Project Initialization and Planning Phase

Date	13 March 2024
Team ID	738220
Project Name	Walmart Sales Analysis for Retail Industry with Machine Learning
Maximum Marks	3 Marks

Define Problem Statements(Walmart Sales Analysis) :

The problem at hand is the development of an accurate sales forecasting model for Walmart, a well-known retail company that owns a hypermarket chain. Using historical sales data, store data and promotional events, the goal is to forecast future sales and estimate the impact of holidays, including Christmas, Thanksgiving, the Super Bowl and Labor Day, on store sales. The dataset provided contains data from 45 trades every week and the task involves using machine learning algorithms such as Random Forest, Decision Tree, XGBoost and ARIMA to analyze and model the data. In addition, the project includes integrating the developed model into a Flask application and deploying it on IBM Cloud for accessibility.

I am	I am a retail business owner operating in a highly competitive and dynamic market.
trying to	I'm trying to optimize my inventory, improve customer satisfaction, and increase profitability by accurately predicting sales trends
but	But, I'm facing challenges in analyzing the vast amount of sales data and understanding complex market dynamics.
because	This is because the data is large-scale, multi-dimensional, and influenced by various unpredictable factors such as seasonal trends, promotional activities, and customer behavior
Which makes me feel	This situation makes me feel overwhelmed and anxious, as it hinders my ability to make informed business decisions and strategize effectively."

Problem Statement (PS)	I am	I'm trying to	But	Because	Which makes me feel
PS-1	sales analyst at Walmart	I'm trying to accurately predict future sales by incorporating historical data, store information, and promotional events, including holidays like Christmas, Thanksgiving, Super Bowl, and Labor Day.	I face challenges in accurately assessing the impact of holidays on sales due to the lack of a robust forecasting model tailored to our specific needs.	This barrier exists because the complexities of holiday sales patterns and the diverse factors influencing consumer behavior during these periods make it difficult to develop a one-size-fits-all approach	This situation leaves me feeling frustrated and anxious about our ability to make accurate sales forecasts, leading to uncertainty in our business planning and resource allocation.
PS-2	sales manager at Walmart	I'm striving to understand how holidays, such as Christmas, Thanksgiving, Super Bowl, and Labor Day, affect our sales to develop effective strategies and allocate resources efficiently.	The lack of a comprehensive understanding of the impact of holidays on sales, coupled with the absence of a tailored	This challenge arises because holiday sales patterns are complex and influenced by various factors, making it difficult to accurately predict their impact on	I feel overwhelmed and concerned about our ability to optimize sales performance, leading to frustration and uncertainty in our strategic planning and decision-making processes.

			forecast ing model, hinders my ability to make informe d decision s.	sales	