DYNAMIC EXCEL INVENTORY DASHBOARD WITH ABC ANALYSIS AND TURNOVER METRICS

1. Background and Problem Statement:

A consumer electronics retailer managed over 150 SKUs but lacked visibility into which products contributed most to revenue or tied up capital inefficiently. Management was making purchasing decisions based on intuition rather than structured analysis. The company needed an Excel-based inventory dashboard that could classify SKUs using **ABC analysis**, track **inventory turnover**, and display actionable KPIs in a single view.

2. Objectives:

- Implement ABC classification to prioritize SKUs based on revenue contribution

- Calculate and track inventory turnover rate

- Visualize slow-moving and high-value items for stock control decisions

- Build an Excel dashboard to summarize insights and guide decisions

3. Methodology:

3.1 Data Inputs

- SKU-level data:

    o Annual consumption value = Unit Cost × Annual Demand

    o Current stock levels

    o Number of units sold per quarter

    o Product category, supplier name, storage cost

3.2 Core Formulas

ABC Classification Logic:

- Class A = top 70% of cumulative annual consumption value

- Class B = next 20%

- Class C = bottom 10% Used Excel's **SORT**, **RANK**, and **CUMULATIVE SUM** functions.

Inventory Turnover:

$$\text{Inventory Turnover} = \frac{\text{Cost of Goods Sold}}{\text{Average Inventory}}$$

Days Inventory Outstanding (DIO):

$$\text{DIO} = \frac{365}{\text{Inventory Turnover}}$$

3.3 Excel Model Structure

- **Input Sheet:** Raw data with dropdowns for category and supplier

- **ABC Sheet:** Classification, color-coded with conditional formatting

- **Turnover Sheet:** Inventory turnover, DIO, and aging buckets

- **Dashboard Sheet:**

    o Donut chart for ABC class split

    o Bar chart for top slow-moving SKUs

    o KPIs: Average DIO, total value in A-class items, alert on C-class overstock

4. Key Features of the Excel Model

- Automated ABC classification with color-coding

- Real-time turnover metrics and stock aging alerts

- Interactive filters to view dashboard by category or supplier

- Weekly refresh feature using Excel tables and dynamic ranges

5. Results and Benefits

- Enabled stock planners to reduce C-class overstock by 35%

- Prioritized A-class procurement, improving stock availability for top sellers

- Helped reduce average inventory DIO from 112 days to 81 days

- Created a single view for procurement, finance, and store managers

6. Deliverables

- Excel workbook with ABC logic, turnover KPIs, and dynamic dashboard

- Customizable visual templates for easy weekly updates

- User manual for new team members

- Performance tracking template for quarter-over-quarter comparison

7. Stakeholder Relevance

Academic:

- Demonstrates integration of inventory analytics concepts in Excel

- Useful for hands-on workshops on ABC analysis and turnover modeling

Corporate:

- Ideal for retail or warehouse environments needing SKU prioritization and aging insights

- Suitable for inventory optimization and procurement review meetings