DATA ANALYTICS PROJECT

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TIME REQUIRED: 6 DAYS (2 WEEKS)

INTRODUCTION

A comprehensive report that encapsulates the essence of the project of **DIGITAL FORTRESS.** This project, centered within the realm of **DATA ANALYTICS FACULTY,** is designed to derive patterns and insights concealed within intricate datasets. The focus of this project is the:

Sales Data Analysis: A deep dive into sales data, aimed at extracting valuable insights to enhance strategic decision-making.

This project will be carried out using the data analytical tool **Microsoft Excel** to facilitate the extraction of critical insights. Through meticulous analysis and a keen understanding of the data, these projects seek to address pressing questions and uncover meaningful conclusions.

SALES DATA ANALYSIS

PURPOSE:
Analyze sales data to identify trends, top-selling products, and revenue metrics (key performance indicators, KPIs) for business decision-making.

DESCRIPTION

In this project, you will dive into a large sales dataset to extract valuable insights. You will explore sales trends over time, identify the best-selling products, calculate revenue metrics such as total sales and profit margins, and create visualizations to present your findings effectively. This project showcases your ability to manipulate and derive insights from large datasets, enabling you to make data-driven recommendations for optimizing sales strategies.

COLUMN DESCRIPTION FOR SALES DATA ANALYSIS:

- ORDER ID
- PRODUCT
- QUANTITY ORDERED
- PRICE EACH
- ORDER DATE
- PURCHASE ADDRESS
- MONTH
- SALES

- CITY
- HOUR

STEP-TO-STEP GUIDE

STEP 1: Data Collection: Gather your sales data including information like sales date, product name, quantity sold, and revenue generated.

Download the dataset using the link below.
Link to the dataset:
https://drive.google.com/file/d/1DOdLTC-DoKpeTTzQu8vggmhOjJDv1htB/view?usp=drivesdk

STEP 2: Data Entry: Enter your data into an Excel spreadsheet. Make sure each column represents a different aspect of your sales data (e.g., date, product, quantity, revenue). Upload the dataset using Get Data option in Microsoft Excel and then Load without transforming into Power Query Editor. All transformations should be done in the Excel worksheet.

STEP 3: Data Formatting:
Identify the data types of each column and convert them as needed using the Number Format tool. Format your data as a table. Select your data range, then go to the "Insert" tab and click "Table". This will make it easier to work with and analyze your data.

STEP 4: – Split the datetime column into date column and time column using Text-to-Column tool if necessary.

– Calculate Metrics: Calculate any necessary metrics such as total sales, average sales per day, top-selling products, etc. Use Excel formulas like SUM, AVERAGE, COUNTIF, etc., to do this.

– Create Pivot Tables: Insert pivot tables to summarize your data. Go to the "Insert" tab, click "PivotTable", then select the range of your data. Drag and drop fields like product name, sales date, and revenue into the rows and columns to analyze your data.

– Create Charts: Create visual representations of your data using charts. Select the data you want to visualize, then go to the "Insert" tab and choose the type of chart you want (e.g., column chart, line chart, pie chart).

– Design Dashboard Layout: Decide on the layout of your dashboard. Typically, you'll have sections for key metrics, charts, and maybe some additional analysis.

– Assemble Dashboard: Bring together your pivot tables and charts onto a single sheet to create your dashboard. Arrange them neatly and adjust the sizes as needed.

– Format Dashboard: Format your dashboard to make it visually appealing and easy to read. Use colors, fonts, and borders to highlight important information.

– Interactivity (Optional): Add interactivity to your dashboard using Excel features like slicers and filters. This allows users to dynamically explore the data.

– Review and Finalize: Review your dashboard to ensure accuracy and completeness. Make any final adjustments before sharing it with others.

– Share Dashboard: Share your dashboard with stakeholders by saving it as a PDF or Excel file, or by sharing it directly within Excel if it's being used collaboratively.

By following these steps, you should be able to create a simple yet effective sales analysis dashboard in Excel.

DATA VISUALIZATION

STEP 1: Sales trend over time

- Create a Pivot table. Then, click and drag the month name to the Rows field and sales column to the Values field.
- If the month name is not in the dataset, use a function to extract the month name from the Date column.
- Use a line chart to visualize this.

STEP 2: Top 5 Best Selling Products

- Create a pivot table. Drag the Products to the Rows field and Quantity ordered column to the Values.
- To show the Top 5, click on the products in the pivot table, right click, then click on show values as, then click on Top 10 and change the value to 5.
- Use Stacked Bar Chart to visualize this.

STEP 3: Top 5 Cites By Sales

- Follow the steps in 2 and change necessary columns
- Use Map to visualize this

STEP 4: Best Selling Products

- Follow the steps in 2 and change necessary columns
- Use Treemap to visualize this.
  NOTE: Treemap will not work inside Pivot table. Reference it out by using Control R and D and then visualize

STEP 5: Weekly Sales Distribution by Weekday

- Use a function to extract the weekdays from the data column.
- Follow the steps in 1 and change necessary columns.
- Use column chart to show the distribution

STEP 6: Key Performance Indicator (KPI)

- Total Sales (Revenue)
- Sales Quantity
- Profit margin: ((Total Sales - Total Cost)/Total Sales) * 100)
  NOTE: You can get the total cost by summing Price Each column.

STEP 7: Slicers

- Use relevant columns as slicers

STEP 8: Create a stunning dashboard fitting into 1 page of the sheet.

STEP 9: PowerPoint presentation is to be put together with a little storytelling.