

Inventory Management System: Project Overview

This project involves designing an **Inventory Management System** in Excel to track stock levels, monitor sales trends, and automate restocking alerts. By incorporating advanced Excel functions and macros, the system ensures efficient inventory management and reduces the risk of stockouts. The added email automation feature simplifies communication for reorders.

Key Features:

1. Inventory Overview:

- **Total Stock Units:** 1,49,976
- **Total Inventory Value:** ₹37,84,50,104.01
- **Total Sold Units:** 7,47,363
- **Total Sold Inventory Value:** ₹18,91,29,516.17
- **Low Stock Alerts:** 134 products are flagged for restocking.

2. Category-Wise Analysis:

- Bar charts represent stock levels across categories such as Groceries, Furniture, Stationery, Clothing, and Electronics.
- Insights into category-specific performance to prioritize restocking and improve sales strategies.

3. Sales Trends Over Time:

- A line chart showcases monthly sales trends, helping identify peak periods and seasonal demand fluctuations.

4. Restocking Alerts:

- A pie chart highlights the number of products requiring immediate restocking.
- Automated email notifications are triggered for products below reorder levels, enhancing operational efficiency.

5. Top Products:

- **Top 5 Products by Units Sold:** Visualized in bar charts to show high-performing items.
- Tree maps display revenue generated by individual products, such as Pen, Table, Mouse, and Chair.

6. Remaining Stock by Category:

- Bar charts show current stock levels across categories for better inventory planning.

7. Data Summary:

- Comprehensive tables include:
 - Total Units, Sold Units, Remaining Stock, Total Inventory Value, and Sold Inventory Value.
 - Quarterly sold units and average sold units for better trend analysis.

8. Email Automation:

- **Macro Feature:** A VBA macro sends automated emails to the procurement team for products below reorder levels, ensuring timely replenishment.
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Tools and Techniques Used:

1. Excel Functions:

- **IF Statements:** To identify low-stock products.
- **SUMIF:** For aggregated sales and stock analysis.
- **Data Validation:** To ensure consistent data entry.
- **INDEX-MATCH:** For dynamic data retrieval.

2. Macros and VBA:

- Macro-enabled emails for restocking alerts.
- Automated data updates to streamline inventory tracking.

3. Visualizations:

- Charts and graphs to represent stock levels, trends, and revenue.