STRATEGIC DECISION-MAKING USING POWER BI

Pre-Report on Mobile Sales Dataset

Mobile Sales Analysis Report

1. Problem Statement

The mobile phone market is highly competitive, with brands needing to optimize their strategies to capture customer attention and increase revenue. The objective of this analysis is to uncover patterns in sales performance, customer preferences, and payment methods using the provided dataset. These insights will help stakeholders make informed business decisions.

The dataset contains the following columns:

1. **TransactionID**: Unique identifier for each transaction

2. **Date**: Transaction date

3. **Mobile Model**: Name/model of the mobile phone

4. **Brand**: Brand of the mobile phone

5. **Price**: Price of the mobile phone

6. **Units Sold**: Number of units sold

7. **Total Revenue**: Total revenue generated from the sale

8. **Customer Age**: Age of the customer

9. **Customer Gender**: Gender of the customer

10. **Location**: Customer's location

11. **Payment Method**: Payment method used

2. Data Requirement

To carry out this analysis, the following data fields were identified as essential:

- **Transaction Information**: Date, TransactionID, MobileModel, and Brand

- **Financial Metrics**: Price, UnitsSold, Total Revenue

- **Customer Demographics**: Customer Age, Customer Gender, and Location

- **Payment Insights**: Payment Method

3. Data Collection

The data was taken from the website Kaggle.

The dataset includes **1,000 records** of mobile phone sales transactions. It comprises information on customer demographics, pricing, revenue, and payment methods, covering a wide range of attributes essential for analysis.

4. Data Validation

The dataset underwent validation for consistency and completeness:

- **Missing Data**: No missing entries were found in the dataset.

- **Revenue Discrepancy**: All entries had discrepancies between the calculated revenue (Price × UnitsSold) and the reported Total Revenue. These were corrected by recalculating Total Revenue values.

- **Formatting**: Inconsistent capitalization in Brand and Customer Gender fields was standardized.

5. Data Cleaning

The following actions were taken to clean the dataset:

⬜ Formatting:

- Ensure consistent capitalization for Brand and MobileModel names.

- Standardize gender values (Male, Female, Other).

⬜ Remove irrelevant or duplicate entries, if any.

⬜ Address potential errors in Total Revenue calculations.

6. Tools

- **Dashboarding**: Tableau or Power BI is recommended for interactive visualizations.

- **Microsoft Excel**

7. Dashboard

Key performance indicators (KPIs) were visualized to provide actionable insights:

Overall Metrics:

- Total Units Sold and Total Revenue figures are prominently displayed.

Revenue by Gender:

- A pie chart shows the distribution of total revenue among Male, Female, and other genders.

Location and Total Revenue:

- A map highlights revenue generated from different geographic locations.

Units Sold by Brand:

- A pie chart depicts the percentage of units sold for various brands.

Units Sold by Month:

- A bar chart shows the number of units sold across different months.
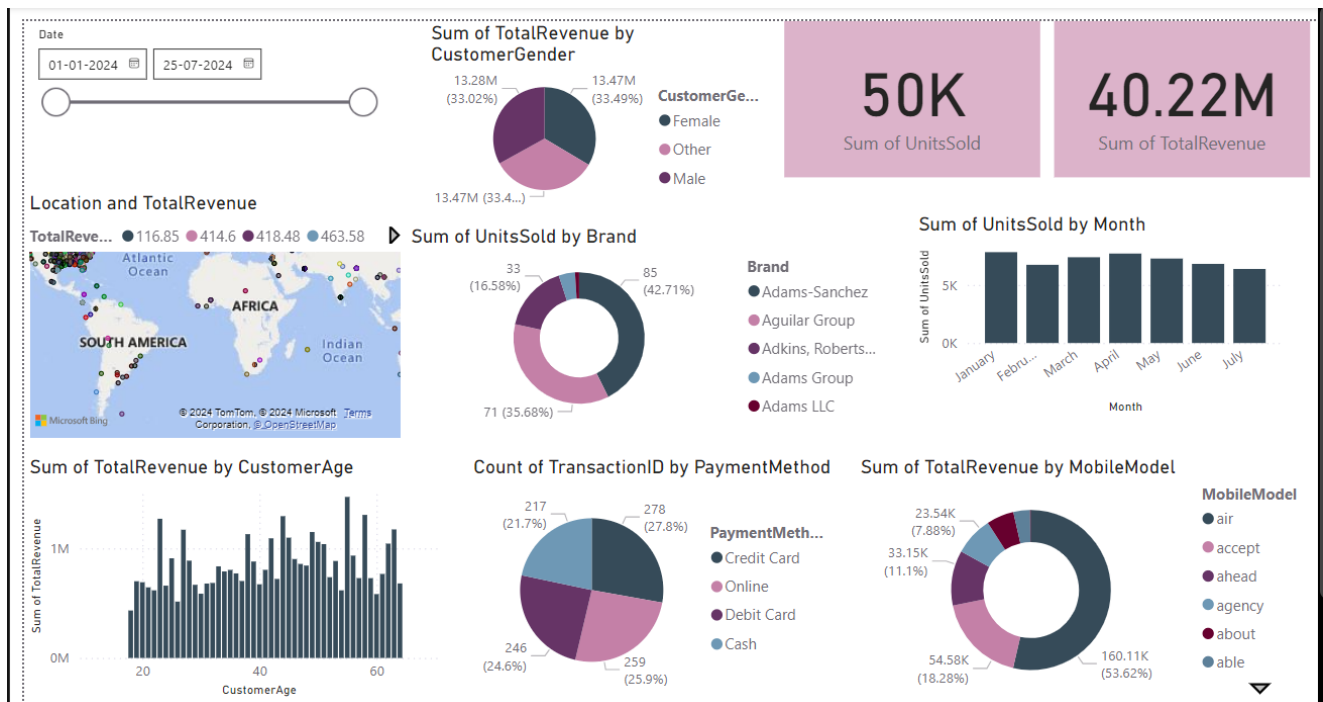
Revenue by Customer Age:

- A bar graph displays revenue contributions by customer age groups.

Transactions by Payment Method:

- A pie chart outlines the count of transactions by payment methods such as Credit Card, Online, Debit Card, and Cash.

Revenue by Mobile Model:

- A pie chart represents the revenue contribution of various mobile models.

8. Storytelling

Here are the key insights derived from the dataset:

1. Revenue Insights:

   o Total revenue spans across transactions, with high-ticket brands like Green Inc achieving significant sales volume and revenue.

   o Lower-priced brands like Sanchez-Williams contribute heavily to volume sales, balancing affordability and customer reach.

2. Customer Demographics:

   o Customer Age Range: Majority of buyers fall in the 32–57 age bracket, suggesting a middle-aged customer base.

   o Gender Distribution: Both male and female customers actively participate, with slight variations in preferences between brands.

3. Geographic Preferences:

   o Locations like Port Erik and East Angelicastad are hotspots for mobile sales. These regions may warrant targeted marketing campaigns for higher revenue generation.

4. Payment Preferences:

- A clear majority of customers prefer online and credit card payments, hinting at a tech-savvy demographic.

- Cash payments are relatively low, indicating trust in digital payment methods.

5. Popular Models & Brands:

- Brands like Green Inc and Sanchez-Williams dominate sales, with higher unit sales for models like summer and direction.

- This suggests a diverse demand for both premium and budget models.

6. Units Sold Analysis:

- High-selling units (e.g., 95 for Sanchez-Williams) emphasize price sensitivity in customer purchasing behavior.

7. Trends Over Time:

- Seasonal peaks might influence sales, as indicated by differing unit sales across months like January and April.

8. Opportunities:

- Regions and customer segments (e.g., Other genders) with lower sales can be potential areas for growth.

- Offering more varied payment options or promotional pricing could further enhance market penetration.

Recommendations:

Brand Optimization:

- Focus on high-performing brands: Brands with a higher frequency of transactions (e.g., Martinez Ltd) should be prioritized for continued promotions.

- Increase visibility for underperforming brands by offering bundled discounts or targeted campaigns.

Mobile Model Sales Strategy:

- Popular models: Models like "many" (top frequency) can be further promoted with accessory bundles or warranty extensions.

- Low-performing models: Identify less popular models and consider price adjustments or promotional strategies to boost sales.

Pricing Strategy:

- Average price is ₹807, with a wide range (₹103–₹1499). Use this to segment products and offer tiered pricing plans to cater to various income groups.

- For higher-priced models, implement EMI options or trade-in discounts.

Customer Demographics:

- Customer Age: Most sales come from customers aged 41 years on average. Create campaigns and offers tailored to middle-aged professionals.

- Gender Distribution: With a relatively even split, ensure inclusivity in product marketing to appeal to all gender groups.

Revenue by Payment Methods:

- Promote credit card usage (most frequent payment method) by partnering with banks for cashback or rewards programs.

- Encourage cashless transactions in areas where debit card or online methods are less common.

Regional Focus:

- Locations like West Michael with repeat transactions could be targeted with loyalty rewards or exclusive sales events.

- Expand presence in less active locations to boost market penetration.

Inventory Management:

- Ensure stock availability for high-performing models and brands based on the sales frequency and revenue data.

- Reevaluate the inventory of low-demand items to avoid overstocking and reduce holding costs.

Sales Promotions:

- Offer special discounts on models within the price range of ₹103–₹458, as they may attract price-sensitive customers.

- Plan sales events during times with historically low transaction volumes to maintain consistent revenue flow.