

Entrepreneurship and Design Thinking  
Lecture 2: Design Thinking and Innovation  
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### **Introduction**

In our lecture one we dived into who an entrepreneur is, their traits, motivations and challenges that characterize their journey. In this lecture we will focus on design thinking and innovation, which is methodology to help an entrepreneur or business to remain relevant, ahead of the competition.

### **Learning Outcomes**

After this topic you will be able to apply design thinking principles to create an innovative solution to a problem you may have identified in your organization or community. Specifically, you should be able to:

- Understand and follow the process of design thinking
- Generate and refine possible solution/ideas for an identified problem

### **Opening activity for the topic**

This activity will help the learners to appreciate what design thinking is through experience.

#### ***Activity 1 (in group): Design Thinking Dash***

This can be downloaded from github (it is free for use)

<https://github.com/mollyclare/design-dash/blob/e87c4dd13a62a299a4d5a8b00413333f3411d762/Design%20Dash%20-%20EN.pdf>

### **Instructions**

1. This is a super-fast introduction to design thinking
2. Create a group of 3-4 participants
3. Using post-its, they sketch themselves and their name
4. Then each team choose a number between 1-30
5. The circle the number they have chosen (print the appendix)
6. Each team member share three ways they connect with the topic using post-its

7. Invite an interviewee from another group to a conversation. Get to know your topic through someone else's eyes and take note (idea is to listen 80% and talk 20%, look for problems, pain points, and challenges, ask the why questions)
8. Use your interview to frame a human-centered design problem (use; We talked to, we would nick name them, they say they need, here is what we think is the underlying problem)
9. Draw an idea that solves the problem that you found
10. Build your idea! Make it tangible with the objects around you (facilitator to be deliberate in availing some items)
11. Hand your prototype to your interviewee. What do they think? (use; what works, what didn't work, questions they have, and ideas they have)
12. Iterate your prototype using the feedback you got from your interviewee
13. Present the iterated product to them and hear and observe their reactions.

**NB.** From the exercise the facilitator should help the participants to see each of the design thinking phases and can take them through.

### **What is Design Thinking?**

By now you may have heard about the term, the concept can be traced back to the CEO of design company – IDEO Tim Brown when he published an article in Harvard business review (Han, 2022). According to Han (2022), design thinking is an approach and mindset to problem solving that is more focused on human-centered design. While other approaches are more focused on the problem, design thinking is keen to the person the problem is being solved for, it therefore asks questions such as “who will use the product?” “How will the product or the service impact the user?” Linke (2017), noted that since the article by Tim Brown, design thinking has been applied in developing new products, services, and a whole range of problems such as coming up with a model for selling solar panel in Africa and operation of Airbnb.

It is through methodologies such as design thinking that entrepreneurs and businesses are able to come up with an innovative solution to everyday problems. Innovation can therefore refer to the creation of solutions that are new and meet the needs of users.

Han (2022) argues that it is of no use to have an innovation that is novel if it is not impactful, and this is what design thinking infuses in innovation. There are different approaches to the design thinking process and the stages/phases may range from three to seven, however, in the end, the process emphasis is on deep understanding of human needs and experiences and to generate innovative solutions that genuinely address those needs.

**Design thinking** is a flexible and adaptable approach to problem solving and it has evolved over time. This has led to the emergence of various schools of thought or frameworks that offer slightly

different methods or perspectives. It is important to note that there is no single universally accepted “school” and it all depends on the practitioners or your orientation. Some of the common schools of thought include;

1. **IDEO**, this is a global design and innovation firm that is widely known for its human-centered approach. It emphasizes empathy, brainstorming, and iterative prototyping.
2. **Stanford design school**- their process has five phases; empathize, design, ideate, prototype and test
3. **IBM design thinking**- They use a loop focusing on three main aspects; observe, reflect and make.
4. **Hasso-Plattner Institute of Design at Stanford (HPI d.School)** this shares many similarities with its counterpart Stanford design school with an addition of business design and entrepreneurship to the process
5. **LUMA institute**- Their framework organizes design thinking into three main categories; Looking, Understanding, and Making.

In this topic we will approach design thinking by looking at six phases, that an entrepreneur can use to come up with an innovative product, process or service. The phases are:

1. Understand
2. Observe
3. Synthesis
4. Ideate
5. Prototype
6. Test

## 1. UNDERSTAND PHASE

This is the initial stage where the entrepreneur wants to gain a deep understanding of the problem they might have identified in their community or the market. From a design thinking perspective, it is about immersing yourself in the user’s world so as to empathize with them and clearly see and understand the problem from their level and perspective. The phase is about gathering more information and digging deeper with the hope of defining the scope of the problem. This phase mostly happens outside the user's environment, the entrepreneur mostly does as much research as they can about the problem and the user without stepping into their space of environment.

### **Tools for the phase**

- Desktop research and stakeholder mapping may be useful tools in gathering the necessary information that an entrepreneur needs to understand the problem. The entrepreneur tries to uncover the underlying assumptions about the problem.

### **Output of this phase**

- Clear problem statement and
- A list of stakeholders and potential needs.

### **Example:**

If a bank is trying to come up with a technological solution to farmers, it will first collect data and information about them and this could entail challenges they are facing, trends in the market, current financial solutions they are using

## **2. OBSERVE PHASE**

In this phase the entrepreneur must now move to the user's environment to experience the problem firsthand. As an entrepreneur you want to understand how the user experiences the problem. In the example we have given in understand phase, you will have to go to the farms and see how the farmers deal with their finances.

The objective here is to understand and observe their behaviors, for instance when they sell how they are paid, what do they do with the money, where do they store it, do they do any recording.

It is more about gathering qualitative data. An entrepreneur can also draft an interview with the farmers to be able to get deep insights.

### **Example:**

An online team creating an e-learning platform might observe how students currently access and engage with online courses, noting where frustrations or inefficiencies occur (pain points).

### **Tools for this phase:**

- Interview guide and questionnaire: structure few questions to help you gather more information of the problem
- Shadowing: Staying with the user and following them in their normal routine to see what they do and how they do it.
- Journey mapping: this helps you to track the user's journey from start to the end. For instance, how a farmer's day is like from morning to the evening.

## Output of the phase

- Identification of the pain points: An entrepreneur can see first-hand the pain points that the user is facing and how they are facing them.
- Clear sets of user behavior patterns
- A clear set of key insights and opportunities for innovation.

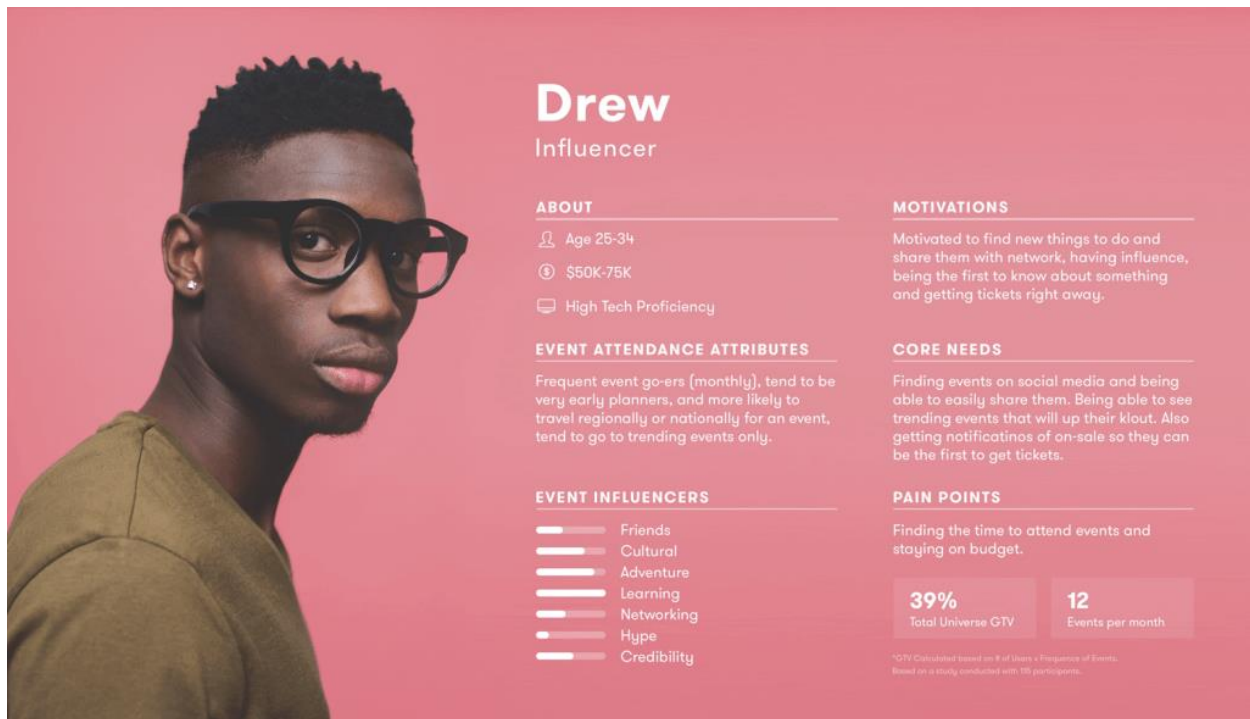
## 3. SYNETHSIS PHASE

The phase helps the entrepreneur to find the true meaning of the research that has gone on in the previous phases. The intention is to be clearer about the problem. The phase is about trying to make sense of data gathered, trends from the data all of which will help narrow down the problem.

### Tools for the phase

- **Persona:** Creating a detailed and vivid profile of the user based on your observations. This may include name, demographics, background, goals, needs and pain points, motivation and a sketch representing your persona. (see example in Picture 1). This helps you or the team to develop empathy with the respective people and be motivated to solve the problem.
- **Empathy map:** An empathy map is a visualization that captures our understanding of a set of users (Kaplan,2023). It focuses on what the users says, Thinks, feels, and does. It is a crucial tool when you are developing a persona which will help you deeply understand users' needs. An empathy map consists of four quadrants, and you can get a form with such or draw it in your notebook or board and then fill in the information.

**Picture 1: Sample Persona**



Source: [justinmind.com](http://justinmind.com)

### **Output of the phase**

- A refined problem statement that is clear
- A persona highlighting user’s pain points and needs
- Areas of innovation

## **4. IDEATION PHASE**

After the problem is now well understood and clear in the mind of an entrepreneur, the next phase is to start getting answers or possible solutions to it.

This process entails exploration of possible solutions to the identified problem or challenge. Mentally, it represents the process of “going wide” in trying to come up with possible solutions. During this stage the goal is to generate as many ideas as possible and as wild and far from the well-known path as possible.

## Tools for the phase

With a How Might We (HMW) statement (i.e. *how might we solve a problem that you identified*), you are now capable of generating ideas about your earlier identified problem or challenge. There are so many ways to generate ideas about your HMW statement. Dam and Teo (2020) suggested several strategies/tools that can be used in ideation as follows.

- **Brainstorming**- this could be a group or individual activity where participants express the idea that comes to mind without immediate criticism or evaluation of the idea.
- **Brain dump**- this involves an individual quickly documenting all thoughts, ideas, and data that comes to mind at a particular moment without organizing them, then sharing them later.
- **Brain write**- this is like brainstorming however in this case it is not verbal but written, normally you write down your idea and after a few minutes you pass it on to the next person who could build on your idea.
- **Brain walk** – this is like brain write, however instead of passing on a note you walk to other people stations where you can elaborate their ideas.
- **Worst possible idea**- here instead of focusing on good idea, you flip the brainstorming by calling for worst possible ideas. It is a fun exercise.
- **Mind mapping**- this is a graphical technique where participants draw a web of connections. The starting point is having the problem at the center of a page, then coming up with possible solutions and trying to draw connection between and among them and with the problem.
- **Sketches**- design thinking is heavy on visual, and sketches allow participants to express their idea in the form of a picture or diagram.
- **Storyboard** –stories and especially in Africa are common ways of communication. Stories help the listener to form a visual of pictures of the narration. The same is true of storyboards, it helps you bring situations to life.

## Output of the phase

- Potential “best” and most promising idea(s) which can move to the next phase of prototyping.

## Example:

For a food delivery service, ideas may include new ordering features, automated customer support, use of drones, or partnerships with local courier services.

## 6. PROTOTYPING PHASE

In this phase, the entrepreneur creates a tangible solution that the user can relate with

It's about converting ideas into a physical form with the help of different media and materials to a defined goal.

Using available and inexpensive materials the entrepreneur tries to come up with a number of prototypes.

### Tools for the phase

- Low fidelity prototype- Sketches, models, wire frames are often used in this phase since they are quick to make and iterate using available resources. See the samples in **Picture 2**.
- Storyboarding: This is a visual sequence of how a user would interact with the solution. See **picture 3**

The idea is to come up with a tangible solution that you can test with your users. This is the reason that it needs to be cheap since you will need to modify as per the user's suggestions.

The rule in developing a prototype is to remember it should help your users understand how your product works and how it will benefit them.

When your prototype is ready, take it to the users to interact with it through the testing phase.

### Output for this phase

- A working model of prototype that users can interact with

**Picture 2: Sample Prototype (solar powered irrigation firm)**



## Example

A team that was trying to solve the inadequate food problem came up with a solar powered irrigation system as shown in picture 2.

## Picture 3: Storyboarding



## 6. TESTING PHASE

This is the phase that makes design thinking a bit special in that it requires the entrepreneur to go out with the prototype they have developed and test how the user would interact with the solution.

The process involves giving users your prototype and collecting feedback that will help you in the iteration process that guides you in making improvements in your solution.

Usually, you should test more than once so that you can gather as much insight as possible. Every iteration makes the prototype more and more realistic and functional.

### Tools for the phase

- **Feedback capture grid:** with four quadrants; to help you classify your feedback into what the users liked about your prototype, what they didn't like (criticisms), the questions they have about it and the additional ideas they have that you could add into your prototype. See **Table 1**.

**Table 1: Feedback Capture Grid**



Source: Dam and Teo (2023)

- **I like, I wish, what if grid:** This is a good tool especially where your users are not good at giving constructive critique. I like section pushes them to come up with statements that helps you get the positives about your prototype. I wish, on the other hand, to help them give you statements on how the prototype can be changed or improved. See **Table 2**.

**Table 2: I Like, I wish, What if grid**



Source: Dam and Teo (2023)

## Output of the phase

- User feedback/insights
- A refined solution that is ready for further development or implementation

### *Individual Learning Activity -Case Study (This could be issued in advance)*

Read the case study [Selling Solar panel in Africa](#) and reflect on;

1. How did they use design thinking?
2. What phases of design thinking are you able to identify?
3. In their research, what did Mobisol design thinkers find insightful?
4. What is the business model for Mobisol and why is it appropriate for its users?
5. What are some of the challenges that Mobisol faced and how did they use design thinking to overcome them?

## Summary

Design thinking is a process that entrepreneurs use to be creative and innovative. In this topic we have looked at this methodology using six phases namely: Understand, observe, Synthesis, Ideate, Prototype and finally testing. This iterative approach ensures the final solution is both innovative and user centered. In the next lecture, we will focus on forms of business ownership.

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