

Project Design Phase-I

Problem – Solution Fit

Date	16 February 2026
Team ID	LTVIP2026TMIDS55781
Project Name	Plugging into the Future: An Exploration of Electricity Consumption Patterns Using Tableau
Maximum Marks	2 Marks

Problem – Solution Fit

Plugging into the Future: An Exploration of Electricity Consumption Patterns Using Tableau

Identifying a real problem faced by users and ensuring that the developed solution effectively addresses it. In the context of this project, stakeholders struggle to understand electricity consumption trends from raw and scattered data. The Tableau-based analytics solution transforms complex datasets into clear, interactive visual insights, enabling informed decision-making.

Purpose

- **Solve complex energy data challenges:**
The project converts unstructured electricity consumption data into interactive dashboards, helping policymakers, utility providers, and institutions easily identify trends, peak usage times, and regional variations.
- **Improve adoption through familiar tools and behavior:**
By using Tableau dashboards accessible via web platforms, users can explore data through intuitive filters, charts, and drill-down features without needing advanced technical skills.
- **Strengthen communication and decision-making:**
Clear visualizations support effective reporting and communication of energy consumption patterns, enabling better policy planning, cost optimization, and sustainability strategies.
- **Increase engagement and trust:**
By addressing recurring issues such as high electricity costs, inefficient energy usage, and lack of consumption transparency, the solution builds trust and encourages continuous use.
- **Understand and improve the current energy landscape:**
The project provides insights into state-wise consumption, seasonal variations, and demand peaks (e.g., 2019 vs. 2020 trends), helping stakeholders optimize energy distribution and efficiency.

Define CS, fit into CC	1. CUSTOMER SEGMENT(S) CS Residential Electricity Consumers (e.g., Homeowners, Renters, environmentally conscious individuals, cost-sensitive families)	6. CUSTOMER CONSTRAINTS CC <ul style="list-style-type: none">- Limited budget for efficiency upgrades- Lack of technical knowledge- Inability to modify rented properties- Existing appliances are energy-inefficient- Data privacy concerns	5. AVAILABLE SOLUTIONS AS <ul style="list-style-type: none">- Reviewing monthly bills- Using simple plug-in energy monitors- Reading energy-saving tips online- Guessing which appliances consume the most- Solar panel apps	Explore AS, differentiate
	2. JOBS-TO-BE-DONE / PROBLEMS J&P <ul style="list-style-type: none">- Reduce high electricity bills- Understand how different appliances affect consumption- Lower carbon footprint- Avoid peak-time rate charges- Gain better control over home energy usage	9. PROBLEM ROOT CAUSE RC <ul style="list-style-type: none">- Lack of real-time, granular visibility into electricity consumption and its cost implications- Complex and confusing rate structures- Difficulty in correlating actions with energy usage	7. BEHAVIOUR BE <ul style="list-style-type: none">- Adjusts thermostat manually- Unplugs devices not in use- Searches for energy-saving tips- Discusses high bills with family- Considers purchasing energy-efficient appliances	
Focus on J&P, top into BE, understand RC	3. TRIGGERS TR <ul style="list-style-type: none">- Receiving an unexpectedly high utility bill- Hearing about a neighbor's solar panels or smart home system- Seeing news about energy price hikes or climate change	10. YOUR SOLUTION SL <p>An intuitive, data-driven visualization platform and mobile app that provides real-time, actionable insights into electricity consumption patterns, cost breakdowns, and personalized recommendations for efficiency improvements, empowering users to make informed decisions.</p>	8. CHANNELS OF BEHAVIOUR CH <p>8.1 ONLINE</p> <ul style="list-style-type: none">- Utility company online portals- Energy saving forums and blogs- Smart home device apps- Social media discussions <p>8.2 OFFLINE</p> <ul style="list-style-type: none">- Word-of-mouth with neighbors/friends- Community workshops on energy efficiency- Printed bill inserts- Home improvement stores	Extract online & offline CH of BE
			4. EMOTIONS: BEFORE / AFTER EM <p>Before: Frustrated, anxious, powerless, confused After: Empowered, informed, in control, confident, sustainable</p>	
Identify strong TR & EM				