Define CS, fit into CC

1. CUSTOMER SEGMENT(S) CS

- Hospital Management
- patient

6. CUSTOMER CONSTRAINTS CC

Customers needs to predict the length of stay of patients with more accuracy during the time of admission.

Maintenance, budget,Human errors in prediction,Unable to predict LOS of patients, No Cost, not sure how to predict.

5. AVAILABLE SOLUTIONS AS

There are few LOS prediction model but with very limited parameters excluding some of the parameters which definitely lead to extension of length of stay of patients

Explore AS, differentiate

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

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

Job is to predict the length of stay of patients. Unable to predict the LOS of patients leads to improper resource allocation and improper treatment to the patients due to overflow of patients

9. PROBLEM ROOT CAUSE RC

Unable to predict the length of stay of patients with high accuracy. Insufficient medical equipments and bed. Improper maintenance of patients medical history and data

7. BEHAVIOUR BE

Build a model to predict with LOS of patient with higher accuracy. The hospital management should maintain the proper ledger of patients with all the informations about their health, progression and those data can be shared with data analyst to analyse the data

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

Identify strong TR & EM

3. TRIGGERS TR

Unable to predict the length of stay of a patient leads to improper allocation of resources.

Hence there is a need to predict the length of stay.

The COVID-19 pandemic proved the impotence of management of hospital resources. So many people struggled due to unavailability of necessary hospital resources for their treatment.

4. EMOTIONS: BEFORE / AFTER EM

Before:

- Improper resource allocation
- Patients unable to get proper treatment and therapy
- Stress and frustration for both patients and hospital management
- unable to promise faster recovery

After:

- Proper resource management and utilization
- Proper treatment and therapy leads to faster recovery
- Proper management and improves trust on the hospital management.

10. YOUR SOLUTION SL

- Collecting data from the trusted source
- Analyze how the length of stay vary with various parameters
- Decide on what are all the parameters impact on the length of stay of patients
- Clean the dataset
- extract the impacting parameters alone to train the model
- train the model to predict the length of stay with various algorithms
- analyze which algorithm is giving better accuracy in predicting the length of stay
- use the algorithm which gives higher accuracy to predict the length of stay

The length of the stay can be predicted using either Random forest or Decision Tree for more accuracy. Certain parameters like age, stage of the diseases, disease diagnosis, severity of illness, type of admission, facilities allocated, etc., are used for prediction. IBM Cognos will be used for data analytics. The model will be trained using colab. It predicts the length of stay (LOS) of the patients with more accuracy. As a result proper resources and therapy can be provided.

Patients can get proper treatment and better medical care than before which helps them for their faster recovery. So the prediction minimizes the overflow of patients and helps in resource management and optimize their resource utilization. Hence this leads to faster recovery and lower the expenses for treatment. It improves the trust in hospital management. It avoids the major risk of spreading infection among the hospital staff. This leads to overall safety of hospital staff and patients.

8.CHANNELS of BEHAVIOUR CH

8.1 ONLINE

Handle all the documents and records about the length of stay about the patient and manage them properly. Maintain all the records of medication, treatment, health reports of patients along with the consulting doctors details which can also be used to analyze the length of stay of patients with these details. Properly manage all the patient details.

8.2 OFFLINE

Getting enough medical equipment, checking availability of beds and maintaining in the local electronic ledger or ledger. Checking patients' progress in their health in person and closely monitoring their response to the treatments provided and go for alternative treatments if their body system doesn't respond well to the current treatment.