

Sprocket Central Pty Ltd.



Abstract

This analysis presents key insights into customer behaviors and preferences at Sprocket Central Pty Ltd, focusing on gender, property valuation, past purchases, age groups, job industries, and wealth segments. Utilizing Data Visualization techniques, the study aims to enhance customer segmentation and retention strategies to drive business growth.

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Module

LDS7004M - Data Visualization

Data Visualization and the Identification of Valuable Customers for Sprocket Ltd.

Introduction

Sprocket Central Pty Ltd is a leading retailer in the bicycle industry. Understanding customer behavior and identifying valuable customers is crucial for maximizing revenue and improving customer satisfaction. This project focuses on analyzing transaction data from New South Wales, Queensland, and Victoria to provide actionable insights.

Sprocket Central Pty Ltd. is a hypothetical bike store and the dataset is synthetic structured data, sourced from Kaggle and was from KPMG virtual internship assessment.



Objective

1. Identify key customer segments based on transaction data.
2. Analyze purchasing behavior across different demographics.
3. Determine revenue contributions from various customer groups.
4. Provide recommendations to enhance marketing strategies and customer retention.

Methodology

- Data Sources: Transaction data, customer demographics, purchasing history.
- Data Preparation and Visualization Techniques:
 - Data cleaning and features extraction.
 - Scatter plots, bar charts, and line graphs to analyze transaction counts, property valuations, and purchasing patterns.
 - Comparative analysis across states (New South Wales, Queensland, Victoria).

Results

Gender:

- New South Wales & Queensland: Most customers are female, followed by male.
- Victoria: Majority are both female and male.

Property Valuation:

- New South Wales: High valuation (9-12) has the most transactions.
- Queensland: Moderate valuation (5-8) has the most transactions.
- Victoria: Moderate valuation (5-8) has the most transactions.

Age Group:

- Middle-aged customers have the highest transaction counts in all states.

Monthly Transactions:

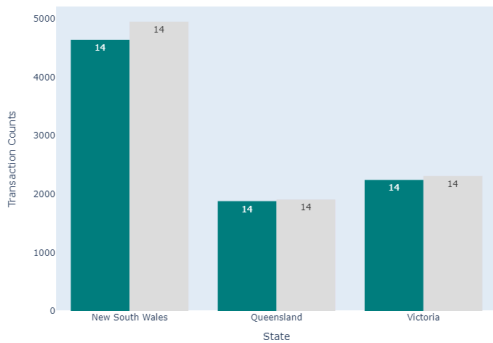
- New South Wales peaks in October, dips in March.
- Victoria highest in July, lowest in March.
- Queensland has stable transactions throughout the year.

Revenue Generation:

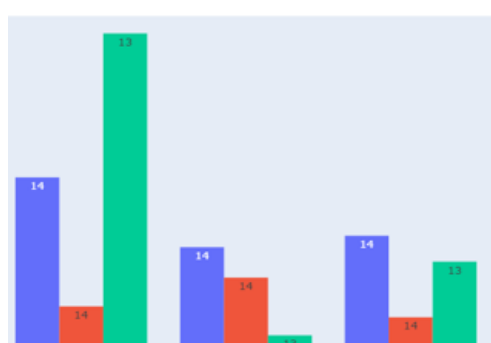
- New South Wales leads in revenue, with high contributions from high and medium property valuations.
- Female customers and middle-aged groups are significant revenue generators.
- Mass customers in the wealth segment yield the highest revenue.

Analysis

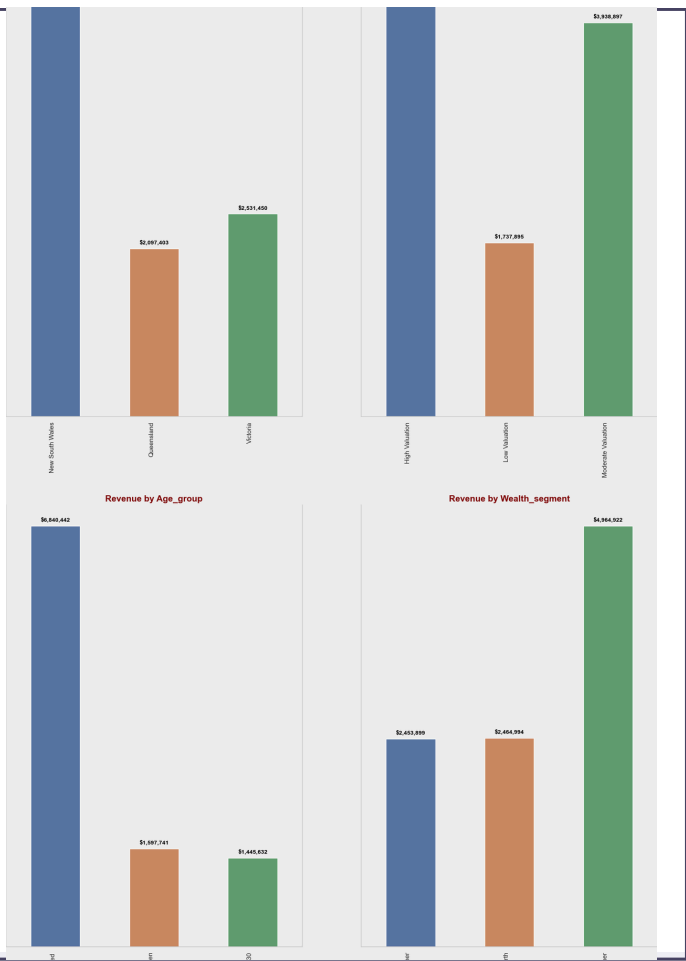
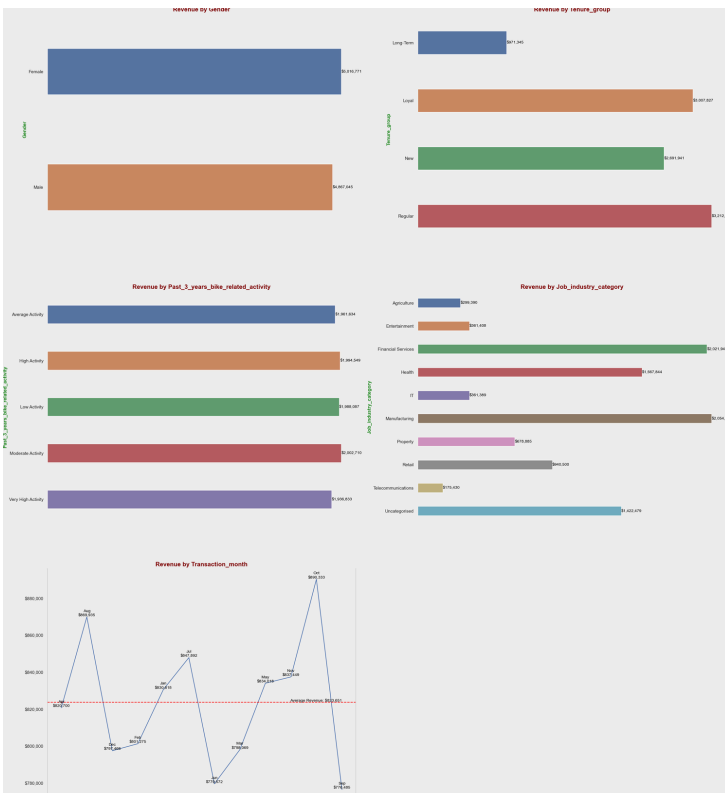
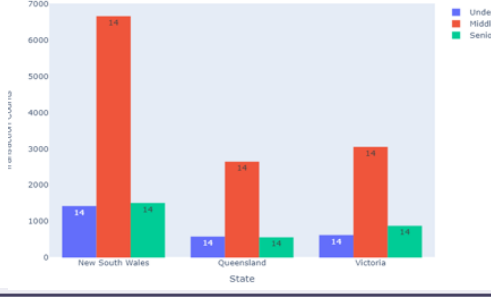
Transaction Counts by Gender in Each State



Transaction Counts by Property Valuation Group in Each State



Transaction Counts by Age Group in Each State



Conclusion

The data visualization analysis for Sprocket Central Pty Ltd. indicates that New South Wales is the most dynamic market, showing the highest transaction and revenue figures. Middle-aged, mass customers, high or medium property valuation segments are particularly valuable. Female customers and those engaged in manufacturing and financial services industries also generate significant revenue.

Recommendations

Target Marketing: Focus on middle-aged, female customers with high and medium property valuations.

Product Focus: Increase inventory and marketing of popular brands like Solex and Standard line bikes. Seasonal Promotions: Launch promotions during peak months (e.g., October in New South Wales).

Customer Retention: Develop strategies to convert new and regular customers into loyal ones.

Industry Engagement: Target customers in manufacturing, financial services, and healthcare sectors.

