Project Initialization and Planning Phase

Date	10-july-2024
Team ID	739969
Project Title	Walmart Sales Analysis For Retail Industry with Machine Learning
Maximum Marks	3 Marks

Project Proposal (Proposed Solution) report

The proposal report aims to enhance sales forecasting for Walmart using machine learning, boosting efficiency and accuracy. It tackles system inefficiencies, promising better operations, improved demand forecasting, and optimized inventory management. Key features include a machine learning-based sales prediction model and real-time data analysis.

Project Overview	
Objective	The primary objective is to improve sales forecasting for Walmart by implementing advanced machine learning techniques, ensuring more accurate and timely predictions.
Scope	The project comprehensively assesses and enhances the sales forecasting process, incorporating machine learning for a more robust and efficient system.
Problem Statement	
Description	Addressing inaccuracies and inefficiencies in the current sales forecasting system that adversely affect operational efficiency and inventory management.
Impact	Solving these issues will result in improved operational efficiency, optimized inventory management, and an overall enhancement in the sales forecasting process, contributing to customer satisfaction and organizational success.
Proposed Solution	
Approach	Employing machine learning techniques to analyze and predict sales, creating a dynamic and adaptable sales forecasting system.
Key Features	implementation of a machine learning-based sales prediction model. Real-time data analysis for quicker and more accurate sales forecasts. Continuous learning to adapt to evolving market trends.

Resource Requirements

Resource Type	Description	Specification/Allocation
Hardware		
Computing Resources	CPU/GPU specifications, number of cores	T4 GPU
Memory	RAM specifications	8 GB
Storage	Disk space for data, models, and logs	1 TB SSD
Software		
Frameworks	Python frameworks	Flask
Libraries	Additional libraries	scikit-learn, pandas, numpy, matplotlib, seaborn
Development Environment	IDE	Jupyter Notebook, pycharm
Data		
Data	Source, size, format	Kaggle dataset, 614, csv UCI dataset, 690, csv