**Project Design Phase – I**

*PROBLEM SOLUTION FIT*

|  |  |
| --- | --- |
| ***TEAM ID*** | ***PNT2022TMID31706*** |
| ***PROJECT TITLE*** | ***Machine Learning-Based Predictive Analytics***  ***for Aircraft Engine*** |
| ***DATE*** | ***19 October 2022*** |

|  |  |  |
| --- | --- | --- |
| ***1.CUSTOMER SEGMENTS***  *Customers are businessmen, student, tourist, traveler and all the people traveling in flight.* | ***4.CUSTOMER LIMITATIONS***  *Customers require accurate and early predictions of the flight engine failure. And they also look for an alternate solution.* | ***5.AVAILABLE SOLUTIONS***  *The reliability analysis of aircraft engines is essential for ensuring the smooth functioning of each component of an aircraft engine.* |
| ***2.PROBLEM***  *Engine failure occurs when a turbine engine unexpectedly stops producing power due to malfunction. This lead to a lot of customer dissatisfaction.* | ***6PROBLEM ROOT / CAUSE***  *The root cause of the problem is unforeseen & unpredictable engine failure that cause cancellations and arrival, departure delays.* | ***7.BEHAVIOR***  *The purpose of this research is to develop methods that can be used to generate reliable and timely alerts* |
| 1. ***TRIGGERS TO ACT***   *To accurately predict the failure of an engine and track the flight.*   1. ***EMOTIONS***   *The aircraft engine failure occurs, passengers often get annoyed and frustrated. They also might lose to reach on time to some important occasions.* | ***10. SOLUTION***  *Preventable fuel problems such as exhaustion. Structural failures where a broken connecting rod, crank, valve, or camshaft is present account for seventeen percent of engine failures occurs.* | ***8.CHANNELS OF BEHAVIOR***  *Check the engine regularly and maintained properly. And also check the fuel and oil levels regularly in the aircraft engine.* |