

### 1. CUSTOMER SEGMENT(S)

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 Park Service.

CS

### 6. CUSTOMER

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.

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.

CC

### 5. AVAILABLE SOLUTIONS

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

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 and the comfortable way of migration

AS

Explore AS,

### 2. JOBS-TO-BE-DONE / PROBLEMS

Which jobs-to-be-done (or problems) do you address for your customers? There could be more than one; explore different sides.

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 underserved needs so we could enter a new market in a differentiated manner

J&P

### 9. PROBLEM ROOT CAUSE

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.

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.

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### 7. BEHAVIOUR

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)

Popular packages encompass processes involved in the maintenance of solar panels and solar power plants. This is critical: you must try to solve the right problem. Don't try to solve a problem the customer sees as low priority or unimportant. Identify the right problem by asking the right questions and observing. You cannot identify the customer's problems by presenting your products.

BE

Focus on J&P, tap

### 3. TRIGGERS

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

TR

### 4. EMOTIONS: BEFORE / AFTER

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

EM

### 10. YOUR SOLUTION

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

SL

### 8. CHANNELS of BEHAVIOUR

8.1 ONLINE  
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

8.2 OFFLINE  
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.

CH

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Identify strong TR &