

## ***Project Design Phase 1 -- Problem Solution Fit***

|                |  |
|----------------|--|
| Project Domain | Applied Data Science   |
| Project Title  | Early Detection of Chronic Kidney Disease using Machine Learning |
| Team ID        | PNT2022TMID44392   |
| Date           | 1 October 2022   |

### ***Problem Solution Fit:***

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.

### ***Step-1: Business Problem***

## **Business Problem**

What business have you identified that needs help?

Patients need  
to wait for long  
time for the  
results of CKD  
test

There might  
be latency  
in diagnosis  
approach

Treatment  
may not be  
done in right  
appropriate  
time

## ***Step-2: Business Outcomes***

# Business Outcomes

(Changes in customer behavior)

What changes in customer behavior will indicate you have solved a real problem in a way that adds value to your customers?

Patients no  
need to wait  
for the results  
of CKD test



Treatment will  
be given at  
right  
appropriate  
time

Time and  
Cost for the  
CKD test will  
be reduced

## ***Step-3: Users & Customers***

# Users & Customers

What types of users and customers should you focus on first?

Patients  
affected by  
kidney  
disease



Patients  
who are at  
severe  
condition

Several  
medical  
labs

## ***Step-4: User Benefits***

### **User Benefits**

What are the goals your users are trying to achieve? What is motivating them to seek out your solution? (e.g., do better at my job OR get a promotion)



## ***Step-5: Solutions Ideas-1***

### **Solution ideas**

List product, feature, or enhancement ideas that help your target audience achieve the benefits they're seeking.



## ***Step-6: Solution Ideas-2***

### **Solution ideas**

Combine the assumptions from 2, 3, 4 & 5 into the following template hypothesis statement:  
“We believe that [business outcome] will be achieved if [user] attains [benefit] with [feature].”

Each hypothesis should focus on one feature.

No need to wait for the test results because patients will get the result quick due to fast prediction

Latency in diagnosis can be solved, so patients will not get suffered a lot

Time and Cost of the treatment will be lower so that doctors can start the treatment at right appropriate time

## ***Step-7: What's the most important thing we need to learn first?***

### **What's the most important thing we need to learn first?**

List product, feature, or enhancement ideas that help your target audience achieve the benefits they're seeking.

Why the test results for CKD takes more time?

7

What are the major causes for the CKD?

When to start the treatment?

***Step-8: What's the least amount of work we need to do learn the next most important thing?***

## What's the least amount of work we need to do to learn the next most important thing?

Brainstorm the types of experiments you can run to learn whether your riskiest assumption is true or false.

Way to  
handle the  
patients



Leaving  
quick  
insights for  
the doctors

Way to reduce  
the time taken  
for the  
diagnosis part