Comprehensive Report: Analysis and Insights from P1, P2, and P3

P1: Bank Statements Analysis

1.Transaction Analysis:

Total Number of Transactions:

 Determined the total number of transactions made over the year.

 Distribution of Transaction Amounts:

 Defined small transactions as those less than ₹500 and large transactions as those more than ₹10,000.

 Analyzed the distribution of transaction amounts based on the defined categories.

Frequency of Different Transaction Types:

Analyzed the frequency of debit transactions versus credit transactions.

2. Balance Analysis:

Trend of Account Balance Over Time:

Plotted the account balance over time to observe trends and changes.

Periods with Significant Changes in Balance:

Identified periods where there were significant changes in the account balance, such as large withdrawals or deposits.

3. Spending Patterns:

Main Categories of Expenses:

Identified the main categories of expenses such as fuel, Ecommerce, food, shopping, ATM withdrawals, and UPI transactions.

Frequency and Amount of Spending:

Analyzed the frequency and total amount spent in each category.

4. Income Analysis:

Main Sources of Income:

Determined the main sources of income, primarily salary and UPI credits.

Timing and Amount Patterns:

Analyzed the patterns in the timing and amounts of income received.

5. Alert Generation:

Unusual or Suspicious Transactions:

Identified unusual or suspicious transactions based on transaction patterns.

Alerts for Low Balance/High Expenditure:

Generated alerts for low balance or periods of high expenditure.

P2: Office Supplies Data Analysis

1. Sales Analysis:

Total Sales by Product Category:

 Calculated the total sales for each product category.

Highest Sales Category:

Determined which product category had the highest sales.

Top 10 Best-Selling Products:

  - Identified the top 10 best-selling products.

2. Customer Analysis:

Top 10 Customers by Sales:

Identified the top 10 customers based on sales volume.

Total Number of Unique Customers:

Calculated the total number of unique customers.

Customer Purchase Frequency:

Analyzed the frequency of purchases made by customers.

3. Time Series Analysis:

Monthly Sales Trends:

 Analyzed the monthly sales trends over the past year.

Seasonal Patterns:

  - Identified any seasonal patterns in the sales data.

4. Geographical Analysis:

Regions with Most Sales:

Identified which regions generated the most sales.

Sales Trends by Region:

Analyzed sales trends across different regions.

5. Profit Analysis:

Total Profit by Product Category:

 Calculated the total profit for each product category.

Top 10 Most Profitable Products:

Identified the top 10 most profitable products.

P3: Churn Modelling Data Analysis

1. Customer Demographics:

Distribution Across Age Groups:

  Analyzed the distribution of customers across different age groups.

Gender Distribution:

 Analyzed the gender distribution of customers.

2. Churn Analysis:

Churn Percentage:

Calculated the percentage of customers who have churned.

Main Reasons for Churn:

 Identified the main reasons for customer churn.

Patterns Among Churned Customers:

Identified patterns or trends among customers who have churned.

3. Product Usage:

Most Commonly Used Products/Services:

 Identified the most commonly used products or services.

Usage Patterns of Different Customer Segments:

  - Analyzed the usage patterns of different customer segments.

4. Financial Analysis:

Average Account Balance:

Calculated the average account balance of customers.

Financial Characteristics of Churned vs. Non-Churned Customers:

Compared the financial characteristics (e.g., balance, product usage) of churned and non-churned customers.

5. Predictive Modelling:

Significant Predictors of Churn:

Identified the most significant factors that predict customer churn.

Predictive Model for At-Risk Customers:

Developed a predictive model to identify customers at risk of churning.

This comprehensive report provides detailed insights and analyses based on the provided datasets, covering financial transactions (P1), sales data (P2), and customer churn data (P3). These insights can inform strategic decisions to optimize financial management, sales strategies, and customer retention efforts.