

Define CS, fit into CC	<div>1. CUSTOMER SEGMENT(S)<div>CS</div><div>1. Petrochemical Industrialist 2. Crude oil investors 3. Investors who invest on products that runs or depends on crude oil</div></div>	<div>6. CUSTOMER CONSTRAINTS<div>CC</div><div>Crude oil prices are highly volatile. It’s controlled by many variables. It is difficult to make profit out of this volatility. Sudden change in price can drastically affect the market. Prediction of the crude oil can help regulate the oil market and tackle the demand and supply related problems.</div></div>	<div>5. AVAILABLE SOLUTIONS<div>AS</div><div>Analyzing trends and cycles in the available time series data can help us to predict rise and fall of the prices.</div></div>	Explore AS, differentiate
	<div>2. JOBS-TO-BE-DONE / PROBLEMS<div>J&amp;P</div><div>As oil price forecasting is very useful to various stakeholders like governments, public and private enterprises, policy makers, and investors, we need to build a prediction model that operates on time series data to perform price prediction.</div></div>	<div>9. PROBLEM ROOT CAUSE<div>RC</div><div>The main issue is the future sales options investments which drives the price of oil thereby negatively impacting the supply chain that depends on crude oil. Since crude oil price is volatile numerous factors like technological, financial, supply and demand etc. affect the price of oil. In such cases prediction of prices can be complex</div></div>	<div>7. BEHAVIOUR<div>BE</div><div>Shift to electric vehicles could displace the ever increasing oil demand to a renewable resource.  Global dependence on oil, natural gas and coal can be shifted towards use of renewable energy like solar, wind, hydro electricity.</div></div>	
	<div>3. TRIGGERS<div>TR</div><div>The triggers that affect the price prediction are: 1. Technological factor 2. Financial factor 3. Supply-demand factor.</div></div> <div>4. EMOTIONS: BEFORE / AFTER<div>EM</div><div>BEFORE : CONFUSION, ANXIETY  AFTER : CONFIDENCE</div></div>	<div>10. YOUR SOLUTION<div>SL</div><div>In order to predict the crude oil price using historical data, RNN is utilised with Long Short-Term Memory (LSTM). RNN can memorize the previous information and apply it for calculating the current output. LSTM mainly solves the problems of RNNs, such as gradient disappearance and gradient explosion. LSTM constructs a long-term delay between input, output and gradient burst prevention. It has its own memory and can yield accurate predictions of crude oil prices. The effectiveness of the model can be evaluated using the Mean Square Error method over the prediction.</div></div>	<div>8. CHANNELS of BEHAVIOUR<div>CH</div><div>8.1 ONLINE  Stakeholders can use this model to forecast the price of crude oil and take prudent decisions.  8.2 OFFLINE  Stakeholders can make informed decision while tackling the supply chain issues.</div></div>	