

# Business Question and Visualization Report

Date	24 September 2025
Team ID	SWUID20250236463
Project Name	Predicting Plant Growth Stages with Environmental and Management Data Using Power BI
Maximum Marks	5 Marks

## Visualization Development

Visualization development refers to the process of creating graphical representations of data to support understanding, analysis, and decision-making. In this project, data visualization is used to transform plant growth data into meaningful visual formats that help identify patterns, trends, and relationships between environmental factors and plant growth outcomes.

Using Power BI, various visual elements such as bar charts, column charts, line charts, and tables are designed to represent complex datasets in an intuitive manner. Interactive features like filters and slicers are used to allow users to explore the data dynamically. These visualizations play a crucial role in analyzing plant growth behavior and drawing data-driven conclusions.

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## Business Questions and Visualisation

The visualization process begins with defining clear business questions related to plant growth and environmental conditions. These questions guide the selection of metrics, data fields, and appropriate visualizations in Power BI to generate actionable insights.

### 1. What is the total number of plants that achieved a growth milestone?

- **Visualization:** Card visual displaying total Growth Milestone Count.
- **Screenshot of visualization**

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### 2. How does growth milestone count vary by soil type?

- **Visualization:** Bar chart showing Growth Milestone Count by Soil Type.
- **Screenshot of visualization**

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### 3. What is the percentage of plants achieving growth milestones based on water frequency?

- **Visualization:** Column chart showing Growth Milestone Percentage by Water Frequency.

- **Screenshot of visualization**
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#### **4. How does fertilizer type influence plant growth milestones?**

- **Visualization:** Bar chart representing Growth Milestone Count by Fertilizer Type.
  - **Screenshot of visualization**
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#### **5. What is the average temperature across different temperature range descriptions?**

- **Visualization:** Column chart displaying Average Temperature by Temperature Range Description.
  - **Screenshot of visualization**
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#### **6. How does humidity level affect plant growth milestones?**

- **Visualization:** Bar chart showing Growth Milestone Count by Humidity Level Description.
  - **Screenshot of visualization**
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#### **7. What is the relationship between soil type and average sunlight hours received by plants?**

- **Visualization:** Column chart illustrating Average Sunlight Hours by Soil Type.
  - **Screenshot of visualization**
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#### **8. How do temperature descriptions relate to plant growth outcomes?**

- **Visualization:** Bar chart showing Growth Milestone Count by Temperature Description.
- **Screenshot of visualization**