Power BI Dashboarding project proposal – Ishika Bhatia

1. Executive Summary:

This project aims to develop an interactive and insightful dashboard using Power BI for **Tenate Industries**, a fictitious company specializing in replacement parts for industrial pizza ovens. The primary objective is to build a **Make vs. Buy analysis tool**, enabling data-driven decision-making in supplier selection and internal manufacturing cost assessment.

2. Problem Statement:

Efficient supply chain management is essential for manufacturing companies to optimize costs, but Tenate Industries struggles with evaluating supplier quotes and deciding between in-house production or outsourcing.
The lack of a comprehensive system to compare different production volumes and supplier quotes hinders timely and informed decision-making, impacting cost optimization and supply chain efficiency.

This project aims to develop a **Make vs. Buy analysis dashboard** in Power BI to analyze production costs, supplier quotes, and cost scenarios based on varying production volumes.
The dashboard will provide **real-time insights**, identify **cost-saving opportunities**, improve **supplier selection**, and help optimize **procurement decisions** to enhance supply chain efficiency and reduce costs.

3. Data Sources:

The dataset used in this project includes mock data related to production costs, supplier quotes, and internal manufacturing costs for Tenate Industries It includes Quotes, Internal Manufacturing Resource Estimates, Mfg Resources, and Product Dimensions, providing insights into costs for different production volumes, supplier pricing, and lead times.

This information is essential for conducting cost analysis, comparing suppliers, and making informed decisions on whether to manufacture in-house or outsource, ultimately optimizing procurement strategies and improving supply chain efficiency.

4. Methodology:

Data Integration: Extract and integrate data from various sources, including Quotes, Internal Manufacturing Resource Estimates, Mfg Resources, and Product Dimensions, into Power BI for comprehensive analysis.

Dashboard Design: Work with stakeholders to identify key cost metrics and design a user-friendly Make vs. Buy analysis dashboard with clear visualizations for better decision-making.

Interactivity: Implement interactive features, allowing users to compare supplier quotes, analyze production costs, and explore cost scenarios based on different production volumes.

5. Expected Outcomes:

The Make vs. Buy Analysis Dashboard aims to track production costs, supplier quotes, cost variations, manufacturing resource estimates, and product dimensions. It helps evaluate cost scenarios based on production volumes, compare supplier pricing, and determine the most cost-effective procurement strategy. The dashboard provides insights into internal manufacturing costs, supplier lead times, and overall cost trends, enabling Tenate Industries to make data-driven decisions, optimize procurement, and improve supply chain efficiency.

6. Tools and Technologies:

Power BI:

    Dashboard Development
    DAX (Data Analysis Expressions)

SQL:

    Data Extraction & Transformation
    Joins & Aggregations

Excel/CSV:

    Data Preprocessing
    Storing and formatting raw data before importing it into Power BI

Python: (Optional)

    Pandas & Numpy : For Additional Data Cleaning and Manipulation
    Matplotlib/Seaborn : For Additional Visual Analysis before dashboard Development

Power BI Service:

    (for sharing and collaboration)

7. Risks and Challenges:

Supplier Reliability & Cost Fluctuations: Unexpected changes in supplier pricing, lead times, or contract terms can impact cost estimations and disrupt decision-making in the Make vs. Buy analysis.

Capacity Planning & Resource Constraints: Internal manufacturing capabilities might not always align with demand, leading to bottlenecks, underutilization, or excess costs when scaling production.

Regulatory & Compliance Risks: Manufacturing and procurement decisions must align with industry regulations, environmental standards, and supplier contract terms, which can add legal and operational constraints.

8. Conclusion:

This project is set to equip Tenate Industries with a powerful Make vs. Buy analysis dashboard, offering real-time insights into production costs, supplier quotes, and cost scenarios. By providing a clear and interactive tool, this dashboard will streamline decision-making, optimize procurement strategies, and help identify cost-saving opportunities, ultimately enhancing supply chain efficiency and enabling more informed, data-driven decisions across the organization.