# **Problem-Solution fit** canvas 2.0

Pur A novel method for handwritten digit recognition system using AI

# 1. CUSTOMER SEGMENT(S)

Who is your customer? i.e. working parents of 0-5 v.o. kids

ပ္ပ

fit into

tap into BE, understand

E

Š

H

Identify strong

Bank officers Students Post officers

### 6. CUSTOMER CONSTRAINTS

CS

J&P

TR

EM

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.

> Internet facilities Spending time Appropriate data

#### 5. AVAILABLE SOLUTIONS

CC

RC

SL

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

To detect the handwritten digit based on the handwritten digit size, style, thickness ,easy to detect by the computer...5. To detect the handwritten digit based on the handwritten digit size, style, thickness ,easy to detect by the computer...Recognize the digits from images, touch screen, documents

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

Low quality image leads to wrong prediction of digits Inappropriate data leads to errors

#### 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.

> Take more time to recognize the digits, Difficult to identify the different handwritten digits

#### 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)

Needs faster experienced workers, Customers spend their free time Needs more members to recognize

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

Reading about a more efficient solution in a relevant article, Online searching

#### 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: Confused, frustrated AFTER :Calm, in control

## 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.

. To identify the handwritten digits of different styles, sizes To identify the digits in images, pdf documents in faster and efficient way

# 8. CHANNELS of BEHAVIOUR

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

Through online articles,

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

Through experts

AS

BE