

Business Insights Report

Overview

This report presents key business insights derived from the supermarket sales dataset. The analysis focuses on customer behavior, sales trends, and product performance.

1. Sales Trends Over Time

- **Highest Sales Days:** Sales peaked on weekends, particularly on Saturdays.

2. Customer Insights

- **Customer Type Distribution:** Normal accounted for a higher proportion of total sales compared to Member customers.
- **Customer Rating Analysis:** The average customer rating was 6.9, with occasional outliers indicating highly satisfied or dissatisfied customers.

3. Product Performance

- **Top-Selling Product Lines:**
 - Sports and Travel
 - Food and Beverages
 - Electronic Accessories
- **Least Performing Product Lines:** Health and Beauty products had the lowest sales.

4. City-Wise Sales Performance

- **Highest Sales:** Naypyitaw had the highest revenue, followed by Mandalay.

5. Time-Based Purchase Patterns

- **Peak Sales Hours:** Most purchases occurred between 12:00 PM and 6:00 PM.
- **Low Sales Periods:** Early mornings and late nights had the least number of transactions.

6. Revenue Insights

- **Total Sales Distribution:** Revenue was mostly driven by high-unit price items rather than high purchase volume.
- **Tax Contribution:** The 5% tax consistently contributed to overall revenue but varied based on product lines.

7. Outlier Analysis

- **Detected and removed outliers** in key numerical columns (**Rating**) using the **Interquartile Range (IQR) method**.
- **Impact:** Removing extreme outliers helped refine business insights and improve model accuracy.

8. Recommendations

- **Customer Engagement Strategies:** Introduce loyalty programs to boost retention among Normal customers.
- **Branch-Specific Promotions:** Tailor promotions for low-performing branches to increase foot traffic.
- **Optimized Product Offerings:** Increase stock for high-selling products and reconsider inventory for low-performing lines.

Conclusion

The insights derived from this analysis highlight important patterns in customer behavior, sales performance, and revenue generation. Implementing targeted strategies based on these findings can significantly enhance overall business performance.