

ROLL NO: 727823TUIT128

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SALES FORECASTING & ANOMALY DETECTION (AI PROJECT)

PROBLEM STATEMENT :

A retail organization wants to shift from reactive reporting to predictive analytics using AI. Management aims to forecast future sales, detect unusual sales patterns, and identify risks early. Manual analysis is no longer effective due to increasing data volume. As an Advanced BI Analyst, AI-powered features in Power BI are used for forecasting and anomaly detection. The goal is to generate automated insights using Smart Narratives for better decision-making. The organization needs AI-driven insights to proactively manage sales performance. Power BI forecasting and anomaly detection help identify trends, risks, and opportunities early. Smart Narratives automatically summarize insights for faster management decisions.

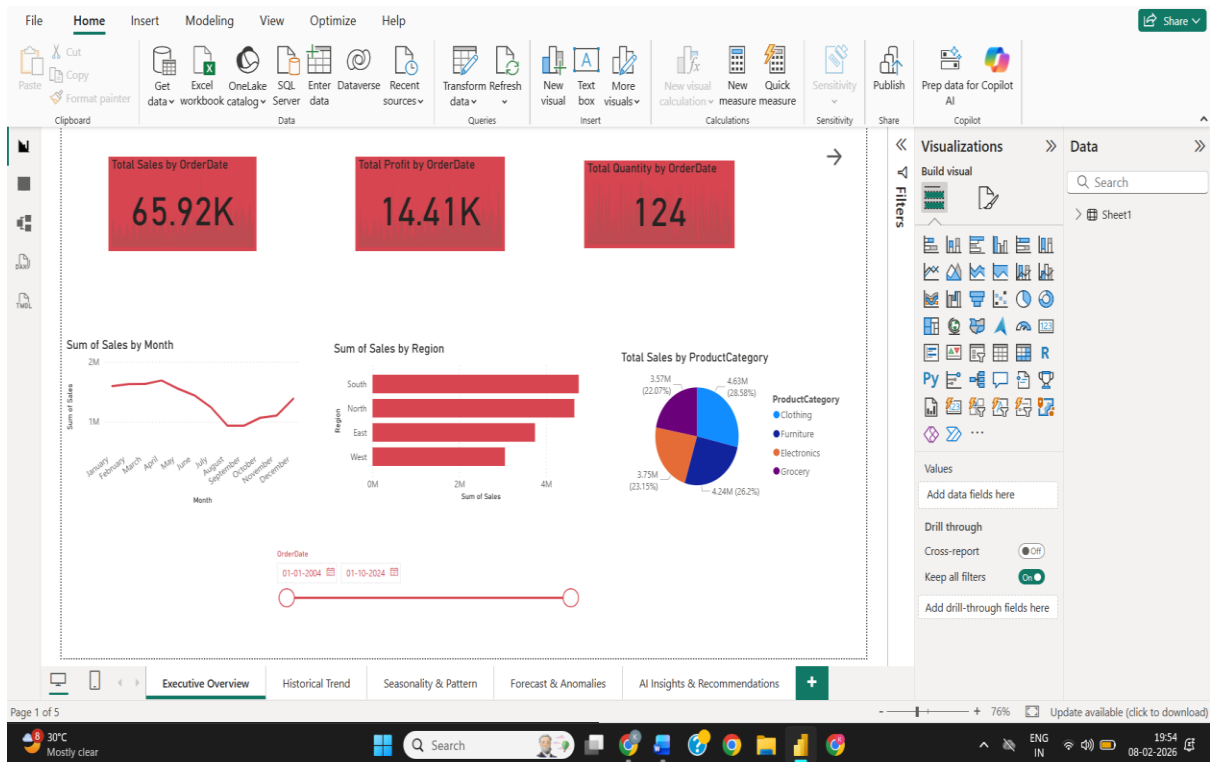
MEASURES ADDED:

1. Quarter = "Q" & FORMAT(Sheet1[OrderDate], "Q")
2. Day Type = IF(WEEKDAY(Sheet1[OrderDate],2) <= 5, "Weekday", "Weekend")

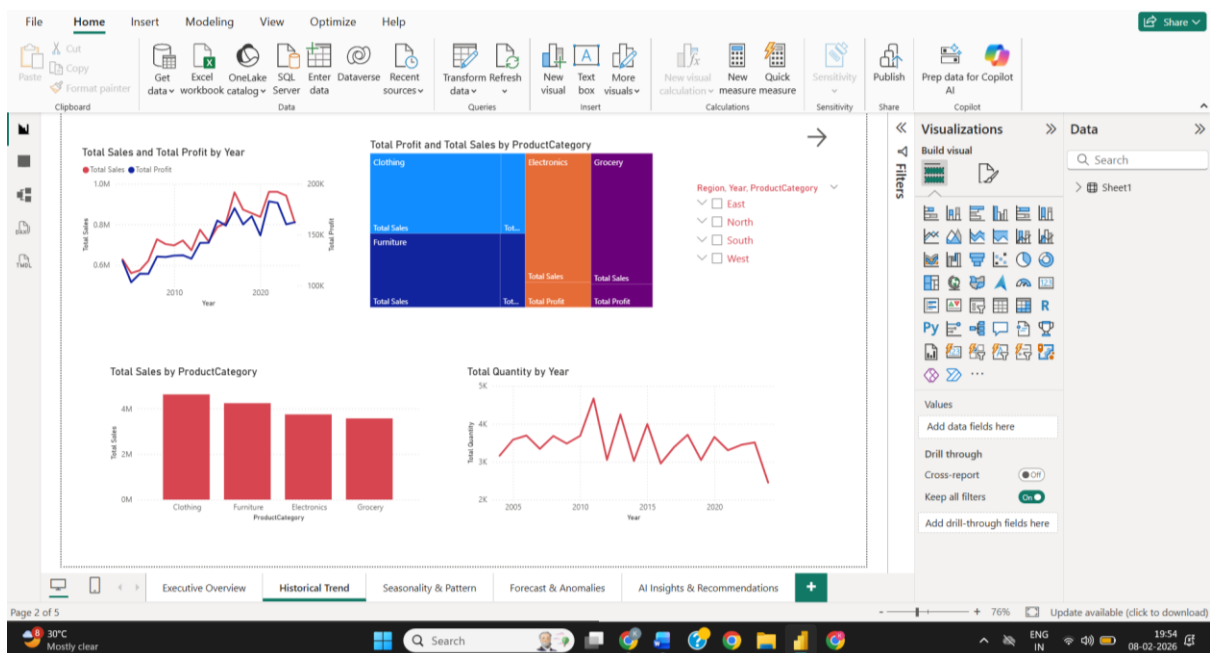
Table: Sheet1 (250 rows) Column: Quarter (4 distinct values)

Table: Sheet1 (250 rows) Column: Day Type (2 distinct values)

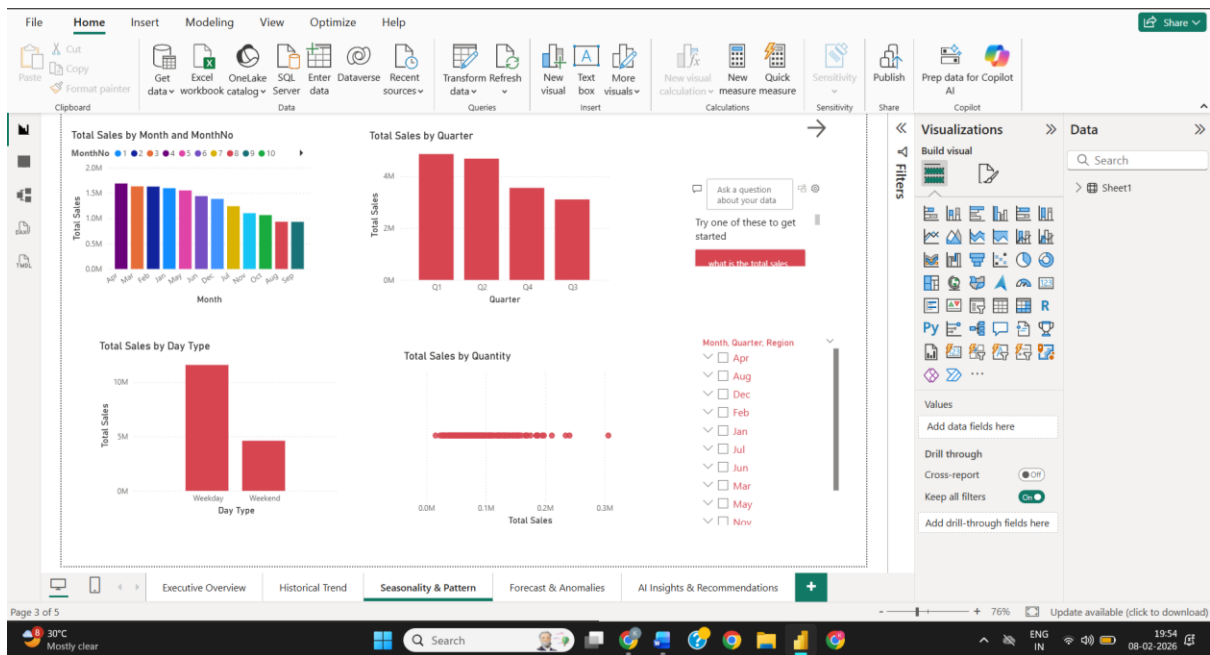
Executive Overview :



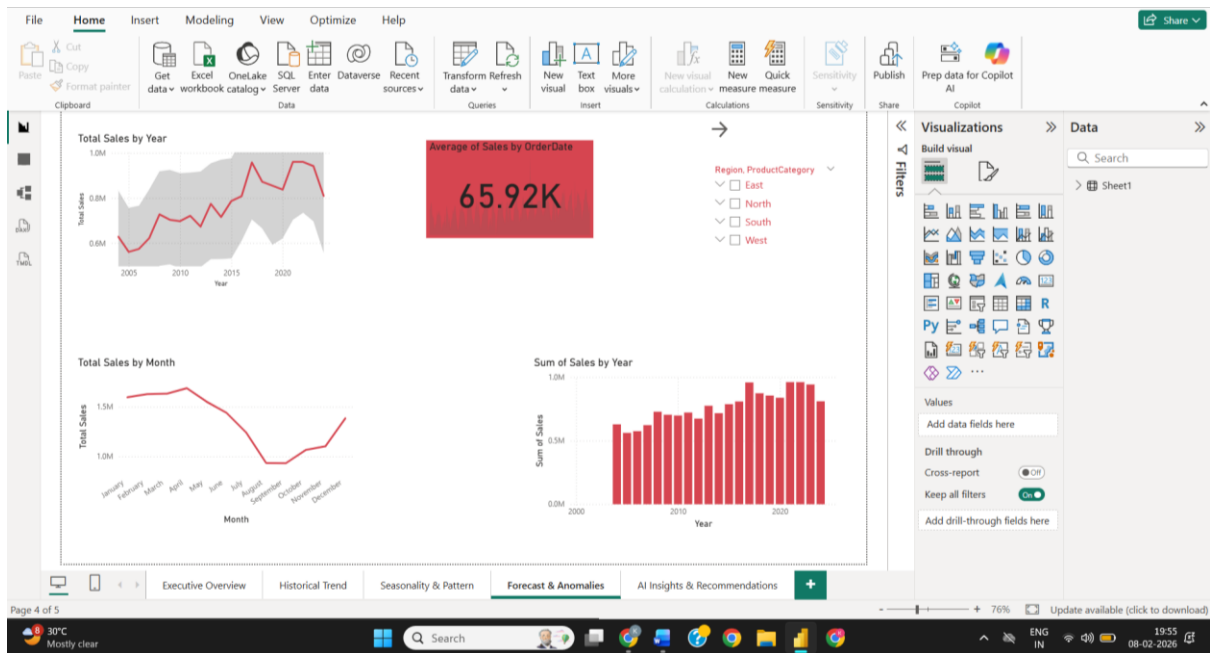
Historical Trend :



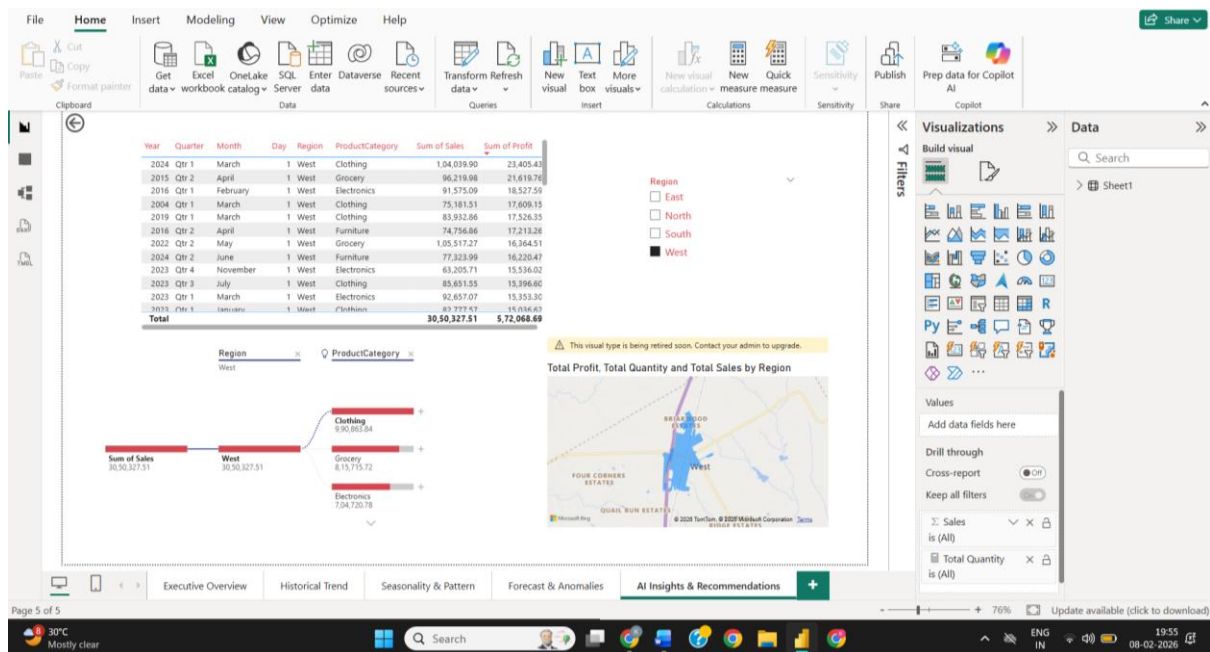
Seasonality & Pattern :



Forecast & Anomalies :



AI Insights & Recommendations :



Description:

The retail organization aims to enhance decision-making by moving from traditional reporting to AI-driven analytics. With growing data volumes, manual analysis has become inefficient and time-consuming. Power BI is used to analyse historical sales trends and identify seasonality patterns. AI forecasting models help predict future sales performance accurately. Anomaly detection highlights unusual sales spikes or drops automatically. These anomalies may indicate demand surges, supply issues, or external market changes. Smart Narratives convert complex data into easy-to-understand insights. Overall, the solution enables proactive risk management and opportunity identification.