stores achieve attach percentages above **25%**, while lower-performing stores fall below **15%**.
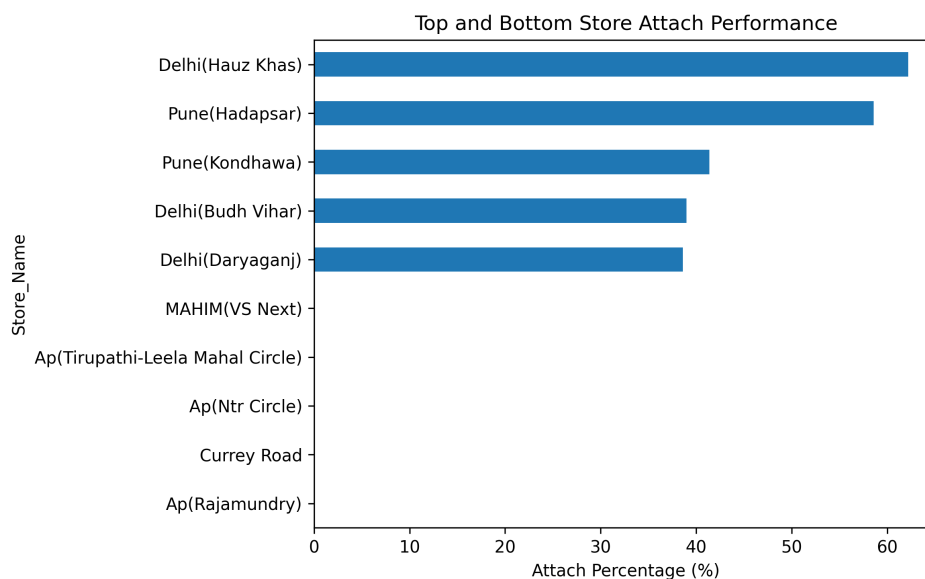

Figure 3: Store-level Insurance Attach Performance

This variation highlights differences in execution and customer engagement at the store level.

9.   Store Categorization

Based on attach percentage performance, stores were categorized as:

- **High Attach Stores:** Above 25%

- **Medium Attach Stores:** 18% to 25%
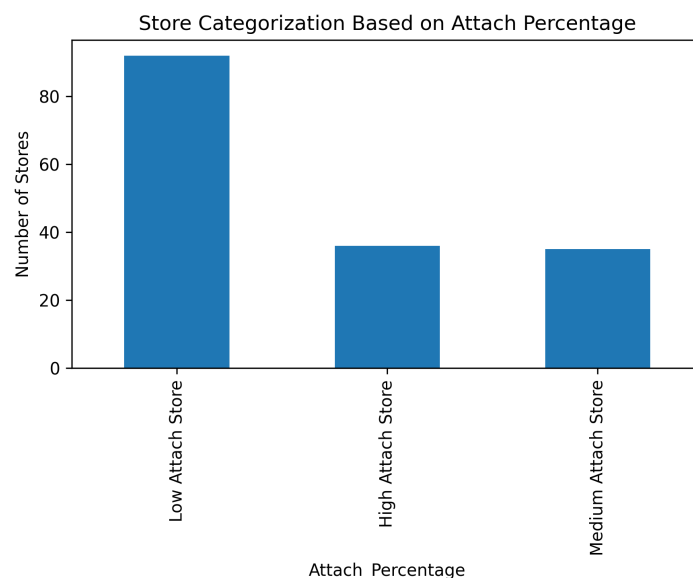
- **Low Attach Stores:** Below 18%

Figure 4: Store Categorization Based on Attach Performance

This categorization supports targeted training, incentives, and improvement initiatives.

10.   January Attach Percentage Prediction

January attach percentage was predicted at the store level using the rolling average of attach performance from October to December. Based on this approach, the overall average predicted insurance attach rate for January is approximately **20.18%**, representing the expected company-wide attach performance. At the individual store level, predicted attach percentages show a wide variation, ranging from **0% to 61.33%**, indicating significant differences in recent store performance. This variation highlights the presence of both high-performing and underperforming stores and provides a clear benchmark for target setting, focused improvement initiatives, and ongoing performance monitoring.
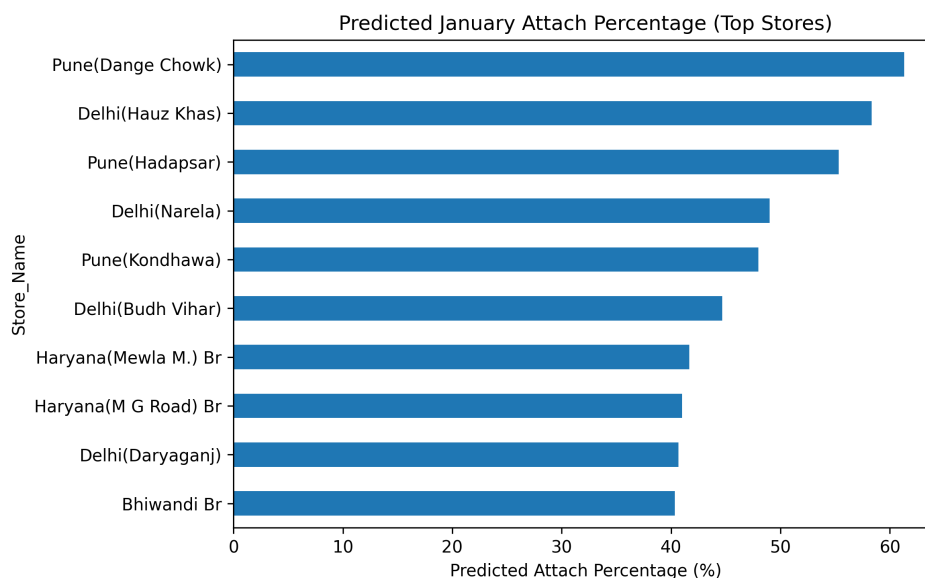
Figure 5: Predicted Store-level January Attach Percentage

11.   Key Insights

- Insurance attach performance differs noticeably across branches, indicating variations in operational execution and regional management practices.

- Month-wise trends show changes in attach percentage over time, suggesting the impact of seasonal demand, sales focus, or short-term operational initiatives.

- Store-level analysis reveals wide performance variation, highlighting differences in staff engagement, sales approach, and customer interaction.

- Several low-performing stores represent clear opportunities for improvement through targeted training, process refinement, and closer monitoring.

- Store categorization into performance groups enables focused action planning, helping operations teams prioritize resources and drive overall attach performance improvement.

12.   High-Level Recommendations

- Prioritize focused sales training and on-ground coaching for low attach performing stores, as these locations present the highest potential for improvement.

- Analyze sales practices of consistently high-performing stores and replicate proven approaches across medium- and low-performing stores.

- Design branch-specific incentive programs that account for regional performance differences rather than applying uniform targets.

- Establish regular monitoring of attach percentage at both store and branch levels to identify performance gaps early.

- Leverage store categorization to guide resource allocation and management focus.

13.   GitHub Repository

The complete Python code used for data cleaning, analysis, visualization, and prediction is available on GitHub:
GitHub Link: `https://github.com/krupalgohil/DS_assignment`

14.   Conclusion

This analysis demonstrates how historical insurance attach percentage data can be used to generate actionable insights and support data-driven decision-making. The findings provide a strong foundation for improving attach performance through targeted and strategic initiatives.