# PROJECT REPORT

# Outline

1. Introduction

2. Milestones

3. Achievements

4. Challenges

5. Suggestions

# 1. Introduction

# 1. Introduction

## 1. 1. Use case

Holistic Approach for Early Detection of Maternal, Perinatal and Child Health Risks and their Timely Management using Artificial Intelligence.
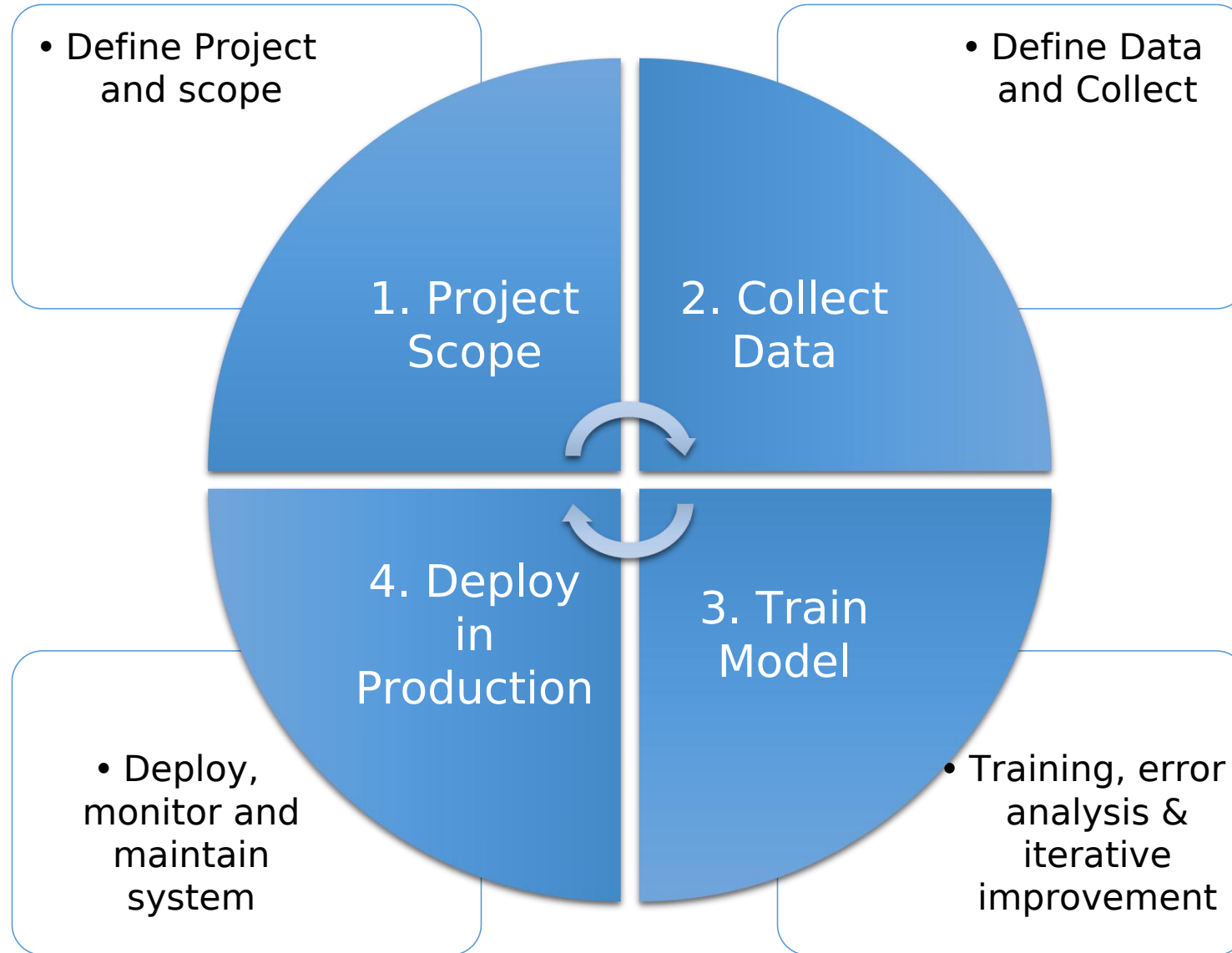
## 1. 2. Objective

Maternal mortality rate reduction aligned to agenda 2030 (SDGs).
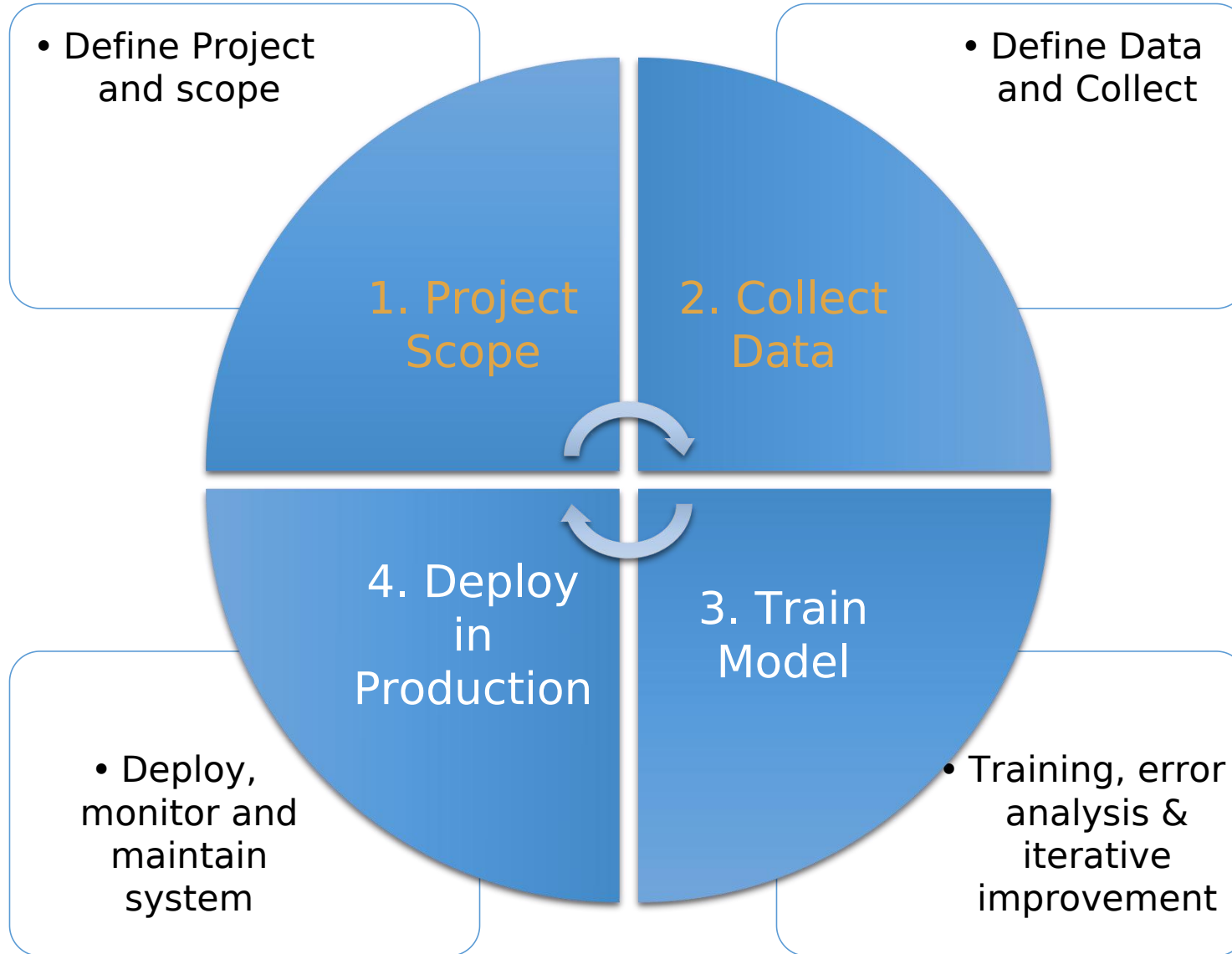
# 2. Milestones (In a nurtshell)

# 3. Achievements

# 3. Achievements

## 3. 1. Model Training

- We trained Machine Learning and Deep Learning models, unfortunately that was done in incomplete data.

# 3. Achievements [Back to step 2]

## 3. 2. Data Collection Phase 2

- Data source: Aman Regional Referal Hospital
- Data category: Martenal Patient Records
- Years: 2021, 2022, 2023
- Data count per year:
  - 2021: 559
  - 2022: 1557
  - 2023: 272

## 3.3. Data Mining From PDFs
## 3.4. Data Labeling

# 4. Challenges

# 4. Challenges

4. 1. Project Oriented Challenges

Main Challenge:

1. Lack of proper/complete dataset for model training.

Possible causes:

1. The first two steps in ML cycle where partially implemented which led to:
    1. Absence of proper ready dataset as expected
2. Lack of project orientation discussion/meetings with domain experts [specifically in data collection areas].
3. Lack early stages developers engagement [Step 1 & 2].

# 4. Challenges

4. 2. General  Challenges

1. Unreliable:
1. Internet.
2. Computational resources.

# 5. Suggestions

# 5. Suggestions

- As Machine Learning development is a highly iterative task, in many aspects such as:
    - Coming up with a fully flushed out data mining  technique.
    - Model hyperparameters
    - Model architecture
    - Performance metrics

- We think it is very helpful with the available data to take on emprical experiments (train initial model) then work for improvement which will help making decision whenever multiple options are available and it's hard to know the best choice in advance.
- We can run experiments to get data quickly about the performance of different options.
- Will help getting earlier feedback from users(stakeholders).

# Prepared By:

1. Zephania Reuben
2. William Haule

@2023