Project Design Phase-I
Problem – Solution Fit Template

Date	23 February 2026
Team ID	LTVIP2026TMIDS35942
Project Name	Plugging into the Future: An Exploration of Electricity Consumption Patterns Using Tableau
Maximum Marks	2 Marks

Problem – Solution Fit:

The Problem–Solution Fit phase ensures that identified customer challenges are effectively addressed by the proposed solution. In this project, the key issue was the manual analysis of large electricity consumption datasets, which was time-consuming and inefficient. To resolve this, an interactive dashboard was developed using Tableau to deliver clear visual insights and dynamic filtering capabilities. This solution aligns with user needs by simplifying data interpretation and enhancing decision-making efficiency.

Problem Area	**Identified Problem**	**Proposed Solution**	**How the Solution Fits the Problem**
Data Interpretation	Electricity consumption data is stored in raw Excel sheets and difficult to interpret.	Developed interactive Tableau dashboard with visual charts and graphs.	Converts raw data into clear visual insights for easy understanding.
Year-wise Comparison	Difficult to compare electricity usage between 2019 and 2020.	Created Year-wise bar charts and line charts for comparison.	Enables quick and clear comparison of yearly consumption trends.
Regional Analysis	No clear visibility of region-wise electricity distribution.	Designed pie chart for total region consumption.	Helps identify which region consumes the most electricity.
State Ranking	Hard to identify top and bottom consuming states.	Implemented Top N and Bottom N analysis using parameters.	Allows dynamic identification of high and low performing states.
Trend Identification	Monthly consumption patterns are unclear and time-consuming to analyze manually.	Created monthly trend line charts.	Clearly displays seasonal variations and demand fluctuations.
Decision Support	Manual analysis slows decision-making process.	Added interactive filters (Year, Region, State) and cross-sheet filtering.	Improves decision-making speed through dynamic and user-friendly interaction.

1. CUSTOMER SEGMENT(S) — C5

Energy analysts and government planners analyzing electricity consumption data

6. CUSTOMER CONSTRAINTS — CC

Electricity consumption data is stored in large, raw Excel sheets making interpretation very difficult.

Manually comparing year-by-year, state-by-state, and region-by-region consumption data itime analysis.

5. AVAILABLE SOLUTIONS — A5

Currently, the data is in large Excel sheets and difficult, to compare. Simple charts in Excel are static, and provide interactive features required for deep analysis.

3. JOBS-TO-BE-DONE / PROBLEMS — J&P

1. Interpreting raw Excel data is challenging.
2. Comparing electricity consumption year-wise and region-wise is difficult.
3. Identifying Top N and Bottom N consuming states is hard.
4. Manual analysis is time-consuming and inefficient.

6. PROBLEM ROOT CAUSE — RC

Data is stored in large, unprocess Excel sheets and lack of proper visualization tools.

7. BEHAVIOUR — BE

They manually sift through Excel sheets to compare yearly, regional, and state consumption data.

Inefficient, and time-consuming decision-making.

3. TRIGGERS — TR

- When tasked to analyze electricity data, energy analysts manually analyze Excel sheets and compare states' consumption data.

4. EMOTIONS: BEFORE / AFTER — EM

Before: Difficult, time-consuming, indecisive.

After: Clear, fast, and confident decision-making.

5. EMOTIONS: BEFORE / AFTER — EM

Before: Difficult, time-consuming, indecisive.

After: Clear, fast, and confident decision-making.

1. YOUR SOLUTION — SL

Developed interactive Tableau dashboard for clear and meaningful insights with:

- Year-wise bar charts comparing 2019 & 2020
- Region-wise distribution pie chart
- Dynamic state-ranking (Top N & Bottom N) using parameters
- Monthly trend analysis using line charts
- Interactive filters (Year, Region, State) & "Use as Filter" feature.

9. YOUR SOLUTION — SL

- Developed interactive Tableau dashboard for clear and meaningful insights with:
  - Year-wise bar charts comparing 2019 & 2020
  - Dynamic state-ranking too fl essen hd cing

6. BEHAVIOUR — BE

- They manually sift through Excel sheets to compare yearly, regional, and state consumption data.

Inefficient, and time-consuming decision-making.

7. YOUR SOLUTION — SL

- Business & Marketing channel (hie latne en iterees)
- Analyst collaboration platfomi mamber nteretor).

8. OUTCOME — O

1. Solution effectively addresses the problems identified.
2. Enhanced efficiency and decision-making speed with interactive visual analysis.