Project Initialization and Planning Phase

Date	12 September 2025
Team ID	SWUID20250172428
Project Title	Global Food Production Trends and Analysis: A Comprehensive Study from 1961 to 2023 Using Power BI
Maximum Marks	3 Marks

Project Proposal (Proposed Solution) template

This project proposal outlines a solution to address the challenges in analyzing and interpreting global food production data. With a clear objective, defined scope, and a precise problem statement, the proposed solution leverages data visualization and analytics to provide actionable insights.

Project Overview	
Objective	To design and develop an interactive Power BI dashboard that visualizes global food production trends across years, regions, and crops, enabling policymakers, researchers, and businesses to make data-driven decisions.
Scope	The project focuses on importing, cleaning, and analyzing global food production datasets. It will highlight trends in production, area harvested, and yield across multiple years, offering filtering and drill-down capabilities. The solution is limited to descriptive and diagnostic analytics (what happened and why), not predictive analytics.
Problem Statement	
Description	Global food production data is vast and often fragmented, making it difficult for policymakers, distributors, and analysts to extract actionable insights. The absence of a consolidated, visual reporting tool leads to inefficiencies in planning, decision-making, and resource allocation.
Impact	By solving this problem, stakeholders will gain clear visibility into food production patterns, identify potential shortages or surpluses,

	and make informed policy or business decisions. This has direct implications for global food security, trade efficiency, and economic stability.
Proposed Solution	
Approach	● Import and preprocess global food production datasets in Power BI ● Apply data cleaning and transformations (handling nulls, trimming spaces, converting data types) ● Create calculated measures (e.g., yield = production ÷ harvested area) ● Develop interactive dashboards with filters by year, country, and crop type ● Generate visual insights through charts, cards, and summary reports
Key Features	● Interactive dashboard with drill-down capabilities ● Comparison of production, yield, and harvested area across time and geographies ● Card visuals summarizing key performance metrics ● Filter options for customized analysis ● Exportable reports for stakeholder use

Resource Requirements

Resource Type	**Description**	**Specification/Allocation**
Hardware		
Computing Resources	CPU/GPU specifications, number of cores	Standard laptop/desktop with i5/i7 processor
Memory	RAM specifications	Minimum 8 GB RAM
Storage	Disk space for data, models, and logs	500 GB HDD / 256 GB SSD
Software		
Frameworks	Frameworks	Microsoft Power BI Desktop

Libraries	Additional libraries	Built-in Power Query, DAX functions
Development Environment	IDE, version control	Power BI Service, GitHub (for versioning/reporting)
Data		
Data	Source, size, format	FAOSTAT / Kaggle datasets on Global Food Production