

Project Design Phase

Problem – Solution Fit Template

Date	15 February 2026
Team ID	LTVIP2026TMIDS80318
Project Name	Weather-Based Prediction of Wind Turbine Energy Output: A Next-Generation Approach to Renewable Energy Management
Maximum Marks	2 Marks

Problem – Solution Fit Template:

The Problem-Solution Fit simply means that you have found a problem with your customer and that the solution you have realized for it actually solves the customer's problem. It helps entrepreneurs, marketers and corporate innovators identify behavioral patterns and recognize what would work and why

Purpose:

- Solve complex problems in a way that fits the state of your customers.
- Succeed faster and increase your solution adoption by tapping into existing mediums and channels of behavior.
- Sharpen your communication and marketing strategy with the right triggers and messaging.
- Increase touch-points with your company by finding the right problem-behavior fit and building trust by solving frequent annoyances, or urgent or costly problems.
- Understand the existing situation in order to improve it for your target group.**

Template:

1. CUSTOMER SEGMENT(S)	CS	6. CUSTOMER CONSTRAINTS	CC	5. AVAILABLE SOLUTIONS	AS
Who are your stakeholders? • Wind farm operators • Renewable energy grid managers • Energy planners/strategists		What constraints prevent your stakeholders from taking action or limit their choices of solutions? i.e. spending power, budget, to cast, network connection, unreliable devices.		Which solutions are available to the customers when they face the problem or need to get the job done? How to have them in the past that have & cons do these solutions have? E.g. pen and paper for an alternative to digital notetaking	
2. JOBS-TO-BE-DONE / PROBLEMS	J&P	9. PROBLEM ROOT CAUSE	RC	7. BEHAVIOUR	BE
Which jobs-to-be-done (or problems) do you address for your users/stakeholders? • Accurately predict wind turbine energy output • Optimize renewable energy planning and grid stability • Improve efficiency and maximize use of wind energy resource		• Weather conditions are unpredictable and dynamic • Manual methods are slow and often inaccurate • Traditional models struggle to handle real-time weather		• Manual weather prediction models • Basic weather apps • Trial-and-error or relying on historical data	
3. TRIGGERS	TR	8. YOUR SOLUTION	SL	8. CHANNELS of BEHAVIOR	CH
Seeing a neighbouring wind farm struggling with inaccurate forecasts, noticing energy waste during high wind periods		A web-based tool that uses real time weather data and machine learning algorithms to predict wind turbine energy output with improved accuracy and reliability		A. ONLINE • Industry forums/blogs • Renewable energy conferences • Wind energy newsletters	
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Seeing a neighbouring wind farm struggling with inaccurate forecasts, noticing energy waste during high wind periods.		A web-based tool that uses real time weather data and machine learning algorithms to predict wind turbine energy output with improved accuracy & reliability		A. OFFLINE • Energy sector exhibitions • Workshops and seminars • Utility company collaborations	
4. EMOTIONS: BEFORE / AFTER	EM	9. YOUR SOLUTION	SL	8. CHANNELS of BEHAVIOR	CH
Before: Frustrated, uncertain about energy planning → After: Confident, in control, making data driven decisions		Before: Frustrated, uncertain about energy planning → After: Confident, in control, making data driven decisions		A. ONLINE • Industry forums/blogs • Renewable energy conferences • Wind energy newsletters	