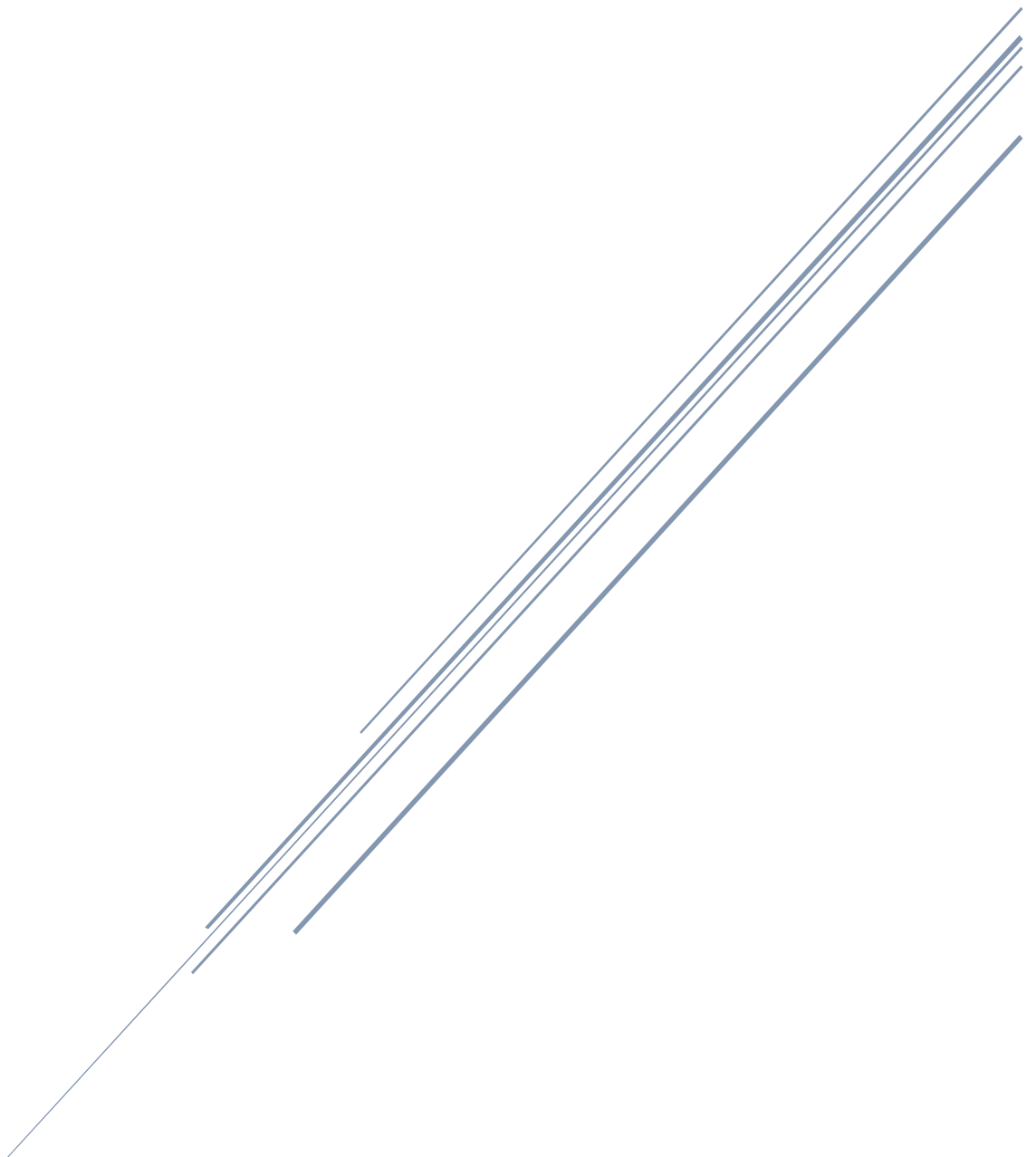


# REFLECTION AND LEARNING REPORT



Technical University of Denmark  
Innovation Pilot 62990

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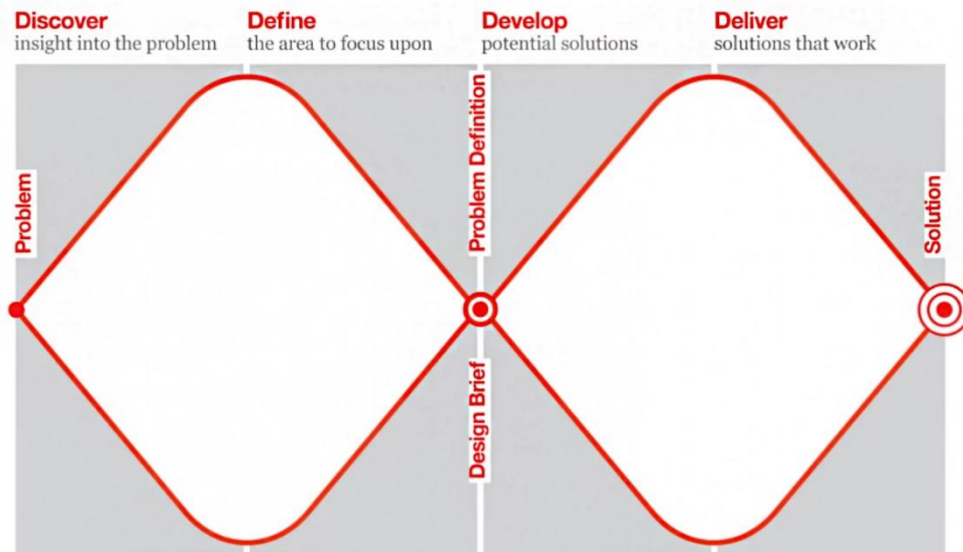
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## Innovation process and the result

The **double diamond method** is used throughout our innovative process.

The official Double Diamond design model we followed has four stages: Discovery, Definition, Development and Delivery.

Together, these stages worked for us as a map, and we used to organize our thoughts in order to improve the creative process.



Figur 1 Double Diamond

### Discover stage: gathering data

The very first stage of the Double Diamond model consists of learning more about the different variables that affect the problem and its solution. It is common for companies to start this process by laying down their problem, presenting their hypothesis, and defining ways they can learn more.

Here we tried to discover the problem and keeping every possibility open (Divergent).

We applied three Technique's to gather as much data as we could:

- **5 whys**: Was applied to narrow down the possibilities of problems we have.
- **Question Trees**: Was applied to get understanding of the cause of the problem.
- **Mind mapping**: Was applied to discover and generate innovative ideas.

### Definition Stage: filtering through data and sign-off

After gathering all that data in the first stage of the Double Diamond model came the definition stage.

Here we considered this cite “passing on all your findings can lead to focusing on irrelevant data, increasing the chance of failure in the design “

So, we aimed here in the definition stage to filter through all the information we got from stage one and elaborating on it.

And then we had to define a clear problem to be solved. Our gathering was based on two factors:

- Data: Was gathered from Jengo company and the available information from Maasai communities.
- Assumptions: Was predicted some unknown factors regarding the nature of the problem we trying to solve and regarding the African environment and economy.

Based on these two factors we could define our problem more obvious and finally we could choose the heartnut.

### Development stage: start to design

Here is our start of the actual design process, the actual making of the solution to the problem defined in stages one and two.

We all discussed different solutions such as using the available animals to transport the milk or finding out more effective and faster ways to transport milk like for example using cars or tuk-tuk or bicycle, but according to the information we gathered that they only have a few means of transportation ( Motorcycle ) which was the cheapest and fastest way to deliver the milk to the destination by using and designing a trailer to hold a big capacity of milk and maintaining it safe, clean and cold.

By making motorbike trailer could be made of metal, woods, and polymer, we will come with effective, cheap and safe method to transport and deliver the milk.

The development stage involved a lot of multi-disciplinary work. We started thinking as a team of designers that create a new product.

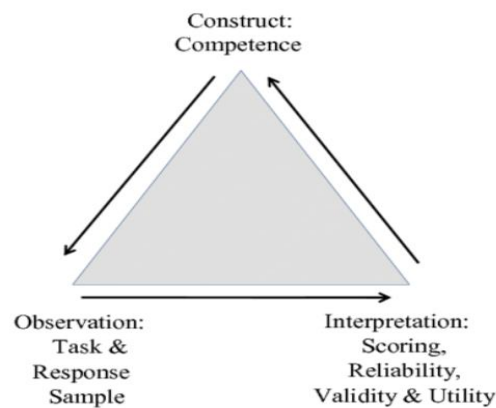
The start of prototyping an effective, cheap motorbike trailer, we took into consideration dimensions and used materials. To illustrate our thoughts, we started to prepare 3D visualization of the trailer.

### Delivery stage: test and release

We completed the 3D visualisation of the trailer and how it-is connected to the motorbike.

## Project work

The members of the project have designed individual competence triangles. The way they used this tool did not work optimally until later in the project. First in the project, they filled in the triangle individually. This was done on Miro. The answers given become a start phase for group to work and it was updated through the project. At that time, they did not get to talk about the triangles properly, but later in the project the group sat down and took better time for the method and talked about the competencies they had together and how it strengthened their project.



*Figur 2 The competence triangle*

If project group were to use this method a second time, they would from the start take better time to both fill in their competencies and focus on the subsequent dialogue about how project group can use these competencies together. It will create great value for the collaboration if it is done properly from the start.

Project group start to get some inspiration and ideas of how they will be able to overcome these problems that faced in the start and achieve a satisfactory performance. The facilitators had also a significant impact on them.

Facilitators suggest some team exercises and activities such as the Belbin Roles and personalities test that the group could use during its construction (start-up). This helped project group identify the strengths and weaknesses of the team. It also helped them overcome weaknesses and turn them into strengths.

The facilitators noted that maybe project group have a different standard of what specific words such as sustainable development and sustainability in global business. To solve this problem, project group decide to standardize the concepts project group agree on common concepts and standards so that they can use them in their project. There were many other obstacles and challenges that they faced, such as the different backgrounds of the team members, and therefore diverse cultures, languages and viewpoints. Because of all this, the work in the early days was not at the expected and desired level, so group morale decreased until we distributed the roles to team members specifically according to his personality, skills, technical specialization, weaknesses and strengths. So, they have a coordinator who could be team leader

as a job role they have also a powerful (plant) thinker who Help the team with creativity and multiple ideas they have also monitor-Evaluator who always finds flaws and gaps in teamwork before it's too late. Then, their work and morale greatly improved. So, the project is on a better track and things are picking up for them. Project group is very excited to start loop 2 because they have a good team with diverse talents, everyone knows his role well. The team has also now an implementer who turns existing ideas into reality and a Completer who works hard and who spends a long time looking for errors in project documents. So now do not need to distribute roles again, the team is ready for the following tasks, they have elected a leader who has the final word to keep our discussions and schedules organized, so, if further problems arise, group can react faster and find solutions before problems escalate too far. group now know more about this team and can therefore skip the role of the Belbin team, allowing them to devote more time to the loop 2 and hopefully find a solution and develop it further.

## Communication among group

In relation to teamwork, we started by talking and discussing how we are going to make things work through the next two weeks of this course.

Our target is to benefit from what we learn as much as possible and to work as a team to achieve the required level.

We have also decided to work without a team leader, and instead of that work collaboratively and ameliorate improved communication and teamwork between all the members. In this way, all the group members would have the chance to say their opinion and what they do think about each case/task to agree on the final decision.

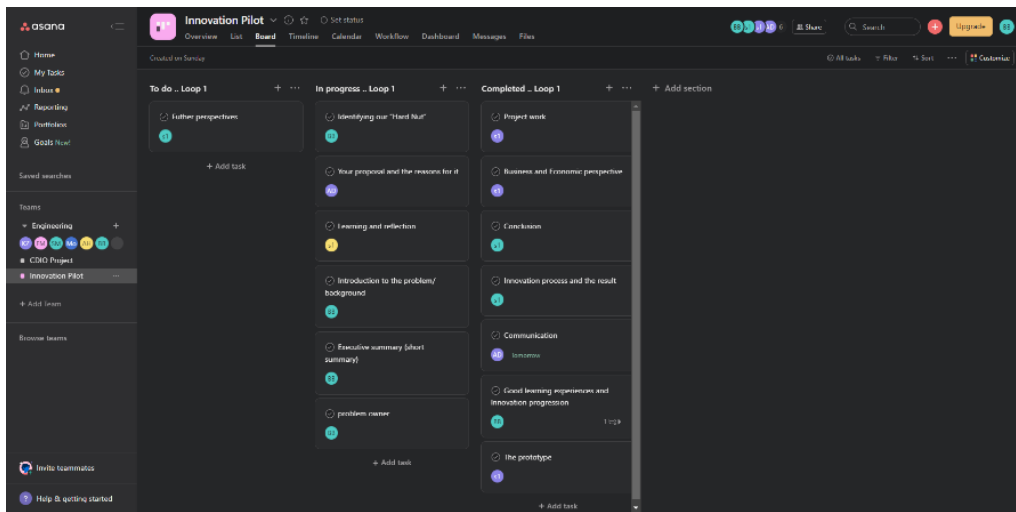
As a first step, we created a start line/plan that describes and shows the different work processes and the expectations we have for each other, and it describes also what each member is going to work on.

It worked very well, especially since we knew each other's before. That's contributed to having great teamwork.

During loop 1 we had a lot of ideas and different opinions which is very normal because we don't have the same disciplines. This will make it more interesting to discuss the task, however, it will allow us to share different perspectives for all of us and gives us the opportunity to learn from each other and improve the teamwork.

As mentioned before, we have different personalities with different qualifications, so it is very common that the course would not mean the same for all. We have noticed that some of us were more motivated than others and wanted to make a real difference and think that the problem is real and needs a solution right now. But that of course does not mean that all the team worked hard and contributed something.

Our project is structured and divided based on our use of Asana so that we kept our growing organization aligned on Asana's flexible work management platform. The screenshot here shows our work management and tasks distribution.



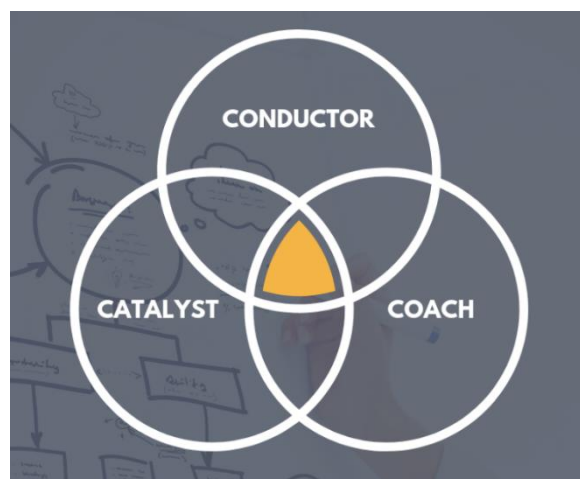
Figur 3 Asana teamwork

## Learning and reflection

### Collaboration with the facilitators

In the Innovation Pilot, collaboration involves facilitators help with ideas and skills to achieve a common goal. When students with different perspectives, ideas, fields, and experiences work together to find innovative solutions.

Therefore, collaboration with facilitators has started from the beginning with the project group. Because more eyes on a project from the beginning means that many of project group's questions can be spotted earlier and answered altogether or solved more quickly. However, it empowers project groups to share their ideas with facilitators to gain the best solutions in the end.



Figur 4 the role of facilitator

Project groups try to talk with facilitators often to answer their need and reach a project goal. It provides regular feedback and offers them new ideas to maintain a high level of collaboration and productivity.

Project groups will use facilitators to help in the next loop definitely. Because it will lead to great work and encourage the project group to share their ideas and come up with the best innovative solutions.

Facilitators have encouraged the project group to be more confident with their ideas and aware of so many things, which will help them in different ways to solve problems in the future. However, there were small external details they come with could be addressed, due to the limited time of project. What did the project group learn, a very relevant question?

The reflections project group have reviewed above, and the reflections have had throughout the project, they have also learned that at the beginning of the idea's generation phase one should not think of solutions and the most important thing is to develop the ideas and think out of the box and be creative. Because it's so easy to get so many good solutions in the beginning.

They have also benefited from the facilitators' way of thinking and their ideas and feedback to improve project work. they have also received so much good information from them where have helped project group with understanding the problem in their perspective and they become closer to that find a better solution for women in Tanzania.

As students, project group need to learn to appreciate feedback and understand their role in the process therefore they gain a lot from facilitators feedback during the demonstration and know their pros and cons and how can improve their way of working.

Facilitators feedback keeps group on correct track and reduces errors and misunderstanding of Jengo goal during the project, which that ends to achieve a great result.

### Collaboration with the company

On the other side the project group got their primary data from day two, where Jengo non-profit organization held their meeting front of all students and talked about the project. The primary info has been told and informed. Furthermore, the project group got the chance to write to Jengo in teams, where they try to answer the questions that come from students to further develop their project work. Jengo became more familiar with answering the questions, which faced the project group and tried to establish a connection to the group to ensure the best result.

Even though the project group has gained from plenty of information that Jengo has given to the group, the project group has missed for more physical meeting stead of the online team platform for answering group questions. Secondary data has been collected from desk-research to support the primary data that comes from Jengo.

During the innovational solution's demonstration front of the Jengo organization, project group took Jengo feedback as advantage to correct small things and continue work and solution.



## Appendix

### Contribution table

Student	Innovation process and the result	Project work	Communication among group	Learning and reflection
Bashar	20	10	25	10
Malaz	10	15	20	20
Ahmad	25	10	10	20
Zakaria	10	20	10	15
Mohammad	15	20	25	20
Jossef	20	25	10	15
Total	100	100	100	100