Vrinda Store Annual Report 2022 - Project Documentation

# 1.Problem Statement

Vrinda Store, a retail clothing business, collected a year's worth of transactional data for 2022 covering customer demographics, product categories, purchase channels, order statuses, and shipping details. However, the raw dataset lacked structure, with inconsistencies such as improper date formatting and missing analytical groupings like customer age groups or month-wise summaries. Without transforming this data, it was difficult for the management to gain any meaningful business insights or take informed decisions.

# 2. Project Abstract

This project aimed to build a comprehensive sales analysis dashboard using Microsoft Excel. The dataset included details like Order ID, Gender, Age, Channel, Product Category, and more. Several data-cleaning and transformation techniques were applied using Excel formulas to prepare the dataset for analysis.

* **Date Conversion**: Dates were converted into a proper standard format.
* **New Columns Created**:
  + **Month**: Extracted using = TEXT (Date, "mmm") to display the 3-letter month.
  + **Age Group**: Categorized using = IF (Age<=20,"Teenager", IF(Age<=60,"Adult","Senior")).

Post-cleaning, various charts and slicers were created in Excel to develop an interactive dashboard that helps in analysing orders, revenue, customer behaviour, and product performance.

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# 3. Proposed Solution

The solution was implemented entirely using Excel, utilizing:

* **Data Cleaning & Preprocessing**:
  + Converted date formats to DD-MM-YYYY
  + Removed duplicates/nulls
  + Created Month and Age Group columns
* **Visualization Tools in Excel**:
  + Combo Charts for Order vs Sales (bar for sales, line for orders)
  + Pie Charts for Order Status and Gender-wise distribution
  + Column Charts for Age-wise Category Preferences
  + Bar Charts for Top 5 States by sales
  + Pie Chart for Channel-wise performance
* **Interactive Filters**:
  + Slicers for Month, Age Group, Category, and Channel

This Excel dashboard made the analysis user-friendly and allowed the team to explore the data dynamically without any need for external tools.

# 4. Flow Chart

1. Data Collection  
   → Sales data in Excel from various channels
2. Cleaning (in Excel)  
   → Fixing date format  
   → Removing duplicates/nulls  
   → Creating Month and Age Group columns
3. Dashboard Creation (in Excel)  
   → Charts: Line, Pie, Column, Bar  
   → Slicers: Month, Age Group, Category, Channel
4. Final Review and Output  
   → Ready-to-use Dashboard for insights

# Output / Dashboard Summary

From the Excel dashboard, the following insights were derived:

* Order vs Sales:
* Peak sales occurred in February
* Sales steadily declined from September to December
* Gender-wise Analysis:
* 59% of orders came from Men
* 41% were from Women
* Age Group Behavior:
* Adults (21–60 years) were the most frequent buyers
* Most adults preferred Set, Kurta, and Bottom wear
* Top 5 Performing States:
* Tamil Nadu – ₹29.9 lakhs
* Maharashtra – ₹26.4 lakhs
* Uttar Pradesh – ₹21.0 lakhs
* Telangana – ₹17.1 lakhs
* Karnataka – ₹16.7 lakhs
* Channel-wise Sales:
* Ajio led with 35.5% share
* Followed by Meesho (23.4%), Myntra (21.6%), and Amazon (6.2%)
* Category Trends:
* Kurta and Set were the most sold items
* Adults purchased the majority of clothing items
* Shipping Hotspots:
* Key cities: Gurugram, Bengaluru, Vijayawada, Kolkata, Mohali
* Order Status:
* Over 92% orders delivered
* Only small percentages were Cancelled, Refunded, or Returned

# Future Scope

This project forms the base for many advanced analytics and automation initiatives. Here are future enhancements that can be developed:

1. Predictive Analytics
   * Use Python/Excel ML add-ins or integrate with tools like Power BI to forecast sales trends based on past data.
   * Predict upcoming demand by product, region, or age group.
2. Customer Segmentation
   * Group customers into clusters (age, gender, region, purchase behaviour).
   * Launch targeted marketing campaigns for each segment.
3. Product Recommendation Engine
   * Analyse previous orders to suggest related or complementary products.
   * Useful for both offline and online store automation.
4. Live Data Integration
   * Connect to live data sources (like Google Sheets, SQL, or ERP systems) for real-time dashboarding.
5. Inventory Optimization
   * Identify overstocked or understocked products using sales and category-wise trends.
   * Helps reduce storage costs and manage demand.
6. Market Basket Analysis
   * Understand which products are frequently bought together.
   * Use this insight for bundling and combo offers.
7. Advanced Visualizations
   * Migrate to Power BI or Tableau for richer visuals and more complex data models.