Product Sales Analysis

Project Definition:

The project involves using IBM Cognos to analyze sales data and extract insights about top selling products, peak sales periods, and customer preference. The objectives is to help businesses improve inventory management and marketing strategies by understanding sales trends and customer behavior. This project includes defining analysis objectives, collecting sales data, designing relevant visualizations in IBM Cognos, and deriving actionable insights.

Project Descriptions:

The Product Sales Analysis project aims to analyze and gain insights from sales data to help businesses make informed decisions, optimize product offerings, and improve revenue generation. This project involves the collection, processing, and visualization of sales data to identify trends, patterns, and key performance indicators.

Key Objectives:

1. Data Collection: Gather sales data from various sources, such as point-of-sale systems, e-commerce platforms, or customer databases.

2. Data Cleaning and Preprocessing: Clean and preprocess the collected data to ensure accuracy and consistency. This includes handling missing values, removing duplicates, and formatting data appropriately.

3. Data Exploration: Explore the sales data through descriptive statistics and data visualization techniques to understand the distribution of sales, product categories, and customer behavior.

4. Sales Trend Analysis: Identify sales trends over time, such as seasonal variations, growth rates, and any significant anomalies.

5. Product Performance Analysis: Evaluate the performance of individual products or product categories by analyzing metrics like sales volume, revenue, and profitability.

6. Customer Segmentation: Segment customers based on their purchasing behavior, demographics, or other

relevant factors to tailor marketing and sales strategies.

7. Predictive Modeling: Develop predictive models to forecast future sales, allowing for better inventory management and resource allocation.

8. Competitor Analysis: Analyze the market and competitors to benchmark your product performance and identify areas for improvement.

9. Visualization and Reporting: Create interactive dashboards and reports to communicate insights to stakeholders effectively.

10. Recommendations: Provide actionable recommendations based on the analysis to enhance product sales, marketing strategies, and overall business performance.

Tools and Technologies:

- Data collection: SQL, API integration, data scraping

- Data processing: Python (Pandas)

- Data visualization: Matplotlib, Seaborn,