DATA ANALYTICS WITH COGNOS-GROUP 2

PROJECT 5: Product Sales Analysis

Phase1: Problem Definition and Design Thinking

PROBLEM STATEMENT:

The main challenge of this project is using IBM Cognos to efficiently analyze detailed sales data.

The objectives are:

1.To identify the best-selling items in the sales list.

2.To analyze sales trends over time, including peak sales periods.

3.To understand consumer preferences and purchasing behaviours.

1.Identification of top selling products:

The objective of the project is to identify the products that consistently generate the highest sales. This knowledge is critical for companies to prioritize their inventory, and to ensure that popular brands are adequately stocked to meet customer needs.

2.Analysis of peak sales periods:

Understanding when sales peak is important for efficient product distribution. By analyzing the timing of peak sales, companies can make informed decisions about staffing, promotions and restocking during these critical periods.

3.Understanding customer preferences:

Depth on customer preferences and behaviours is important to tailor marketing strategies. This includes distinguishing between consumer preferences, reactions to marketing campaigns, and factors that influence their purchase decisions.

Underlying Objectives:

At its core, the project wants to deliver actionable insights that enable companies to make data-driven decisions, enhancing two key aspects of their operations:

1.Inventory Management Improvements:

By identifying the best-selling items and understanding peak sales times, businesses can improve the quality of their inventories. This reduces the risk of overstock or oversupply, leading to cost savings and greater customer satisfaction.

2.Marketing strategy refinement:

Insights into consumer preferences and behaviour enable businesses to refine their marketing strategies. This includes efforts to align advertising with consumer interests and optimize advertising spend to maximize impact.

How to proceed ahead to solve the problem:

1. Explain the objectives of explicit assessment:

Start by defining exactly what insights we aim to gain from sales data. For example, this may include identifying bestsellers, long-term product analysis, and understanding consumer preferences.

2. Planning Data Collection:

Identify sources and methods for collecting sales data. It can also collect transaction logs, product information, and customer demographics. Ensure data quality and accuracy by addressing issues such as missing or inconsistent data.

3. Data cleaning and processing:

Prepare the data collected for analysis. This includes cleaning data to remove errors and inconsistencies, transforming data, and formatting it for analysis by using tool IBM Cognos to assist with data preparation.

4. Design Visualization Guidelines:

Create a visualization program using IBM Cognos. Decide on the charts, graphs, and interactive dashboards that will best convey the insights you intend to deliver. Consider the target audience and their data visualization preferences.

5. Data Analysis:

Use IBM Cognos to perform actual data analysis. This can include running a query, creating calculated fields, and using statistical techniques to extract meaningful patterns and trends from the data.

6. Interpretation of Findings:

Interpret the results of research to provide actionable insights. Understand what the data says about best-selling products, sales trends, and consumer preferences. Consider the implications for inventory management and marketing strategies.

7. Make actionable suggestions:

Translate insights into actionable recommendations for employees. Provide clear and practical advice on how to improve inventory management and prepare marketing strategies based on data-driven findings.

8. Write out plan:

Write down the process, decisions, and any challenges we will encounter at each stage. These documents will be valuable for reporting and future research.

9. Present findings:

Prepare presentations or reports to effectively communicate your findings and recommendations to stakeholders. Use images from IBM.

10. Check and Maintain:

Present our findings, be open to feedback, and consider further revisions. Data analysis is an iterative process, and fine-tuning our approach based on feedback and new data is essential for continuous improvement.

DESIGN THINKING FOR PRODUCT SALES ANALYSIS:

1.Empathize: Understand the needs of the stakeholders

Start by empathizing with stakeholders, including business owners, marketing teams and inventory managers. Understand their pain points, goals, and the specific challenges they face in managing content and sales.

2. Define: Define the problem clearly

Based on our sympathetic side, define the problem clearly. Make sure we have an accurate understanding of the insights stakeholders need from sales data analysis.

3. Ideate: Provide solutions and approaches

Encourage brainstorming to generate ideas on how to solve a defined problem. This can include data collection techniques, visualization techniques, and potential insights that can be obtained.

4. Prototype: Create a strategic plan

Create a model or action plan that shows how you want to conduct the research. This includes defining the objectives of the study, methods of data collection, tools to be used (such as IBM Cognos), and preliminary graphical design.

5. Test: Validate the process

Before we get into the full analysis, do a small experiment to confirm our approach. Ensure that the data collection process is robust and that the chosen perspective effectively delivers insight.

6. Repeat: Clean and improve

Based on the information from the experiment, restate your plan. Make improvements as needed, whether in data collection methods, visualization methods, or analytical methods.

7. Implement: Do the research

Perform comprehensive analytics using IBM Cognos, control your sophisticated system. It involves collecting, preparing and analyzing sales data to gain meaningful insights.

8. Interpret: Get the insight

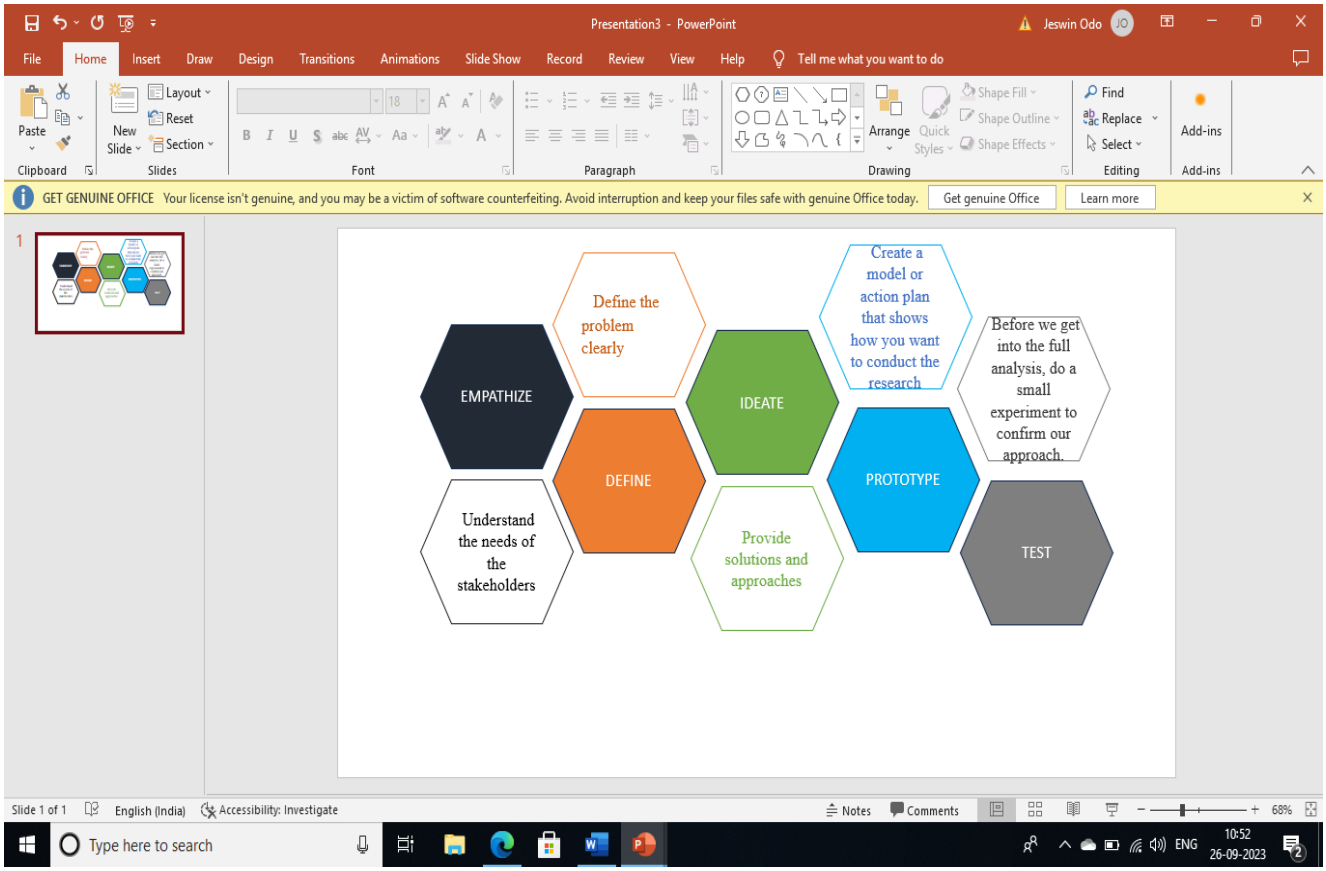
Interpret the results of your research by extracting actionable insights about best-selling products, sales trends, and customer preferences.

9. Deliver: Share your findings

Create a clear and concise report or presentation to communicate your findings to stakeholders. Use data-driven visualizations and presentations to make insights easy and actionable.

10. Feedback and changes: Continuous improvement

Present and analyze your findings feedback from stakeholders. Understand how insights have influenced decision making and be open to revising your approach for future research.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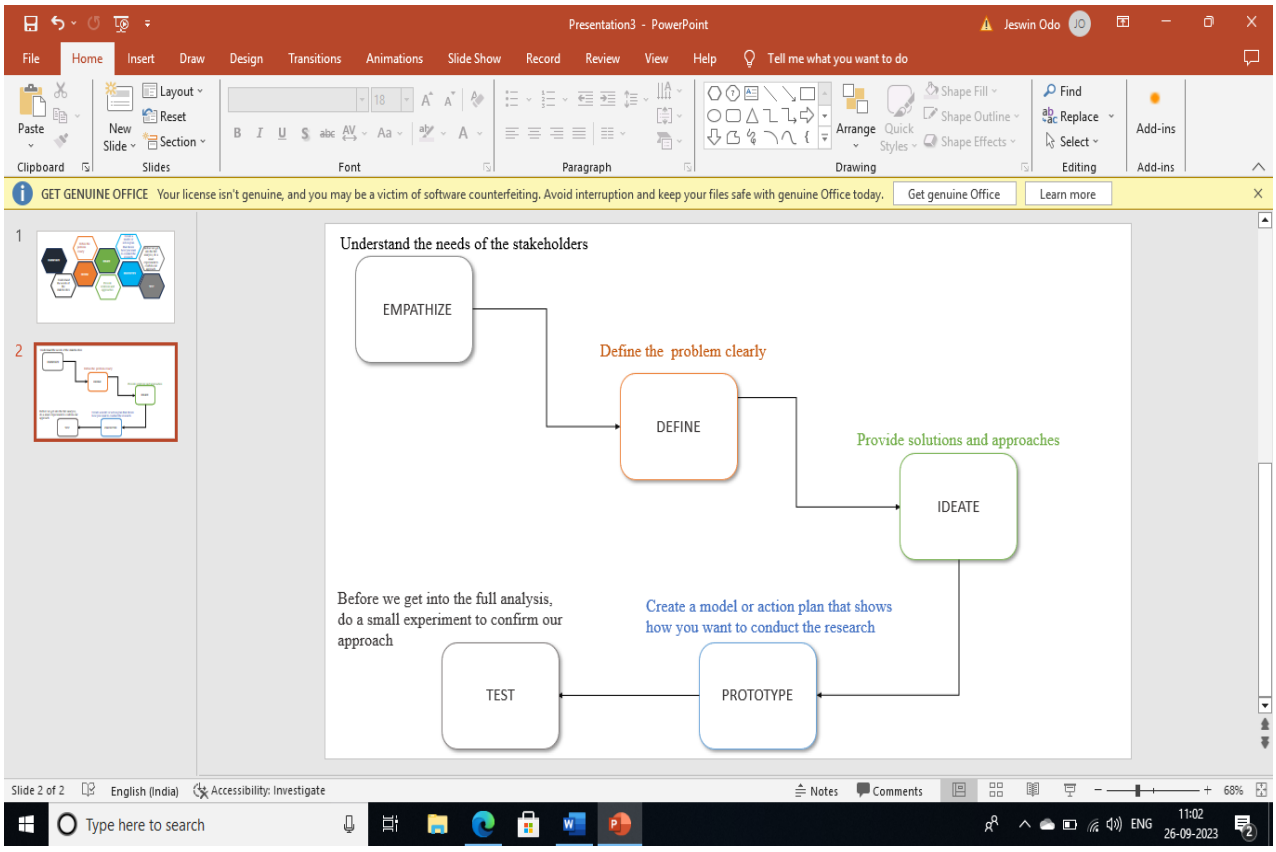
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