

## 1. CUSTOMER SEGMENT(S)

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

I. Heart Disease affected Patients

CS

## 6. CUSTOMER CONSTRAINTS

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.

Avoidable medical errors. Low treatable mortality rates. Lack of transparency. Difficulty finding a good doctor. High maintenance costs. The lack of insurance coverage. The shortage of nurses and doctors. A different perspective on solving the shortage crisis.

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

- I. Eliminate the short-term practice of data cleansing.
- II. Learn how to perform analysis, visualizations and algorithms effectively.
- III. Heart disease prediction system aims to exploit data mining techniques on medical data set to assist in the prediction of the heart diseases.

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.

### Quality of Data:

The quality of data we have should be accurate and reliable. Obviously, the outcome will solely depend on the data we put into the prediction. If the data is skewed, then the prediction which is dependent on it, will be skewed as well.

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.

Leading risk factors for heart disease and stroke are high blood pressure, high low-density lipoprotein (LDL) cholesterol, diabetes, smoking and secondhanded smoke exposure, obesity, unhealthy diet, and physical inactivity.

Solutions: Don't smoke or use tobacco, eat a heart-healthy diet, maintain a healthy weight, manage stress, Get regular health screenings.

RC

## 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)

- I. Develop or improve upon the strategic vision.
- II. Segment Patients with personalization.
- III. Disruptive conduct as they've an altered intellectual degree of worry of being sick, stressful approximately out of the pocket cost, alteration of way of life if suffered from a continual illness

BE

## 3. TRIGGERS

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

Accuracy of Datasets, Information of ECG and Heart disease related tests for patients.

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.

indicate that strong emotions, especially negative emotions, such as hostility, anger, depression and anxiety, precipitate coronary heart disease.

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.

The use of analytics in healthcare improves care by facilitating preventive care and EDA is a vital step while analysing data. The use of data analytics and virtualization tool to find the risk factors that causes heart disease is considered and predicted using K-means algorithm and the analysis is carried out using a publicly available data for heart disease.

SL

## 8. CHANNELS of BEHAVIOUR

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

Patients will be a part of virtualization. For example, accessing and seeing all medical records in online.

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

- I. Emergency stroke
- II. Surgery
- III. Regular checkup

CH