<u>Project Design Phase-I – Problem Solution Fit</u> Team-Id: PNT2022TMID17708

1. CUSTOMER SEGMENT(S)

CS,

fit into CC

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

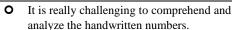
6. CUSTOMER CONSTRAINTS

- O Lack of reliable internet connections, unavailability of gadgets like mobile phones and computers, inaccessibility of appropriate cameras.
- O Because handwritten numbers are not always accurate and might have a wide variety of tastes, it is a difficult work for the computer.
- O 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

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

2. JOBS-TO-BE-DONE / PROBLEMS



J&P

- More training data required.
- Hard to recognize digits, dim lighting, weak eyesight.

9. PROBLEM ROOT CAUSE

O Hand-written digits are in varying fonts and sizes; thus, they are becoming increasingly difficult to ascertain due to various factors such as weakening eyesight, 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.

3. TRIGGERS

Identify strong TR &

- Obtain the data quickly and accurately.
- O 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 handwritten digits using Convolutional Neural Network (CNN) algorithm. Therefore, reducing costs for the company and increasing worker productivity.

8. CHANNELS OF BEHAVIOUR

8.1 **ONLINE**

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

8.2 OFFLINE

O Purchase contemporary electronics and confirm their functionality.