Project Design Phase-I - Solution Fit **Team ID:** PNT2022TMID05335

Project Title: A Novel Method Of Handwritten Digit Recognition System

Define CS, fit into CC

1. CUSTOMER SEGMENT(S) CS

- Customers are those who work with handwritten numbers in places like banks, schools, colleges, railroads, etc.

6. CUSTOMER CONSTRAINTS CC

- Lack of reliable internet connections, unavailability of gadgets like mobile phones and computers, inaccessibility of appropriate cameras.
- Because handwritten numbers are not always accurate and might have a wide variety of tastes, it is a difficult work for the computer.
- This issue can be solved by using an image of a digit to identify the digit that is present in the image, which is done through handwritten digit recognition.

5. AVAILABLE SOLUTIONS AS

- Although there are current alternatives to this approach, they are not very precise, robust, or rotation- and variation-invariant.
- The ability of a computer to honor the mortal handwritten characters from many sources, including as photographs, papers, and touch input.

Explore AS, differentiate

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

- It is really challenging to comprehend and analyze the handwritten numbers.
- More training data required.
- Hard to recognize digits, dim lighting, weak eyesight.

9. PROBLEM ROOT CAUSE

- Hand-written digits are in varying fonts and sizes; thus, they are becoming increasingly difficult to ascertain due to various factors such as weakening eye-sight, time constraints, etc.

7. BEHAVIOUR

- Finding the best software that more quickly and accurately identifies digits.
- Customer wants reliable internet connections and high-quality cameras.

Focus on J&P, tap into BE, understand

Identify strong TR & EM

3. TRIGGERS

- Obtain the data quickly and accurately.
- The exchange of information is made simple and is one of the simplest ways to speak with a computer and grasp the language.

4. EMOTIONS: BEFORE / AFTER

BEFORE: Uncertain, Reserved, and Perplexed.

AFTER: Assured, Upright, and Rational.

10. YOUR SOLUTION

- The solution aims to reliably recognize hand-written digits using Convolutional Neural Network (CNN) algorithm.Therefore,reducing costs for the company and increasing worker productivity.

8. CHANNELS OF BEHAVIOUR

8.1 ONLINE

- The processing and uploading of the photographs both require a steady internet connection.

8.2 OFFLINE

- Purchase contemporary electronics and confirm their functionality.

Identify strong TR & EM