

Assignment Title:

DC Burgers Sales Analysis - An End-to-End Power BI Project

Assignment Objective:

To design and develop a Power BI dashboard using a fictional sales dataset for DC Burgers, applying data modeling techniques, and presenting analytical insights in a professional setting.

Assignment Details and Deliverables:

1. Group Formation

- Participants will be divided into groups. The number of groups and participants per group will be shared during the initial session.
- Each group will work collaboratively on the assignment, sharing responsibilities for different aspects of the project.

2. Assignment Tasks

Groups will complete the following tasks in a sequential manner:

Task 1: Data Normalization

- Apply normalization techniques to split the flat table into appropriate tables.

Task 2: Import and Data Modeling

- Import the normalized tables into

Power BI and establish proper relationships between tables.

- Ensure robust data modeling to support analytical queries.

Task 3: Problem Statement & Analysis

- Use the provided problem statement and analytical questions to drive insights.
- Create calculated columns, measures, and visuals to address the questions effectively.

Task 4: Dashboard Development

- Develop a Power BI dashboard that includes:
 - Key metrics and KPIs.
 - Interactive visuals and filters.
 - A clear narrative to support decision-making.

Task 5: Publishing

- Publish the Power BI dashboard in the designated group workspace on Power BI Service.
- Ensure the dashboard is shared appropriately for evaluation.

Task 6: Presentation

- Prepare and deliver a **5-minute presentation** showcasing:
 - The problem statement and analytical approach.
 - Key insights derived from the dashboard.
 - Challenges faced and solutions implemented.

Submission Instructions

- Submit the Power BI file, published dashboard link, and presentation slides in the shared Teams folder before **10 AM on Monday, 9th December 2024**.
- Ensure permissions are set for evaluators to access the dashboard.

Guidelines for Success

1. Assign specific roles to team members to ensure balanced contribution.
2. Focus on answering the problem statement clearly and effectively.
3. Use storytelling and visuals to create an impactful presentation.
4. Seek help early if you encounter technical issues.

Assignment Title

DC Burgers Sales Analysis - An End-to-End Power BI Project

Objective

This assignment aims to provide hands-on experience with end-to-end Power BI development. Participants will analyze a fictional burger chain's sales data, apply normalization techniques, create a robust data model, and build a two-page Power BI report to deliver actionable insights.

Problem Statement

DC Burgers, a fictional burger chain, aims to optimize its operations and improve customer satisfaction by gaining insights into sales trends, product performance, and customer preferences. Your task is to help DC Burgers achieve these goals by analyzing their sales data and presenting a compelling Power BI dashboard.

The analysis should help answer the following:

1. What are the most and least profitable products?
2. How do regions and stores perform?
3. What are customer preferences and satisfaction levels?
4. What are the trends in sales volume and revenue over time?
5. How does dine-in compare to home delivery in terms of revenue and popularity?

Assignment Tasks

The assignment consists of the following tasks, to be completed in groups:

1. Data Preparation

1. Apply normalization techniques to split the flat table into:
 - a. **Fact Table:** Sales transactions.
 - b. **Dimension Tables:** Date, Product, Customer, Store, and Order Type.
2. Import these tables into Power BI and establish relationships between them.

2. Data Modeling

- Create a robust data model with the normalized tables.
- Ensure appropriate relationships, cardinalities, and referential integrity.

3. Develop a Two-Page Power BI Report

Build a visually appealing and interactive report with the following specifications:

Page 1: Sales Overview

- KPIs:
 - Total Sales Revenue.
 - Total Units Sold.
 - Average Customer Rating.
 - Total Profit.

- Visuals:
 - Line chart: Monthly sales trend.
 - Bar chart: Top 5 products by sales revenue.
 - Map/treemap: Revenue by region.
 - Bar/column chart: Profitability by product.
- Filters/Slicers:
 - Date range.
 - Region.
 - Product category.

Page 2: Customer Insights

- KPIs:
 - Unique Customers.
 - Average Feedback Rating.
 - Most Common Feedback Sentiment.
- Visuals:
 - Pie chart: Distribution of customer ratings (1-5).
 - Bar chart/word cloud: Analysis of customer feedback themes.
 - Column chart: Revenue from dine-in vs. home delivery.
- Filters/Slicers:
 - Customer region.
 - Feedback sentiment.
 - Order type.

4. Publishing

- Publish the completed report to your designated Power BI workspace.

- Ensure proper access permissions for evaluators.

5. Presentation

- Prepare a 5-minute presentation showcasing:
 - The problem statement and approach.
 - Key insights from the report.
 - Challenges faced and solutions implemented.
- Deliver the presentation on **Monday, 9th December 2024.**