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

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An Exploration of Electricity Consumption Patterns Using Tableau
(Customer Journey Perspective)
Understanding electricity consumption through a customer journey lens helps utilities, energy providers, and policymakers improve efficiency, satisfaction, and sustainability. Using Tableau, we can visualize and analyze how customers interact with electricity services at each stage of their journey.

🔍 1️⃣ Awareness Stage
"Where does my electricity come from?"
🎯 Customer Behavior:
Learns about electricity sources (renewable vs non-renewable)
Notices rising electricity bills
Becomes aware of energy-saving campaigns
📊 Tableau Insights:
Energy source distribution dashboards
Regional consumption heat maps
Awareness campaign impact analysis
💡 Key Metrics:
Energy mix percentage
Regional consumption trends
Customer demographics by usage

⚡ 2️⃣ Consideration Stage
"How much electricity am I using?"
🎯 Customer Behavior:
Reviews monthly bills
Compares consumption over time
Looks for peak usage periods
📊 Tableau Analysis:
Time-series analysis of usage
Peak vs off-peak consumption charts
Appliance-level consumption (if smart meter data available)
💡 Key Metrics:
kWh per month
Peak hour demand
Seasonal variation

💳 3️⃣ Decision Stage
"How can I reduce my electricity cost?"
🎯 Customer Behavior:
Switches to energy-efficient appliances
Considers solar panels
Chooses different tariff plans
📊 Tableau Dashboards:
Cost-saving simulation models
Tariff comparison visuals
ROI analysis for solar adoption
💡 Key Metrics:
Cost per kWh
Projected savings
Adoption rate of renewable options

🔁 4️⃣ Retention Stage
"Am I satisfied with my electricity provider?"
🎯 Customer Behavior:

Contacts customer service

Reports outages

Participates in feedback surveys

📊 Tableau Monitoring:

Outage frequency maps

Customer satisfaction trends

Complaint category breakdown

💡 Key Metrics:

SAIDI/SAIFI (reliability indices)

Customer churn rate

Service response time

🚀 5️⃣ Advocacy Stage

"I recommend this provider."

🎯 Customer Behavior:

Shares positive reviews

Participates in green programs

Refers others

📊 Tableau Strategy:

Referral tracking dashboards

Net Promoter Score (NPS) analysis

Community participation analytics

💡 Key Metrics:

NPS score

Referral growth rate

Renewable participation percentage

📊 How Tableau Enhances the Customer Journey Analysis

Using Tableau, we can:

Create interactive dashboards

Visualize consumption trends in real-time

Identify peak load patterns

Predict future energy demand

Segment customers by usage behavior

🔮 Future Opportunities

AI-powered predictive energy modeling

Smart grid optimization

Personalized energy-saving recommendations

Sustainability scorecards for customers