

Define CS, fit into CC

1. CUSTOMER SEGMENT(S)**CS**

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

Stakeholders who are holding the stakes of crude oil and new investors who are interested in investing their money in crude oil.

6. CUSTOMER CONSTRAINTS**CC**

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.

- ✓ Fluctuations in prices
- ✓ Demand of crude oil changes.
- ✓ Supply is different in various places.
- ✓ Missing of data items in historical data.

5. AVAILABLE SOLUTIONS**AS**

The available solutions for predicting the crude oil prices is by using various algorithms such as SVM, Backpropagation, ARIMA, Random walk model which is ineffective when compared to LSTM and RNN because the available algorithms cannot solve the complex problems and there are many more cons in these algorithms.

Explore AS, differentiate

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

2. JOBS-TO-BE-DONE / PROBLEMS**J&P**

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

As the crude oil price prediction is the challenging task and it is very crucial for these stakeholders to predict the exact price of the crude oil as it depends on various factors such as demand, supply and fluctuations in the prices.

9. PROBLEM ROOT CAUSE**RC**

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.

The main reason for why this prediction of crude oil becomes difficult because this process gets affected by many factors such as demand, supply and costs that have increased due to fluctuations.

7. BEHAVIOUR**BE**

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)

The stakeholders and the investors do keep on checking whether there are any fluctuations in prices.
They will invest their money after checking the demand, supply in different places and then they will invest in the region which has higher demand and supply.

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

Identify strong TR & EM

3. TRIGGERS**TR**

Crude oil prices affect the economy of a country; hence the government should take some measures for predicting the prices exactly which helps the stakeholders.

4. EMOTIONS: BEFORE / AFTER**EM**

While investors and stakeholders invest their money in this unpredictable stakes such as crude oil due to many other factors, they lose their huge amount of investment afterwards; this leads to their loss.

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.

We are planning to use the historical data as the input to the training machine where this data goes through data preprocessing techniques and then the main two algorithms which are applied upon this data are RNN and LSTM techniques and algorithms which help in predicting the prices exactly and give the output.

8. CHANNELS of BEHAVIOUR**CH****ONLINE**

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

In online the users can use the applications or websites which will help them in detecting the prices exactly

OFFLINE

In offline the stakeholders and investors will gather information through newspapers and they will hear from their partners and colleagues about the prices and status of crude oil prices

Identify strong TR & EM

