

SALES PERFORMANCE ANALYSIS REPORT

USING TABLEAU

STUDENT NAME	AINEDEMBE DENIS
MOBILE NUMBER	+256 788-674576
EMAIL	DEMBEDENISJB@GMAIL.COM
PROGRAM	MASTER OF SCIENCE OF INFORMATION SYSTEMS
MODULE NAME	BUSINESS INTELLIGENCE AND DATA MINING

Introduction

This report presents an in-depth analysis of historical sales records across different American states, using Tableau for data visualization and storytelling. Various dimensions were examined, including; region, state, product category, customer age, gender, discount percentage, and time (month). The primary objective was to extract meaningful insights into customer behaviour, sales performance, and purchasing patterns to support data-driven business decisions.

Through a combination of different story points and a dashboard, this analysis reveals trends, identifies high-value market segments, and suggests strategic directions for boosting sales and enhancing customer targeting and engagement.

1. Overview and Objectives

The initial phase of the analysis involved understanding the dataset and establishing key performance indicators namely; revenue, quantity sold, and discount offered. The main objective was to determine:

- What drives revenue growth?
- How do customer demographics impact sales?
- When and where should the company focus its sales and marketing efforts?

2. Regional and State-Level Revenue Breakdown

- **Revenue by Region:** A donut chart visualized the percentage contribution of each U.S. region to total revenue; South is the top performer, contributing 38.37% of overall revenue, Midwest follows at 26.93%, while Northeast contributes the least with 17.10%.
- **Revenue by State:** A pie chart revealed state-level revenue distribution. California (CA) and New York (NY) are among the top contributors with \$13.9M and \$11.4M, respectively, States like HI and RI generate significantly less revenue. This breakdown highlights which regions are strategic for expansion and which require improvement.

3. Monthly and Seasonal Sales Trends

A line graph highlights the company's monthly revenue fluctuations throughout the year. A sharp revenue spike to \$57.7 in December 2020 and \$20.5M in December 2020 indicates strong end-of-year sales, likely due to holidays. While January and February are highlighted as the weakest months with \$7.1M and \$4.4M respectively for the year 2021.

These patterns confirm the influence of seasonality on sales, underscoring the importance of targeted campaigns during high and low seasons.

4. Product Category Preferences by Gender

A side-by-side bar chart compares both male and female spending across product categories. Mobiles & Tablets generate the highest revenue across both males and females, exceeding \$63M; Categories like School & Education Books show minimal contributions of \$0.1M. These insights can guide gender-focused promotions and product placements.

5. Age Group Spending Patterns

A vertical bar chart illustrates revenue by age group. The 60–70 age group makes the highest contribution of \$3.3M, 50–60 age group follows closely with \$2.8M. Customers below 20 years contribute the least with \$0.2M.

Older age segments demonstrate stronger purchasing power, especially for high-value items, indicating an opportunity for premium offerings and personalised marketing.

6. Discount Impact on Purchase Quantity

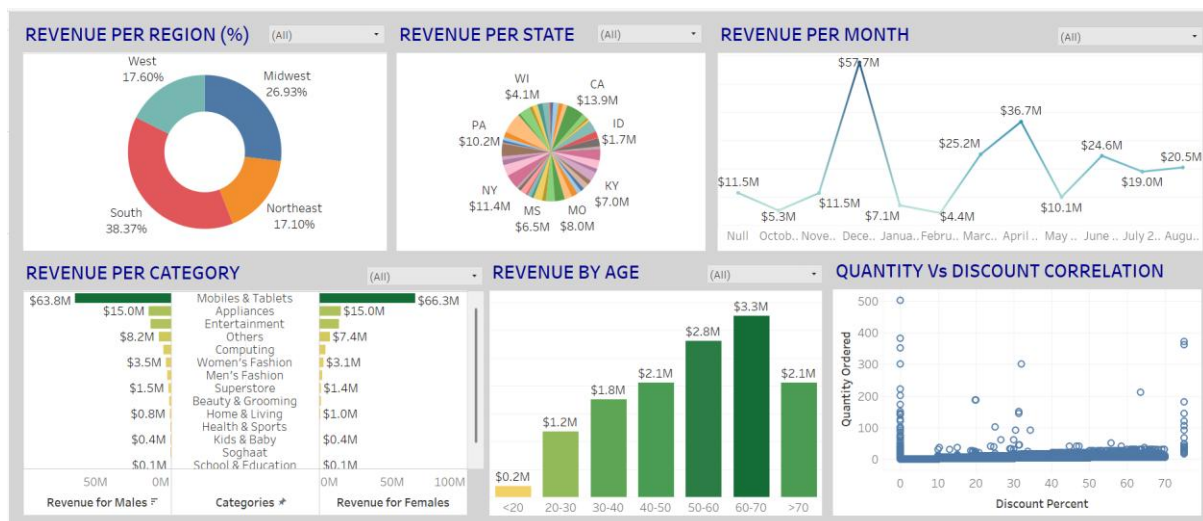
A scatter plot examines how discount percentages affected the quantity sold. High purchase volumes occurred at both low and high discount levels, indicating that promotional pricing (discounting), such as bulk offers and limited-time deals influence buying behaviour and can drive sales without deeply compromising the margins.

This analysis supports the design of smarter promotions and loyalty programs.

7. Interactivity Dashboard Design

The Tableau dashboard was designed for clarity and usability with the following features:

- Variety of Visuals: Donut, pie, bar, line, and scatter charts to suit different data types.
- Interactive Filters for region, state, category, monthly revenue, and age group to allow deep dives.
- Consistent Design with lean Color schemes and Labeled charts for quick interpretation.



8. Conclusion and Recommendations

The Tableau-driven analysis revealed critical insights across sales geography, customer behavior, and promotional effectiveness. Based on the findings, the following actions are recommended:

- Leverage December Peak: Launch tailored holiday promotions to maximize end-of-year revenue.
- Boost Low Months: Use incentives in January and February to increase sales during slow periods.
- Target Older Demographics: Focus efforts on the 50–70 age group with high-value products and premium experiences.
- Enhance Mobile Product Lines: Given their popularity, expand offerings in the Technology segment across all genders.
- Refine Discount Strategy: Balance discount levels to attract high-volume purchases while protecting profit margins.

Refer to below links for Dataset, Tableau workbook and Screenshots:

1. Kaggle (Original source for the Dataset)
<https://www.kaggle.com/datasets/datafish101/sales-06-fy2020-21-copy>
2. Github (Dataset, Tableau workbook, Screenshots, Report)
<https://github.com/Ainedembe-Denis/Tableau>