

Project Design Phase - I (Solution Fit)

Project Title : Crude oil price prediction

Team ID : PNT2022TMI13501

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|-------------------------|---|---|--|-----------------------------------|
| Define CS, fit into CC | 1. CUSTOMER SEGMENT(S) CS <ul style="list-style-type: none"> ➤ Oil accounts are the third of the world's energy consumption. That is the greatest share for all categories of government. | 6. CUSTOMER CONSTRAINTS CC <ul style="list-style-type: none"> ➤ Cash involved ➤ High volatility in predicting the prices | 5. AVAILABLE SOLUTIONS AS <ul style="list-style-type: none"> ➤ The frustrations about the results can be avoided by providing a proper timeline and proper planning will be helpful in finishing it in time with the expected output. | Explore AS, differentiate |
| | 2. JOBS-TO-BE-DONE / PROBLEMS J&P <ul style="list-style-type: none"> ➤ The prices of crude oil are highly volatile and fluctuate frequently so it is quite tough to predict the prices of crude oil. So it becomes really tough to tackle the supply and demand problem. | 9. PROBLEM ROOT CAUSE RC <ul style="list-style-type: none"> ➤ The root cause of this problem is the high volatility and fluctuating aspect of crude oil. This provides an uncertain situation for investors and other members who want to | 7. BEHAVIOUR BE <ul style="list-style-type: none"> ➤ Crude oil prices increase every day. Fluctuations in crude oil prices have devastating impacts on global economies, so oil price forecasting can help reduce the risks associated with oil price volatility. | |
| | 3. TRIGGERS TR <ul style="list-style-type: none"> ➤ The triggers that affect the price prediction are: ➤ Financial factor ➤ Supply-demand factor ➤ Expected global demand ➤ Speculation | 10. YOUR SOLUTION SL <ul style="list-style-type: none"> ➤ For crude oil price prediction, time series analysis is the most appropriate option. This is because we are using the past history of crude oil prices to predict the future price of crude oil. Therefore, we would implement RNN with LSTM (Long Short Term Memory) to accomplish the task | 8. CHANNELS of BEHAVIOUR CH <div>8.1 ONLINE</div> <ul style="list-style-type: none"> ➤ By exploring the internet the users can see the prices of crude oil. | Extract online & offline CH of BE |
| Identify strong TR & EM | 4. EMOTIONS: BEFORE / AFTER EM <ul style="list-style-type: none"> ➤ Before: A sense of doubt in the price leads to fear of losing money. Sudden dip in price may cause frustration. ➤ After: Assurance in future prices, security, and joy in case the price increase is predicted. | | <div>8.2 OFFLINE</div> <ul style="list-style-type: none"> ➤ Customers can buy the crude oil and use it for their vehicles. | |

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

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Identify strong TR & EM

Extract online & offline CH of BE