

Problem Statement for Data Analytics Internship Project

1. Introduction

Objective:

- The goal of this project is to **assess your ability** to apply data analytics techniques to solve a **real-world business challenge**.
- You will be tasked with **analyzing sales data** to provide **actionable insights** to a business that is in the business of **selling toys**.
- Your objective is to come up with a detailed intuitive dashboard which will help the business make informed decisions to **improve sales** and **make strategic decisions**.

Context:

- Our company specializes in providing **business intelligence** to companies across multiple verticals allowing them to make informed data-driven decisions.
- In this project, you will analyse a dataset from a **toy business**, helping the business make informed decisions to **improve sales** and **make strategic decisions**.

2. Problem Definition

Business Problem:

A company sells a wide **range of toys** across **various product categories**. The manager is keen to analyse the **overall performance** of the business using the data accumulated over the years. However, despite having access to extensive business data, the manager lacks the expertise to extract meaningful insights and **drive strategic decisions**. He isn't entirely sure what specific analyses he requires, but he is interested in understanding key areas like **overall business trends** (whether performance is improving or declining), **which products** are selling well, and which are not, identifying **the most valuable customers** and their interests, and uncovering any additional insights that could give him a competitive edge.

To tackle this challenge, the manager's cousin suggested hiring a data analyst to **develop a business intelligence dashboard** that can assuage his curiosity and **offer actionable insights**. As the data analyst, your role is to craft an intuitive, insightful dashboard, leveraging your **creativity and analytical expertise** to turn the raw data into meaningful business intelligence that drives better decision-making.

Expected Outcomes:

Create a dashboard that delivers insights in a **clear, engaging format** to support the manager's decision-making process. Analyse **various dimensions** of the business to provide a well-rounded perspective. The dashboard should prominently feature **Key Performance Indicators** (KPIs) and **simple, intuitive visualizations**. Evaluation will focus on your **presentation skills, dashboard design, analytical depth**, and **the methods used** to derive your insights.

3. Data Description

- **Dataset Overview:** You will be provided with a dataset in the form of an excel workbook labelled *Sales data* containing the following sheets:
 - Main Data – which contains the sales transactions.
 - Product Master – which contains the products.
 - Data Dictionary – description of the fields in Main Data and Product Master
- **Data Cleaning:** You may need to clean the data to address missing values or inconsistencies if any.

4. Deliverables

- **Power BI Dashboard:** Delivered as a PBIX File labelled **{student_first_name_last_name_course}.pbix** e.g James_Musa_DataScience.pbix
- **Power Point Presentation:** Prepare a PowerPoint presentation summarizing your key insights gleaned from your dashboard along with your recommendations. You will be required to present your findings in person to the Angani Business Intelligence and Data Analytics Services department.

5. Assessment Criteria

- **Problem Understanding:** Did the student clearly understand and define the business problem, aligning their analysis with business goals?
- **Data Handling:** How well did the student handle missing data, outliers, and clean the data (if required).
- **Analytical Rigor:** Were suitable analytical techniques utilized and how thoroughly was the data analysed? Were the insights actionable and relevant to the business problem?
- **Creativity & Innovation:** Did the student apply innovative techniques or creative approaches to solving the problem? Were the visualizations clear and effective?
- **Presentation & Communication:** How well did the student communicate their findings, both in the PowerPoint Presentation and during the in person-presentation. Could they explain complex concepts clearly?

6. Timeline & Milestones

- The project must be completed in **4 weeks**.
- The following is suggested as a project plan for the student to complete the project in a timely manner:
 - Week 1 - Data Cleaning & Exploratory Data Analysis
 - Week 2 – Dashboard Development
 - Week 3 – Results Analysis
 - Week 4 – Final Report and Presentation

7. Support & Resources

- You will have to use Power BI for this project and other supporting tools.