Prototype design and development - Products and services deployment

Design thinking - Customer personas - Prototyping
Learning Outcomes
Learning Outcomes

103 - Day 3

1. Understand Design Thinking and apply it to product and service design
2. Build a target customer persona for the project
3. Build and test prototypes
Agenda

1. Last week Review
2. Design Thinking
4. Build Minimum viable Product (MVP)
1. Last week Review
Summary of interview results

● How many interviews?
● How many people refused to be interviewed?
● Number of interviews under 1 minute?
● Number of interviews over 1 minute?
● How many correct assumptions?
● How many false assumptions?
● New discovery
Duration: 40 minutes

Key points:
1. **Summary of interview results**: 10 minutes
   a. Students have 10 minutes to summarize the interview results last week, using questions above as guidelines and prepare a short presentation about the results.
2. **Presentation**: Each group has 3 minutes
3. Trainers should ask whether the students sent a survey or interview. If there is group using the survey method, trainers should explain why surveys should not be conducted at this stage (*Suggested answer: There is no real information because the respondent's reaction/emotions cannot be seen; or the respondent can answer untruthfully*)
2. Design Thinking
What is Design Thinking?

“Design thinking is a human-centered approach to innovation that draws from the designer's toolkit to integrate the needs of people, the possibilities of technology, and the requirements for business success.”

— Tim Brown, CEO of IDEO
In this section, trainers should spend time learning about businesses that have successfully applied Design Thinking as mentioned below. Trainers can also look for examples in Vietnam if available.

**Duration:** 05 minutes

**Key points:** Trainers can ask students questions;
1. *Did the participant hear about design thinking? Practice design thinking? Is there any difference between before and after application*
2. *Do you know any examples of companies in the world that apply design thinking?* (Suggested answer: Toyota, Apple, Microsoft, Samsung Electronics, Bank of America Corp, PepsiCo, Nike)

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References:
1. [https://www.fabrica360.eu/post/7-of-the-most-profitable-companies-using-design-thinking-for-innovation](https://www.fabrica360.eu/post/7-of-the-most-profitable-companies-using-design-thinking-for-innovation)
Design Thinking

- Step 1: Empathize
- Step 2: Define
- Step 3: Ideate
- Step 4: Build a prototype
- Step 5: Verify/Test
- Step 6: Tell your story
Duration: 05 minutes

Key points:
1. Trainers introduce and ask questions
   a. Why is the image above and not in a straight line? (Suggested answer: In fact, the process of realizing ideas is not linear. The user of the Design thinking process would need to go back to the previous steps, even the first step in order to refine their project)
   b. Which step do you feel is the most important step or walk? (Suggested answer: The first step is usually the one that has to be repeated many times.)
Empathy is to **put yourself in the customer's shoes** to understand

- What do they think?
- How do they feel?
- What are they doing?
- What do they say?
- What is / are their problem(s)?

*Image by Nate Grigg. CC BY 2.0*
Duration: 05 minutes

Key points:
1. Trainers should ask questions:
   a. *What product does the image above remind you of?* (Suggested answer: Products designed for pregnant women. The men who try on their pregnant belly will have stronger empathy when designing products for this customer)
   b. *Why is it important for a product to be born, thinking like a designer is important in the first place?*
Empathy exercise

Put yourself in the position of the client you interviewed and answer the question:

- What do they think?
- How do they feel?
- What are they doing?
- What do they say?
- What is their problem(s)?
Duration: 15 minutes

- **PREPARATION:** Trainers creates Breakout Rooms for each group. Trainers can also prepare a white Google Slide/Miro for groups to fill in the discussion results.

- **TRAINING TIME:**
  - Trainers let students enter Breakout Rooms in groups to discuss.
  - Students fill in discussion results on Google Slide / Miro / other tools:
Step 2 - Define

- Identified problem
- Whose problem is it?
- How does this group of potential customers make decisions?
- Challenges they are facing

**User:** Who are you targeting?
**Need:** Challenge being faced
**Dig deep:** What do you know about users and their needs?
Duration: 05 minutes

Key points:
1. **Recalling the lesson on the problem**, encourage students to apply it because the problem is the key to generating ideas. However, stating the problem can be redone.

2. Trainers can also help students **analyze the problems** mentioned after this exercise and suggest improvements.
   a. A good problem must have a specific audience, challenges that are considered difficult to solve
   b. Students must have a deep understanding of users, habits, behaviors and needs.
Step 3 - Ideate

- Brainstorm ideas
- Share any ideas
- All ideas should be respected
- Dispersion and Convergence
- Think
- Prioritize

“All ideas grow out of other ideas.”  
- Anish Kapoor
Duration: 05 minutes
- In this step, Trainers encourage students to practice brainstorming by giving individuals in the group their own time and then gathering ideas to choose from by prioritizing them.

Note:
- Trainers encourage students to write down all the ideas that come to mind
- Students share them with their teammates. Others do not critique, evaluate or oppose the idea. That is the dispersal process.
- When team members find common ground between ideas, or vote together for the ideas that the group decides to implement. That is the process of convergence.
- After selecting for ideas, focusing on a few key ideas, the team can think more and prioritize the ideas that can be implemented based on resources (financial, time, network, etc strengths).
Step 4 - Build a prototype

- Develop a prototype
- Try telling stories about your experiences
- Make everything simple
- Fail fast
- Adjust quickly

Image: Unsplash
Duration: 05 minutes

Key points:

1. The purpose of building prototype products:
   a. Building prototype products is essentially to **measure and test the assumptions** made earlier. This is also the most economical way to launch the project.
   b. Prototyping is **not for a ready-to-sell product** and instant commercialization.
   c. **Listen to the market** and decide to move forward or not.
5. **Notes when developing prototype products:**
   a. When it comes to prototyping, it's important to **keep it as simple as possible**, fail as soon as possible, adjust quickly, and learn fast.
      i. As for **tangible products** (requiring huge investment for research and development): MVP can be in the form of initial images/videos about the product or main value of the product
      ii. As for **intangible products** (services, IT): MVP can be in the form of stories about customer journey and values expected to bring to customers after using the services. The stories can be depicted through drawings or videos.
a. Build prototype products **based on existing resources** with innovative ways
b. Students can also try **writing their own stories** and test them with potential clients
c. **Note down your failures, lesson learned and adjustments.**
d. MVP can be adjusted regularly
Step 5 - Verify/ Test

- Understand the obstacles in the testing process
- Understand the effectiveness in testing
- Role play
- Adjust quickly
Duration: 05 minutes

Key points:
1. **Obstacles in the testing process** can include rejection, difficulty of the test product, customer apprehensions, etc., and potential obstacles as well.
2. When verifying/testing, these constraints should be documented.
3. Students should also record the effectiveness during the testing process to continue to improve.
4. Role play is a good way to verify and test because it helps students to put themselves in the role of the user of the product or service.
5. Problems arise and the effectiveness obtained will both help to quickly adjust the prototype product.
Step 6 - Storytell

- Bring your message
- Convey your values
- Use stories as marketing materials
Duration: 05 minutes

Key points:
1. Encourage students to turn the effectiveness and potentials of the product as well as the difficulties and problems of customers, their expectations into a meaningful and logical story.

2. Explain that these stories will help convey value to customers and become an important marketing asset.

3. Encourage students to try making marketing materials based on their stories, such as posting on product demo channels.
3. Using “Customer Personas” in Design Thinking practice
# Customer personas

<table>
<thead>
<tr>
<th>Demographic characteristics</th>
<th>Customer problem/pain points</th>
</tr>
</thead>
<tbody>
<tr>
<td>● Name</td>
<td>● What causes discomfort to the customer</td>
</tr>
<tr>
<td>● Year old</td>
<td></td>
</tr>
<tr>
<td>● Family,</td>
<td></td>
</tr>
<tr>
<td>● Income</td>
<td></td>
</tr>
<tr>
<td>● Community</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Observable behaviors</th>
<th>What makes customers happy</th>
</tr>
</thead>
<tbody>
<tr>
<td>● What customers do to resolve the above pain points /problems</td>
<td>● What makes customer happy/ satisfied</td>
</tr>
</tbody>
</table>
Duration: 05 minutes

Trainers review Customer Personas in Day 02
Applications in Empathy, Testing, Storytelling

- Draw customer personas when empathizing
- Adjust customer personas when testing
- Put the customer at the center when telling your story

Image: Unsplash
Duration: 05 minutes

Key points:

1. Trainers should explain to students
   a. It is very important to use the customer personas tool when empathizing. If there are assumptions about the personas, then after the interview, students will have the opportunity to test their assumptions.
   b. During the adjustment process, both the product and the service may change.

2. The customer personas tool will also help students put the customer at the center when telling the story in step 6 (telling a product or service story).
Adjust customer personas

Work individually

- Redraw the customer personas after the interview
- State the customer's problem in 12 words
Activity objective: Students adjust the customer personas drawn based on the practice of Empathy activity. This helps students develop a mindset of experimentation, verification, and continuous adjustment.

Duration: 05 minutes

- **PREPARATION:** Trainers can prepare Miro/Slido/other tools for students to post their answers on.

- **PERFORM:**
  - Trainers send students to Breakout Rooms in groups
  - Students should compare with the customer personas done in Session 02 to compare the change
4. Build a Minimum Viable Product (MVP)
What is a MVP?

- **Minimum Viable Product – Product with minimum available features**
  - A product
  - Can be functional
  - Used for testing purposes

Image: Unsplash
Duration: 05 minutes

Key points:
1. **Explain the meaning of the word MVP:** available product with minimal functionality. This product is built for testing. (Refer to Slide 22 - 23)

2. **Before teaching the next part, trainers asks the students**
   a. Have you ever tried to sell something before the finished product was available? Or have you come across such a case in practice?
   b. When you hear MVP, what do you think of?
Why is an MVP important?

- Developing a finished product right away is **costly**
- Developing a product right away is **risky**
  - Wrong customer
  - Not exactly what customers want
  - High costs
- Step-by-step development will perfect the product and make it closer to the needs of consumers
Duration: 05 minutes

Key points

1. Trainers can ask students
   a. Why develop prototypes?
   b. What if you develop a product right away?
2. Immediately developing product without understanding about Customers and the market can lead to results like the following story about Cyhome in the link below

Reference:

## MVP Development Options

**No ready product**

<table>
<thead>
<tr>
<th>“Smoke tests”</th>
<th>Sell it before you build it</th>
<th>Manual production</th>
<th>Automatic Mock-up</th>
<th>Single-Feature Products</th>
</tr>
</thead>
<tbody>
<tr>
<td>Landing page</td>
<td>Crowdfunding campaign</td>
<td>Manually build something from scratch</td>
<td>Simulate the intended product</td>
<td>Develop one key/most important function</td>
</tr>
</tbody>
</table>

| Mock screen |                                                                 |

**Minimal product**

Note: Adapted from Greenice
Duration: 10 minutes

Key points: Trainers should explain each type and help students choose a form of MVP suitable for their project.

1. **Smoke tests:** When there is no product, the form of testing with things that are easy to create and easy to disappear like landing pages, mock screens on drawing paper or through applications that create mock screens (for intangible products - Refer to Slide 22)
   a. Ex: Edifilm - one of the alumni at C-Plastics 2021 introduced their product to customers through Fanpage after their first MVP in their lab to validate the interest from customers. They drew attention from a lot of customers including one food corporation in Vietnam. The corporation expressed the interest of collaborating with them.
1. **Sell it before you build it:** When there is no product, building demos with 3D design, for example, and describing basic features can also serve as the material for successful crowdfunding campaigns.

2. **Manual production:** Is a good way to build MVP when helping people experience the process of creating products and services for themselves. This process will help shape new ideas.

3. **Automatic Mock-up:** Instead of building a fully functional robot, you can create an automatic mock-up to validate problem-solution fit. For example, if you want to develop a robot that can detect pests and diseases on leaves, collect data for further analysis, you can start to create a small cart with a wooden arm that can get the leave from the ground in order for the attached camera to take a picture of it. This simulation process will help you visualize the actual process and clarify the challenges you might face in reality.
5. **Single-Feature Products:** Build products that have the most important single feature or are easiest to test, instead of having full features or very complex features.

6. Trainers need to remind students that **MVP is not only done once** but many times, so it is necessary to gradually increase the complexity of each MVP round.

Reference:

1. [https://greenice.net/type-mvp-right-startup/](https://greenice.net/type-mvp-right-startup/)
Tools to help build MVP

Facebook

Blog

Landing Page
Duration: 03 minutes

Key points:

1. Smoke test-style MVP can be a landing page (1-page website), a blog, or a Facebook page
   a. **Edifilm**: After 2 weeks of MVP testing, their Fanpage reached 1000+ likes and attracted 35+ potential customers including a food corporation.
   b. **The Blastic**: The Blastic is also alumni from C-Plastics 2021. They attracted 03 customers through Facebook Fanpage, **2 of which was willing to pay money** to use their MVP.
2. Give examples of some landing pages platform like ladigage.vn or slimweb.vn, blogs, and shopping Facebook pages

References:
Define the testing objectives

- Problem-Solution Fit
- Prototyping with minimal features
- Expected sales funnel
- Product-market fit
Duration: 05 minutes

Key points:

1. Remind students of the **testing objective**. Every test should have a clear objective. Depending on the stage, the testing objectives are different as follow:
   a. **At the initial stage**, it is necessary to verify the **fit between the problem and the solution**. An MVP that carries the message of a hypothetical/simple solution can help testers understand the relevance of the problem in the market.
   b. **At the next stage**, it is possible to test the **most important minimum feature** to see which features are really important to consumers or which features they are willing to pay for.
c. **At the sales stage**, launching test sales channels is also a form of testing to understand **where customers come from, how they buy the product**, from which to build the expected sales funnel.

d. **When selling products on a larger scale**, the test should aim to verify **product-market fit**. When the product no longer serves the need of a few people but of a larger group of people, there is a fit, and if verified, this will help form the main segment of potential customers.
Learning
Work individually

- What did you learn from the experiment?
- What is the next action?

Image: Unsplash
Duration: 05 minutes

Key points:

1. Focus on following questions:
   a. What did you assume?
   b. How did you do the MVP?
   c. What goals did you set during the test?
   d. What have you learned from the recorded test results?
   e. What is the next action after testing?
Assignments

1. Adjust & verify the problem
2. Adjust the customer personas
3. Build Prototype & Test Products on Channels to Attract Customers
Wrap-up

Write down 03 things you like in today's lesson (5 minutes)
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