

Project Development Phase
Model Performance Test

Date	12 March 2025
Team ID	PNT2025TMID07046
Project Name	Global Food Production Trends and Analysis A Comprehensive Study from 1961 to 2023 Using Power BI
Maximum Marks	4

Model Performance Testing:

Project team shall fill the following information in model performance testing template.

S.No.	Parameter	Screenshot / Values
1.	Data Rendered	No. Of Rows – 11912 No. Of Columns - 25
2.	Data Preprocessing	Fixed column name gaps, Converted numerical columns to Whole Number, Adjusted outliers
3.	Utilization of Data Filters	Year Slicer, Country Slicer

4.	DAX Queries Used	<pre> // Measure: Plant Growth Stage Rank (based on a hypothetical 'Growth Stage Index') Plant Growth Stage Rank = RANKX(ALL('PlantData'[PlantID]), [Growth Stage Index], // Replace with your actual growth stage index measure/column DESC, DENSE) // Measure: Growth Stage Index Share % (relative to total index) Growth Stage Index Share % = DIVIDE([Growth Stage Index], // Replace with your actual growth stage index measure/column CALCULATE([Growth Stage Index], ALL('PlantData'[PlantID])), // Replace with your actual growth stage index measure/column 0) * 100 // Measure: Dominant Environmental Factor (based on impact on growth) Dominant Environmental Factor = VAR FactorList = { "Temperature", "Humidity", "Soil Moisture", "Light Intensity" // Add or change factors based on your data } VAR MaxImpact = MAXX(FactorList, CALCULATE([Environmental Factor Impact], // Replace with a measure that represents the impact of each factor on growth 'PlantData'[Environmental Factor] = EARLIER(FactorList))) RETURN </pre>
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		<pre> CALCULATE(MAX('PlantData'[Environmental Factor]), 'PlantData'[Environmental Factor] IN FactorList, CALCULATE([Environmental Factor Impact], // Replace with a measure that represents the impact of each factor on growth 'PlantData'[Environmental Factor] IN FactorList) = MaxImpact) // Measure: Dominant Management Practice (based on impact on growth) Dominant Management Practice = VAR PracticeList = { "Fertilization", "Irrigation", "Pesticide Application", "Pruning" // Add or change practices based on your data } VAR MaxPracticeImpact = MAXX(PracticeList, CALCULATE([Management Practice Impact], // Replace with a measure representing the impact of each practice on growth 'PlantData'[Management Practice] = EARLIER(PracticeList))) RETURN CALCULATE(MAX('PlantData'[Management Practice]), 'PlantData'[Management Practice] IN PracticeList, CALCULATE([Management Practice Impact], // Replace with a measure representing the impact of each practice on growth 'PlantData'[Management Practice] IN PracticeList) = MaxPracticeImpact) </pre>
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		<pre> ADDCOLUMNS(SUMMARIZE('world_food_production_cleaned', 'world_food_production_cleaned'[Entity]), "Production", VAR CropValues = { SUM('world_food_production_cleaned'[Apples Production (tonnes)]), SUM('world_food_production_cleaned'[Bananas Production (tonnes)]), SUM('world_food_production_cleaned'[Rice Production (tonnes)]), SUM('world_food_production_cleaned'[Wheat Production (tonnes)]) } RETURN MAXX(CropValues, [Value])), [Production]) RETURN MaxCrop Total Production = SUM('world_food_production_cleaned'[Apples Production (tonnes)]) + SUM('world_food_production_cleaned'[Avocados Production (tonnes)]) + SUM('world_food_production_cleaned'[Bananas Production (tonnes)]) + SUM('world_food_production_cleaned'[Cocoa beans Production (tonnes)]) + SUM('world_food_production_cleaned'[Coffee, green Production (tonnes)]) + SUM('world_food_production_cleaned'[Grapes Production (tonnes)]) + SUM('world_food_production_cleaned'[Maize Production (tonnes)]) + SUM('world_food_production_cleaned'[Meat, chicken Production (tonnes)]) + SUM('world_food_production_cleaned'[Oranges Production (tonnes)]) + SUM('world_food_production_cleaned'[Palm oil Production (tonnes)]) + SUM('world_food_production_cleaned'[Peas, dry Production (tonnes)]) + </pre>
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		<div>SUM('world_food_production_cleaned'[Potatoes Production (tonnes)]) + SUM('world_food_production_cleaned'[Rice Production (tonnes)]) +</div>
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		SUM('world_food_production_cleaned'[Rye Production (tonnes)]) + SUM('world_food_production_cleaned'[Soybeans Production (tonnes)]) + SUM('world_food_production_cleaned'[Sugar cane Production (tonnes)]) + SUM('world_food_production_cleaned'[Sunflower seed Production (tonnes)]) + SUM('world_food_production_cleaned'[Sweet potatoes Production (tonnes)]) + SUM('world_food_production_cleaned'[Tea Production (tonnes)]) + SUM('world_food_production_cleaned'[Tomatoes Production (tonnes)]) + SUM('world_food_production_cleaned'[Wheat Production (tonnes)]) + SUM('world_food_production_cleaned'[Yams Production (tonnes)]))
5.	Dashboard design	No of Visualizations -8 (1) Slicer (2) Card (3) Gauge Chart (4) Bar Chart (5) Area Chart (6) Ribbon Chart (7) Donut Chart (8) Text box
6	Report Design	No of Visualizations – 7 (1) Slicer (2) Card (3) Pie Chart (4) Donut Chart (5) Table (6) Line Chart (7) Text box