Problem-Solution fit canvas 2.0

Purpose: Emerging Methods For Early Detection of Forest Fires/ Team ID:PNT2022TMID53582

1. CUSTOMER SEGMENT(S) — CS

Who is your customer?

1. Federal agencies(forest fire management) such as National Disaster Management Authority (NDMA) USDA's Forest Service.

2.The Department of the Interior's Bureau of Indian Affairs, Bureau of Land Management, Fish and Wildlife Service, and National ParkService.

6. CUSTOMER — CC

What constraints prevent your customers from taking action or limit their choices

1. The triple constraint theory says that every project will include three constraints: budget/cost, time, and scope. And these constraints are tied to each other. Any change made to one of the triple constraints will have an effect on the other two.

2.With any project, there are limitations and risks that need to be addressed to ensure the project's ultimate success.

5. AVAILABLE SOLUTIONS — AS

Which solutions are available to the customers when they face the or need to get the job done? What have they tried in the past? What

From previous studies the available prototype model uses common sensors like Flame sensor ,temperature sensor, gas sensor for fire detection those sensors are attached to trees animals and birds in the forest to detect the forest fire.

Pros of existing solutions:

1.The forest fire area can be detected and can be located precisely.

Cons of existing solutions:

1.Complicated to manage.

2.Sensor attached to the animals and birds will affect their habitat.

Explore AS,

2. JOBS-TO-BE-DONE / PROBLEMS

Which jobs-to-be-done (or problems) do you address for your

The process provides broad and detailed customer insights that are superior to typical market research methods and critical to developing better solutions for customers. It helped us understand a new space and identify the understand needs so we could enter a new market in a differentiated manner

Focus on J&P, tap i

9. PROBLEM ROOT CAUSE — RC

What is the real reason that this problem exists? What is the back story behind the need

1. The first step when performing root cause analysis is to analyze the existing situations. This is where the team identifies the factors that impact the problematic event. The outcome of this step is a statement that comprises the specific problem A small team is tasked with the definition of the problem. This could be research staff who assesses and analyzes the situation.

2. It describes the difference between the actual conditions and desired conditions.

7. BEHAVIOUR — BE

What does your customer do to address the problem and get the i.e. directly related: find the right solar panel installer, calculate usage and

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Focus on J&P, tap

Identify strong TR & EM

3. TRIGGERS

TR

What triggers customers to act? i.e. seeing their neighbour installing solar panels, reading about a more efficient solution in the news.

Human-caused fires are the result of abandoned campfires unattended, burning debris, equipment use and malfunctions, discarded due to negligence cigarettes and arson

4. EMOTIONS: BEFORE / AFTER

EM

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.

BEFORE: Encroachment through loss of diversity, reduced wildlife
AFTER: Forest surveillance systems can be used to monitor stress in the forest so we can prevent human and wildlife and economic damage.

10. YOUR SOLUTION

SL

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.

In case of forest fire detection the burning substances are primarily identified as sceptical flame regions using a division strategy to expel the non-fire structures and results are verified by a deep learning model. The technology used to locate a forest or a bush fire is based on the concept of deep learning and YOLO algorithm. This deep learning model is deployed on a UAV which helps in detection of fire, meanwhile it can be monitored by web application and the forest fire area can be located in order to prevent it in advance.

8. CHANNELS of BEHAVIOUR

CH

8.1ONLINE

What kind of actions do customers take online? Extract online channels from #7

Collect the date and form a dataset in order to compare the flames regions for forest fire detection

8.2OFFLINE

What kind of actions do customers take offline? Extract offline channels from #7 and use them for customer development.

In case of forest fire detection the information is sent to forest authorities so that they will prevent it at ease.

Extract online & offline CH of BE

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