

Project Design Phase-I Problem – Solution Fit Template

Date	27 NOVEMBER 2022
Team ID	PNT2022TMID45772
Project Name	Natural Disasters Intensity Analysis And Classification Using Artificial Intelligence
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 realised for it actually solves the customer's problem. It helps entrepreneurs, marketers and corporate innovators identify behavioural 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 behaviour.
- ☐ Sharpen your communication and marketing strategy with the right triggers and messaging.
- ☐ Increase touch-points with your company by finding the right problem-behaviour 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.

PROBLEM - SOLUTION FIT DESIGN ON TEMPLATE

Define CS, fit into CC	1. CUSTOMER SEGMENT(S) <small>Who is your customer? i.e. working parents of 0-5 y.o. kids</small> General Public who are in disaster prone regions, and those who are victims of it. (Aided by Product) Any government, private or non-profit Meteorological Organization (Product Utilizers)	6. CUSTOMER CONSTRAINTS <small>What constraints prevent your customers from taking action or limit their choices of solutions? i.e. spending power, budget, no cash, network connection, available devices.</small> Several angle mounts of Cameras for feed GPU and technological requirements for a smooth implementation. Internet Connectivity for the User Interface and Cloud Interactions.	5. AVAILABLE SOLUTIONS <small>Which solutions are available to the customers when they face the problem or need to get the job done? What have they tried in the past? What pros & cons do these solutions have? i.e. pen and paper is an alternative to digital notetaking</small> Public side: Being aware of their environmental conditions, reduce pollutions and aid nature in any possible way. Organization Side: Deploying the Deep Learning model in Cloud with a server that accelerates and optimizes detection and	Explore AS, differentiate
	2. JOBS-TO-BE-DONE / PROBLEMS <small>Which jobs-to-be-done (or problems) do you address for your customers? There could be more than one; explore different sides.</small> Regularly monitoring the behavior of the model. Accurate prediction and intensity estimation of disasters must be ensured. User Friendly Lightweight UI at the operator's end is required. Testing the Robustness of the prototype in all-weather, aiding public rehab and handling Inaccurate predictions are the challenges.	9. PROBLEM ROOT CAUSE <small>What is the real reason that this problem exists? What is the back story behind the need to do this job? i.e. customers have to do it because of the change in regulations.</small> Climatic changes such as wind pattern changes, heavy rainfall, landslides, seismic activities etc. that are caused by nature. Improper drainage functioning, emission of pollutants by Industries and Vehicles, Human Carelessness are man made causes.	7. BEHAVIOUR <small>What does your customer do to address the problem and get the job done? i.e. directly related: find the right solar panel installer, calculate usage and benefits; indirectly associated: customers spend free time on volunteering work (i.e. Greenpeace)</small> Either the forecast organization can act as central body in alerting the public, or The public can be provided the web-app access which can alert them based on the organization's input, or can even sense through mobile camera feed, all in place of a Internet Connection with minimal data rate.	
Focus on J&P, tap into BE, understand RC	3. TRIGGERS <small>What triggers customers to act? i.e. seeing their neighbour installing solar panels, reading about a more efficient solution in the news.</small> Public gets alerted about the increased risk of disaster in surrounding, and enables them to take necessary safety and mitigation measures.	10. YOUR SOLUTION <small>If you are working on an existing business, write down your current solution first, fill in the canvas, and check how much it fits reality. If you are working on a new business proposition, then keep it blank until you fill in the canvas and come up with a solution that fits within customer limitations, solves a problem and matches customer behaviour.</small> Deploying a Multi-Layer Deep CNN Model that uses previous instances as dataset, for analyzing the type and intensity of the disaster. Deploying it in cloud, and interfacing with a HTML cum Python web interface helps Live camera feed inputs to be sensed for, in a user friendly manner.	8. CHANNELS of BEHAVIOUR 8.1 ONLINE <small>What kind of actions do customers take online? Extract online channels from #7 and use them for customer development.</small> Using the web-app to get alerts and interfacing it with live video stream of rugged climate. 8.2 OFFLINE <small>What kind of actions do customers take offline? Extract offline channels from #7 and use them for customer development.</small> Being aware of the environment, and also spreading the benefits of using the web-app to increased customers and safety mitigations.	Extract online & offline CH of BE
	4. EMOTIONS: BEFORE / AFTER <small>How do customers feel when they face a problem or a job and afterwards? i.e. lost, insecure > confident, in control - use it in your communication strategy & design.</small> Before: Fear of losing livelihood, properties, panicked decisions and misery. After: Can have a mindset of a regular day, being prepared to tackle a calamity situation.			

Identify strong TR & EM

Explore AS, differentiate

Focus on J&P, tap into BE, understand RC

Extract online & offline CH of BE