**Project Development Phase**
**Model Performance Test**

| | |
|---|---|
| Date | 12 March 2025 |
| Team ID | PNT2025TMID02967 |
| Project Name | Global Food Production Trends and Analysis AComprehensive Study from 1961 to2023 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 | // Measure: Plant Growth Stage Rank (based on a hypothetical 'Growth Stage Index')<br>Plant Growth Stage Rank =<br>RANKX(<br>ALL('PlantData'[PlantID]),<br>[Growth Stage Index], // Replace with your actual growth stage index measure/column<br>DESC,<br>DENSE<br>)<br><br>// Measure: Growth Stage Index Share % (relative to total index)<br>Growth Stage Index Share % =<br>DIVIDE(<br>[Growth Stage Index], // Replace with your actual growth stage index measure/column<br>CALCULATE([Growth Stage Index], ALL('PlantData'[PlantID])), // Replace with your actual growth stage index measure/column<br>0<br>) * 100<br><br>// Measure: Dominant Environmental Factor (based on impact on growth)<br>Dominant Environmental Factor =<br>VAR FactorList = {<br>"Temperature",<br>"Humidity",<br>"Soil Moisture",<br>"Light Intensity" // Add or change factors based on your data<br>}<br>VAR MaxImpact =<br>MAXX(<br>FactorList,<br>CALCULATE(<br>[Environmental Factor Impact], // Replace with a measure that represents the impact of each factor on growth<br>'PlantData'[Environmental Factor] = EARLIER(FactorList)<br>)<br>)<br>RETURN |

```
    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
    )
```

| | | |
|---|---|---|
| | | ADDCOLUMNS(<br>SUMMARIZE('world_food_production_cleaned',<br>'world_food_production_cleaned'[Entity]),<br>"Production",<br>VAR CropValues = {<br>SUM('world_food_production_cleaned'[Apples Production (tonnes)]),<br>SUM('world_food_production_cleaned'[Bananas Production (tonnes)]),<br>SUM('world_food_production_cleaned'[Rice Production (tonnes)]),<br>SUM('world_food_production_cleaned'[Wheat Production (tonnes)])<br>}<br>RETURN MAXX(CropValues, [Value])<br>),<br>[Production]<br>)<br><br>RETURN MaxCrop Total<br><br>Production =<br>SUM('world_food_production_cleaned'[Apples Production (tonnes)])<br>+<br>SUM('world_food_production_cleaned'[Avocados Production (tonnes)]) +<br>SUM('world_food_production_cleaned'[Bananas Production (tonnes)]) +<br>SUM('world_food_production_cleaned'[Cocoa beans Production (tonnes)]) +<br>SUM('world_food_production_cleaned'[Coffee, green Production (tonnes)]) +<br>SUM('world_food_production_cleaned'[Grapes Production (tonnes)])<br>+<br>SUM('world_food_production_cleaned'[Maize Production (tonnes)]) +<br>SUM('world_food_production_cleaned'[Meat, chicken Production (tonnes)]) +<br>SUM('world_food_production_cleaned'[Oranges Production (tonnes)]) +<br>SUM('world_food_production_cleaned'[Palm oil Production (tonnes)])<br>+<br>SUM('world_food_production_cleaned'[Peas, dry Production (tonnes)]) + |

| | | |
|---|---|---|
| | | SUM('world_food_production_cleaned'[Potatoes Production (tonnes)]) +<br>SUM('world_food_production_cleaned'[Rice Production (tonnes)]) + |

| | | |
|---|---|---|
| | | SUM('world_food_production_cleaned'[Rye Production (tonnes)]) +<br>SUM('world_food_production_cleaned'[Soybeans Production (tonnes)]) +<br>SUM('world_food_production_cleaned'[Sugar cane Production (tonnes)]) +<br>SUM('world_food_production_cleaned'[Sunflower seed Production (tonnes)]) +<br>SUM('world_food_production_cleaned'[Sweet potatoes Production (tonnes)]) +<br>SUM('world_food_production_cleaned'[Tea Production (tonnes)]) +<br>SUM('world_food_production_cleaned'[Tomatoes Production (tonnes)]) +<br>SUM('world_food_production_cleaned'[Wheat Production (tonnes)]) +<br>SUM('world_food_production_cleaned'[Yams Production (tonnes)]<br>) |
| 5. | Dashboard design | No of Visualizations -8<br>(1) Slicer<br>(2) Card<br>(3) Guage Chart<br>(4) Bar Chart<br>(5) Area Chart<br>(6) Ribbon Chart<br>(7) Donut Chart<br>(8) Text box |
| 6 | Report Design | No of Visualizations – 7<br>(1) Slicer<br>(2) Card<br>(3) Pie Chart<br>(4) Donut Chart<br>(5) Table<br>(6) Line Chart<br>(7) Text box |