

Project Design Phase-II Technology Stack (Architecture & Stack)

Date	24 March 2025
Team ID	PNT2025TMID06994
Project Name	Global Food Production Trends and Analysis (1961-2023) Using Power BI
Maximum Marks	4 Marks

Technical Architecture:

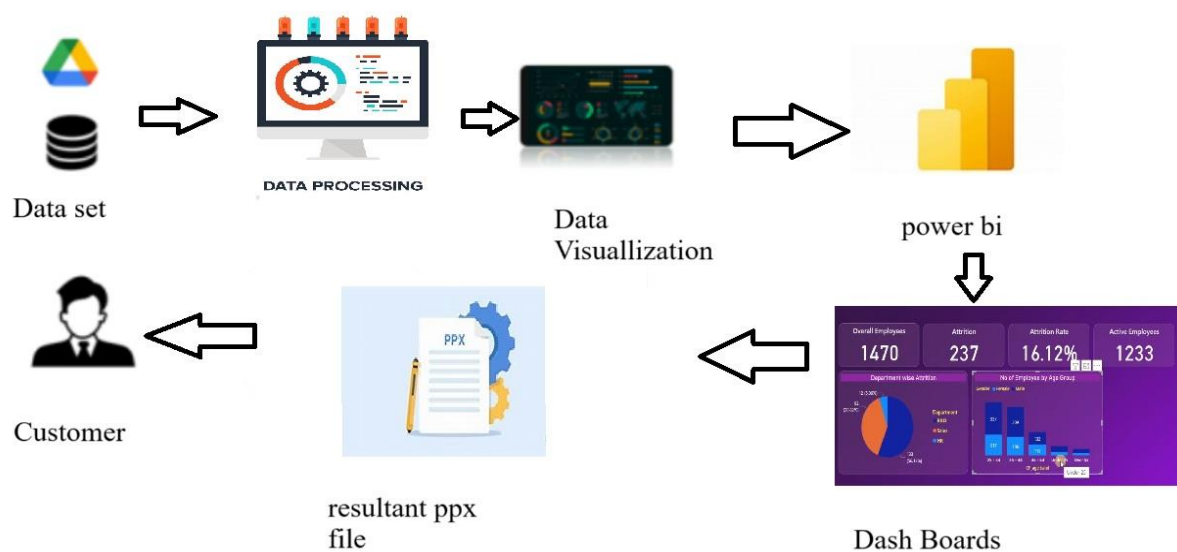


Table-1 : Components & Technologies:

S. No	Component	Description	Technology
1.	Data Source	Historical food production dataset (1961-2023)	CSV, Excel, SQL Database
2.	Data Processing	Cleansing, transforming, and preparing data	Power Query (Power BI), Python (Pandas)
3.	Data Visualization	Graphical representation of data trends and insights	ableau, Power BI, Python
4.	Power BI D	BI tool used to create interactive reports & dashboards	Power BI
5.	Dashboards	Visual representation of key metrics and reports	Power BI Visuals (Line charts, Bar charts, Heatmaps)
6.	Resultant File	Exported presentation or report file	PowerPoint, PDF

Table-2: Application Characteristics:

S. No	Characteristics	Description	Technology
1	Data Processing	Handling the large sets and transforming raw data	Power BI, Python
2	Security Implementations	Implements role-based access and authentication.	Power BI Security, Row-Level Security
3	Visualization & Reporting	Graphical and tabular representation of data	Power BI,
4	Availability	Accessible through cloud-based Power BI reports	Power BI Service
5	Performance	Optimized report generation and fast loading	Power BI Data Model, DAX Optimization