

PROJECT DESIGN PHASE 1

Problem – Solution Fit Template

Date	18 OCTOBER 2022
Team ID	PNT2022TMID04569
Project Name	Crude oil price prediction
Maximum Marks	4 Marks

Problem – Solution Fit Template:

The Problem-Solution Fit simply means that you have found a problem with your customer and that the solution you have realized for it actually solves the customer's problem. It helps entrepreneurs, marketers and corporate innovators identify behavioral patterns and recognize what would work and why

Purpose:

- ☐ Solve complex problems in a way that fits the state of your customers.
- ☐ Succeed faster and increase your solution adoption by tapping into existing mediums and channels of behavior.
- ☐ Sharpen your communication and marketing strategy with the right triggers and messaging.
- ☐ Increase touch-points with your company by finding the right problem-behavior fit and building trust by solving frequent annoyances, or urgent or costly problems.
- ☐ Understand the existing situation in order to improve it for your target group.

TEMPLATE:

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 you or customers from taking action or limit their choices of solutions? i.e. spending power, budget, no cash, network connection, available devices. <ul style="list-style-type: none"> ✓ 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 compare to LSTM and RNN because the available algorithms cannot able to solve the complex problems and there are many more cons in these algorithms.	Explore AS, differentiate
	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 ones. 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 basic 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 get affected by many factors such as demand, supply and costs get 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 is 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 as higher demand and supply.	
Identify strong TR & EM	3. TRIGGERS TR Crude oil prices affects the economy of a country hence the government should take some measures for predicting the prices exactly which helps the stakeholders.	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 go throughs data preprocessing techniques and then the main two algorithms which is applied upon this data is RNN and LSTM techniques and algorithms which helps in predicting the prices exactly and gives 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	Identify strong TR & EM
	4. EMOTIONS: BEFORE / AFTER EM While investors and stakeholders investing their money in this unpredictable stakes such as crude oil due to many other factors they loss their huge amount of investment afterwards this leads to their loss.		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	