**Overview**

# *Semantic Analysis*

⏱ 20 – 40 min

**At a glance**

Semantic analysis is a technique for understanding and analyzing the meanings of individual words. Doing a semantic analysis involves writing out the development challenge and carefully examining each word, looking for the different connotations and associations that each word evokes. The perspectives that you discover within your team will help you develop a clearer, richer understanding of your challenge. Semantic analysis can also help to get clarity before or during a project clarification meeting – such as a kick-off meeting for phase 1_understand.

**What it helps you do:**

- Uncover new meanings and associations within your development challenge

- Find an overall understanding of your development challenge together

- Get clarity before or during a project clarification meeting

**What you will need:**

- A development challenge

- Your team

- Optional: the results from the *lab of tomorrow* challenge quiz or a *lab of tomorrow* challenge canvas

- Offline workshop:
Whiteboard or similar, board marker & pens, sticky notes, timer

- Digital workshop:
Digital whiteboard

**Step by step**

# *Semantic Analysis*

🕑 20 – 40 min
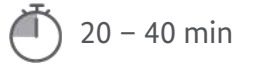
### *Preparation*

• Write the development challenge in large block letters on a whiteboard

### *Process*

• Underline the most important individual words in the development challenge.

• Individually, collect the meaning and associations that occur to you for each word and write each one on a sticky note.

• Also write down any open questions you have about the development challenge.

• Share and discuss your sticky notes. As you share, new thoughts will come up that wouldn't have occurred to you at first glance. Write these new associations on sticky notes, too.

• As you're discussing, remember that there's no »right« or »wrong«. The goal isn't to reach absolute agreement within your team. Rather, you're trying to figure out what individual associations lie beneath your development challenge and use these to develop a common understanding – even when some of the associations might seem contradictory.

### *Tip*

Underline the individual words in different colors, then use matching colors for the sticky notes associated with that word. This helps create a stronger visual connection between the original word and its associated meanings.

**Visual Instructions**

# *Semantic Analysis*

🕙 20 – 40 min

How might we <u>prevent</u> and <u>control</u> <u>non-communicable diseases (NCDs)</u> in <u>Ghana</u> in order to <u>relieve</u> the <u>Ghanaian health-care system</u>?
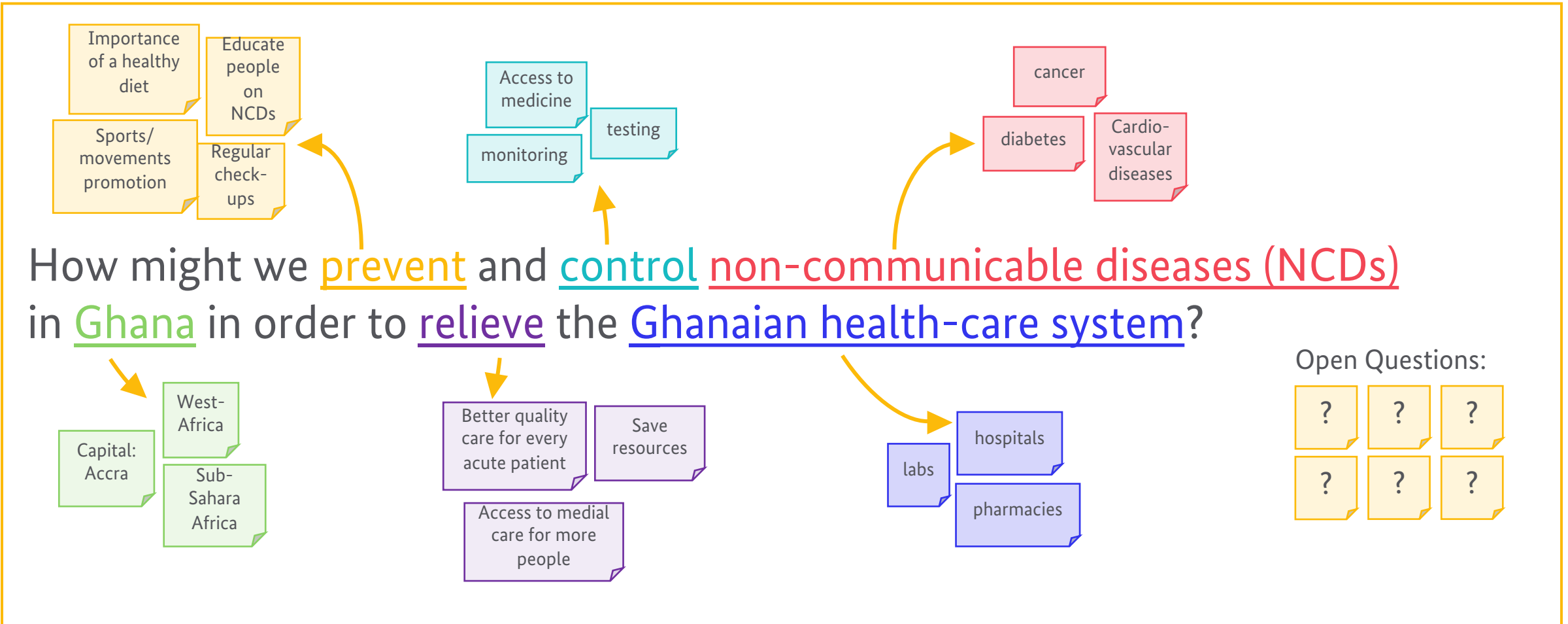
Open Questions:

*Example: Semantic analysis for the development challenge to prevent and control NCDs in Ghana*

# Semantic Analysis

⏱ 20 – 40 min

Importance of a healthy diet

Educate people on NCDs

Sports/ movements promotion

Regular check-ups

Access to medicine

testing

monitoring

cancer

diabetes

Cardio-vascular diseases

How might we prevent and control non-communicable diseases (NCDs) in Ghana in order to relieve the Ghanaian health-care system?

West-Africa

Capital: Accra

Sub-Sahara Africa

Better quality care for every acute patient

Save resources

Access to medial care for more people

labs

hospitals

pharmacies

Open Questions:

?  ?  ?

?  ?  ?

**Overview**

# *Stakeholder Map*

🕐 30 – 60 min

**At a glance**

The Stakeholder Map helps you to identify all the stakeholders of your lab of tomorrow process, become aware of their needs and influences, and consider how to best deal with each one. In your stakeholder map, you can indicate the approximate strength and type of influence that the stakeholder has on your project, as well as the influence that your project has on the stakeholder. In addition, you'll describe what behaviors you can expect from each stakeholder and what expectations stakeholders have in turn on your project.

**What it helps you do:**

- Identify direct and indirect stakeholders (including users)

- Analyze their influence and their reciprocal relationships

- Visualize the relationships between project stakeholders

- Develop strategies for dealing with stakeholders

**What you will need:**

- A development challenge

- Your team

- Offline workshop:
  Whiteboard or similar, board marker & pens, sticky notes, timer

- Digital workshop:
  Digital whiteboard
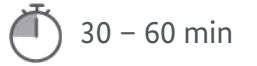
# *Stakeholder Map*

⏱ 30 – 60 min

## Preparation

- Draw your project in the middle of a whiteboard.

- Draw two concentric circles around the project: an inner circle for the direct stakeholders and an outer circle for the indirect stakeholders.

## Process

- First, identify the stakeholders with a quick brainstorm. Write each stakeholder (person, group, organization, institution, etc.) on a separate sticky note.

- These questions might help you to identify stakeholders (including users):
  - Who may help us to further our understanding of the challenge?
  - Who are potential users/customers of solutions?
  - Who are potential solution providers?
  - Which governmental actors have an interest in solving the challenge?
  - Who might be willing to invest in business solutions?
  - Who could help in bringing the business solution to life?

- Arrange the stakeholders in the two circles, according to their influence. Stick the indirect stakeholders, who don't have as much influence on the process, in the outer circle.

- Then stick the direct stakeholders, who have a strong influence on the process, in the inner circle. You might also add gradations within the circles. Basically, the closer a sticky note lies to your project, the stronger the stakeholder's influence.

- By dividing indirect from direct stakeholders, you've already determined your sphere of action: which stakeholders you should concentrate on and think the most carefully about.

- Now, assess the influence that stakeholders have on the project, as well as the influence that the process has on the stakeholders. Indicate the influences with arrows, then add plus signs (for a positive influence) and minus signs (for a negative influence). When the type of influence isn't clear, write a question mark.

- Use speech balloons to add comments as needed. You might want to indicate behaviors you expect from the stakeholder, or expectations that the stakeholder has of the project.

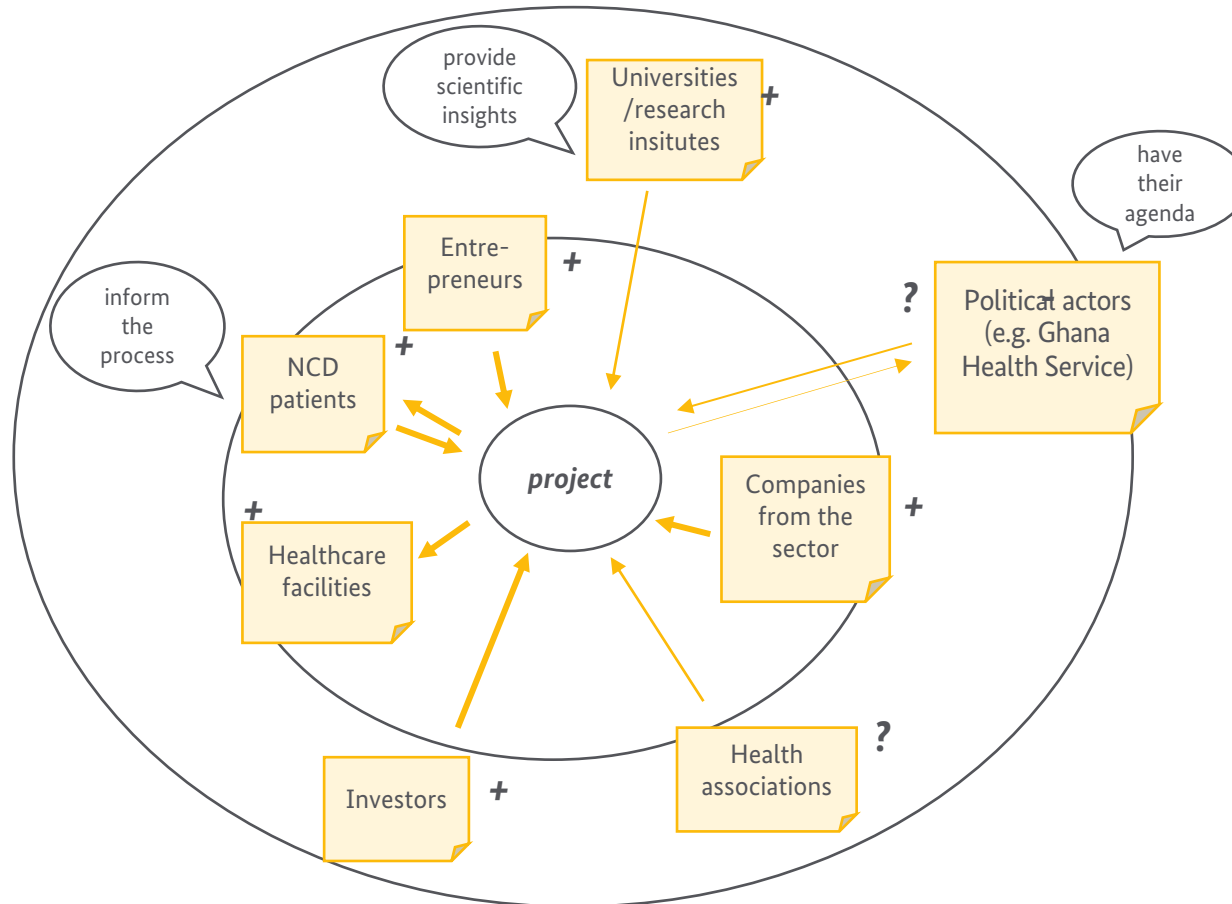# Stakeholder Map
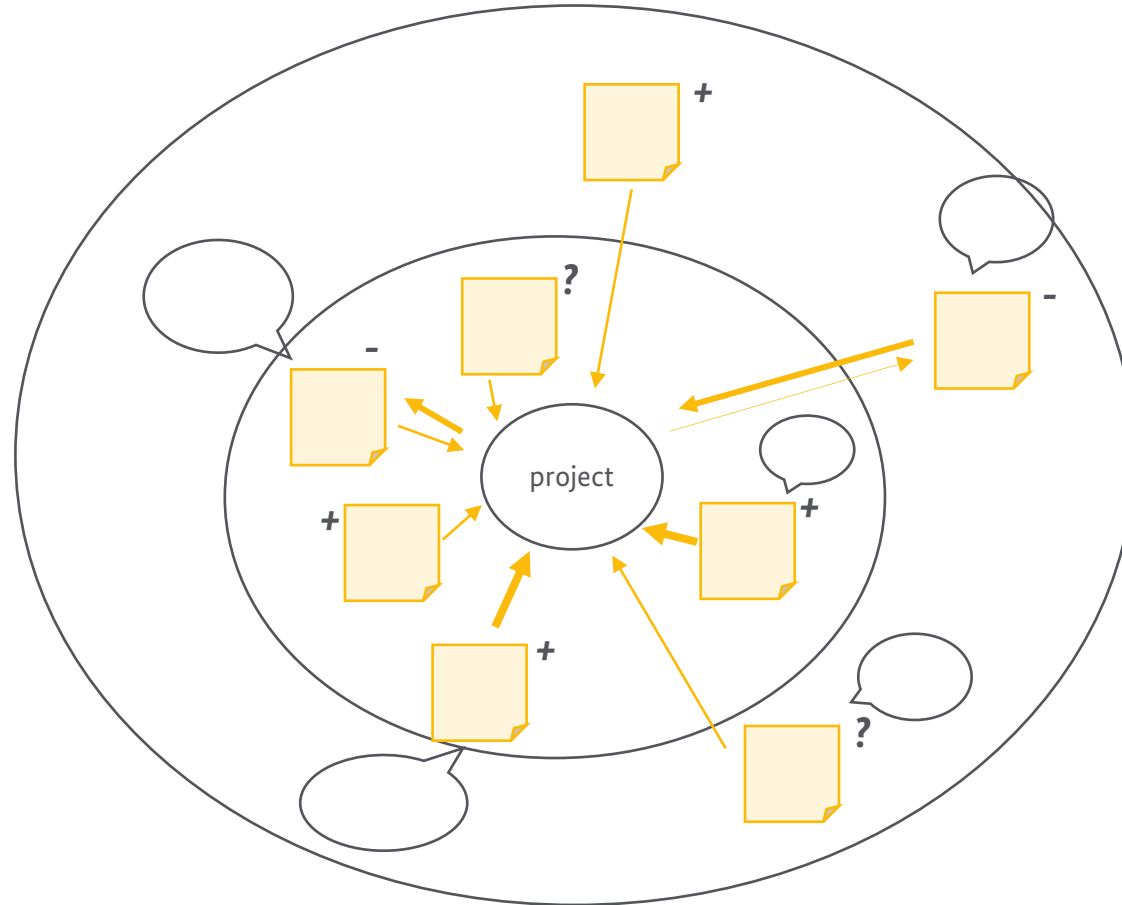
30 – 60 min

**Example: Stakeholder Map for the development challenge to prevent and control NCDs in Ghana**

# Stakeholder Map

30 – 60 min

*Overview*

# Ecosystem Map

🕑 1 – 2 hrs

## At a glance

With the ecosystem map you take a systemic perspective on your development challenge and visualize the relations and interactions of all involved stakeholders and users along one or more value chains. It helps you to map who is interacting which each other when, how and where. Additionally, you can add problems and opportunities to your map. The overview you create with the ecosystem map is a good basis for your later research, as it helps you identify who to speak to and where problems arise.

### What it helps you do:

- Receive an overview of the entire ecosystem at hand

- Understand relations and interactions of involved stakeholders and users

- Reveal potential problem fields and opportunities within your development challenge context

- Identify possible starting points for your research

### What you will need:

- Development challenge

- Your team

- Offline workshop:
  Whiteboard or similar, board marker & pens, sticky notes, timer

- Digital workshop:
  Digital whiteboard

# Ecosystem Map

1 – 2 hrs

### Process

• The focus of the ecosystem map is a systemic view of your development challenge: which value chains exist? Who are the stakeholders and users in these value chains? And what are the relations of actors within the system?

• Map your value chain in steps from upstream to downstream. That means that you start with the production materials (upstream) and then move on to production and then distribution (downstream).

• Add your stakeholders and users to the respective value steps along the process. For example, in the context of a development challenge that is about improving access to medicines and diagnostics for non-communicable disease patients in Ghana, it would mean that you start with the patients, then continue with the treatment facilities and other points of healthcare provision, then the companies providing medical and diagnostic supplies, etc.

• Add connecting lines as representation of interactions between your stakeholders and users and the value steps. Discuss what and when they add to the value step.

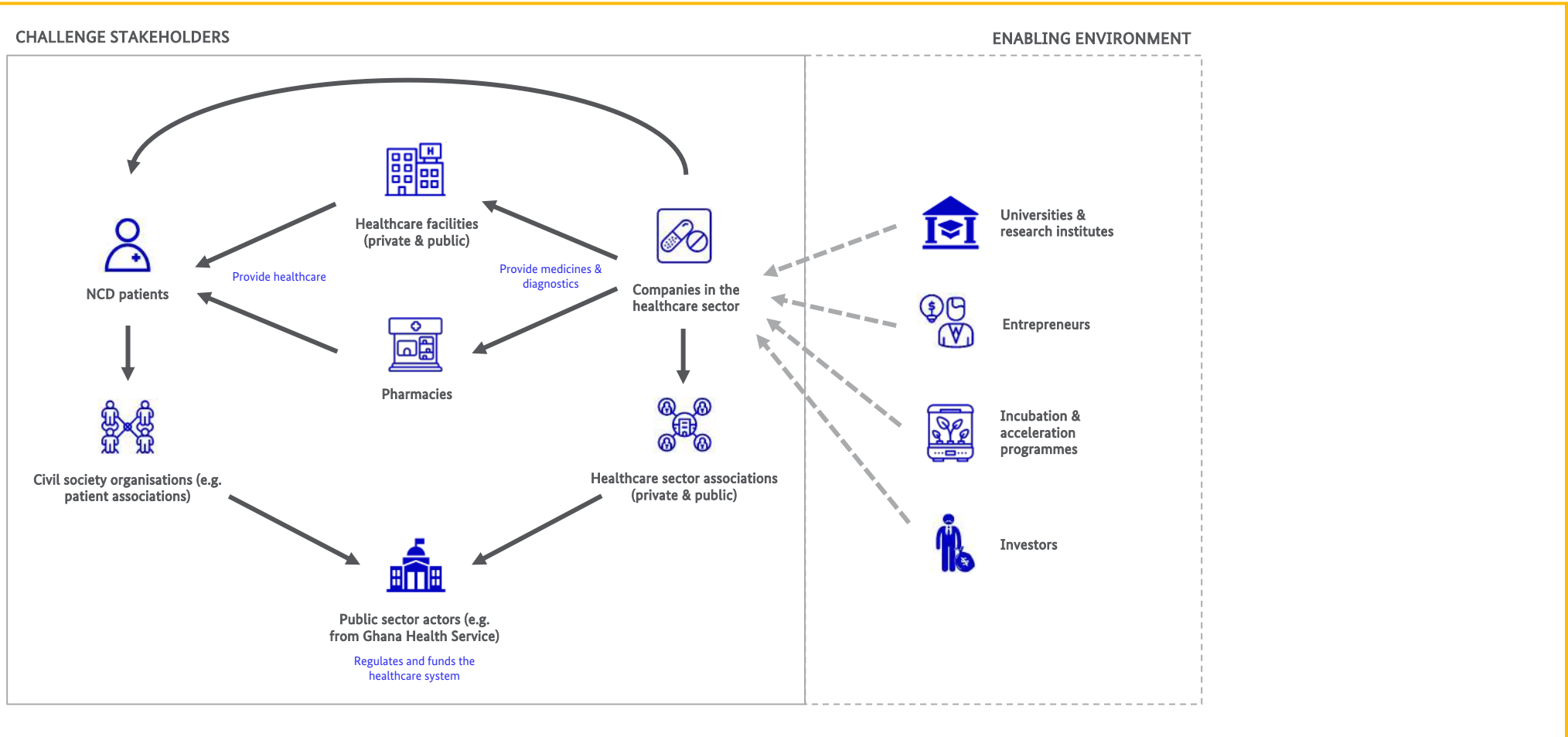• Add potential problems and opportunities based on your knowledge or your assumptions.

The ecosystem map can serve as an alterable overview throughout the design process. You can always take a look at the map during the process and adjust it according to your current level of knowledge.

*Visual Instructions*

# Ecosystem Map

🕑 1 – 2 hrs



CHALLENGE STAKEHOLDERS

Healthcare facilities
(private & public)

Provide healthcare

Provide medicines &
diagnostics

NCD patients

Companies in the
healthcare sector

Pharmacies

Civil society organisations (e.g.
patient associations)

Healthcare sector associations
(private & public)

Public sector actors (e.g.
from Ghana Health Service)

Regulates and funds the
healthcare system

ENABLING ENVIRONMENT

Universities &
research institutes

Entrepreneurs

Incubation &
acceleration
programmes

Investors

*Overview*

# *Charetting*

⏱ 20 – 40 min

## At a glance

After creating an overview with the ecosystem map charetting helps you to dig deeper and extend your assumptions. You take possible users, imagine their likely problems or needs, as well as plausible reasons behind those problems or needs. It also helps your team to discuss what are causes and what are symptoms. Charetting is the opportunity to form hypotheses without regard for consistency, which can be tested in the subsequent research.

### What it helps you do:

• Identify relevant users

• Hypothesize about users' possible backgrounds, problems, and needs

• Reveal new aspects of the development challenge

• Bring the team to a common point of understanding

• Identify starting points for your research phase

### What you will need:

• Results from your ecosystem map

• Your team

• Offline workshop:
Whiteboard or similar, board marker & pens, sticky notes, timer

• Digital workshop:
Digital whiteboard

**Step by step**

# *Charetting*

🕑 20 – 40 min
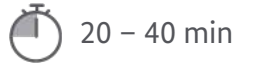
## Preparation

• Divide your whiteboard into three columns. Label them »Users«, »Problems/Needs«, and »What's behind it?«.
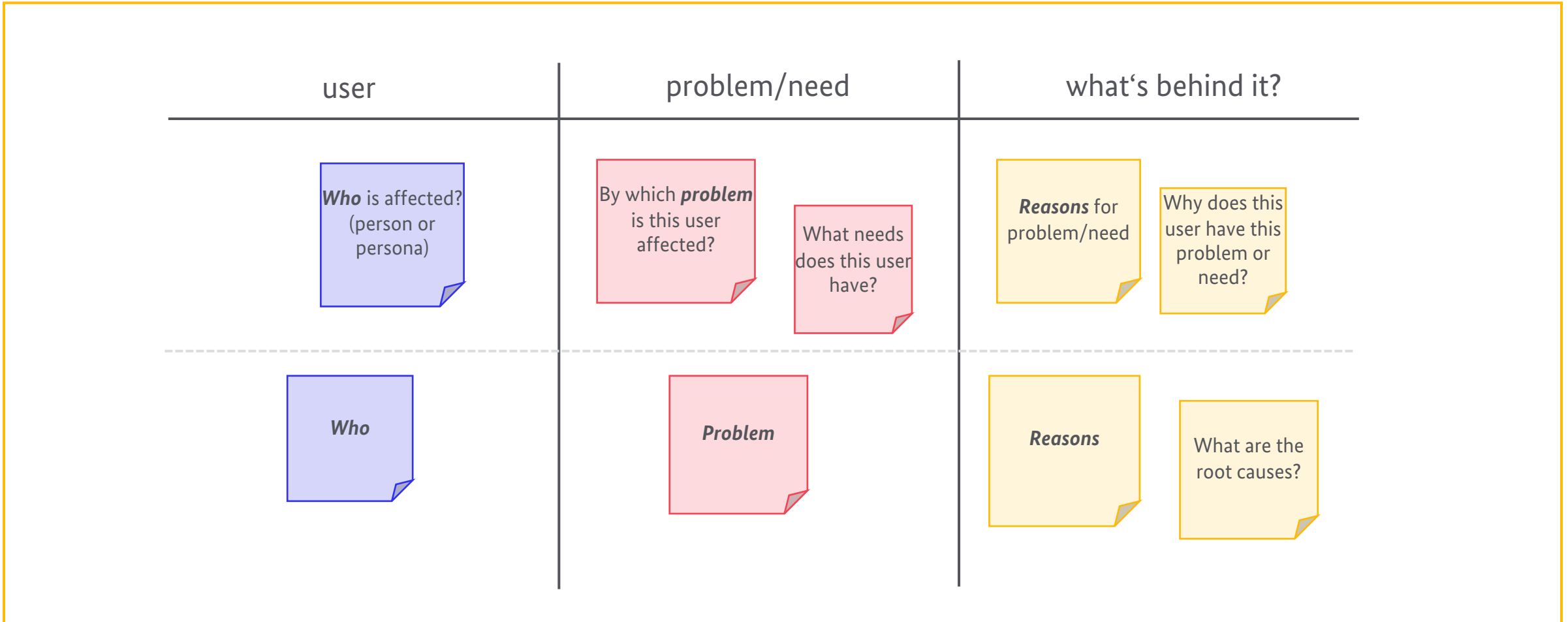
## Process

• Start by describing potential users on sticky notes. Go into more detail than in the ecosystem map and be as concrete as possible (for example, »NCD patients in rural areas« instead of just »NCD patients«). Think of unusual or extreme users as well. In a challenge about non-communicable diseases, an extreme user group could be patients who have spent the majority of their last year in healthcare facilities. An example of an unusual user group might be young urban professionals (who usually are less often affected by NCDs) not taking care of their health . Stick these sticky notes in the »Users« column.

• As a team, pick one interesting user to start with.

• Now, move on to the next column: »Problems/Needs«. Imagine that you're observing or interviewing this user. What problems and needs do you think you would see? List them on sticky notes and stick them in this second column. For example, young urban professionals at risk of falling sick with NCDs might have the problem that they do not find the time to exercise regularly.

• When you've identified several problems and/or needs, choose one of these needs as the starting point for the next column.

• Move on to the last column: »What's behind it?« Here, you'll list your best guesses about the reasons for these needs. Back to our example: maybe the reason that young urban professional do not find time to exercise regularly is that they are too busy at work and spend too much time commuting. Choose a few more relevant problems or needs and assume what's behind them.

• You can repeat this process as many times as you want. Just choose another user, identify needs, and make an educated guess at the reasons behind the needs.

• You can then use these hypotheses as a jumping-off point for your research.

*Visual Instructions*

# *Charetting*

20 – 40 min

| user | problem/need | what's behind it? |
|------|--------------|-------------------|
| **Who** is affected? (person or persona) | By which **problem** is this user affected?    What needs does this user have? | **Reasons** for problem/need    Why does this user have this problem or need? |
| **Who** | **Problem** | **Reasons**    What are the root causes? |

*Example: Charetting for the development challenge to prevent and control NCDs in Ghana*

# Charetting

20 – 40 min

| user | problem/need | what's behind it? |
|------|--------------|-------------------|
| NCD patients in rural areas | Access to the nearest hospital is hard and time consuming / Costs for transportation and loss of time | Poor infrastructure / difficult transportation / No doctors/hospitals in rural areas |
| (Young) professionals with tight schedules | Don't exercise regularly / Unhealthy diet | No time to take care of their health due to work and commuting / No healthy street food options / Buy food instead of preparing themselves |

**Overview**

# *Preparing Empathy Interviews*

15 – 60 min
per Interview

### At a glance

When you want to understand someone else's experience, qualitative empathy interviewing is the way to go. Empathy interviews focus on the emotional and subconscious aspects of your interview partner and allow the interviewer to gain insights on how users (or stakeholders) behave in given environments and situations. By hosting a conversation about personal stories and emotions, you can learn a lot of relevant information in a short amount of time. Your interest in their needs, problems, and motivations will lead your conversation to interesting, and possibly surprising, places. They can reveal solutions you might not have discovered otherwise or needs and challenges you might be overlooking.

Ideally, an interview should simply feel like a good, focused conversation. Nevertheless, it is useful to prepare interviews. Think about which users and other stakeholders you want to interview and prepare interview questions for a semi-structured interview. When you're preparing for an interview, think about what you really want to know from your interviewees, then consider what questions you can ask to best explore these themes. One result of interview preparation is an »interview guide« that serves as the basis of your interview. The scope and level of detail in the interview guide will depend on the length and type of the interview.

### What it helps you do:

- Identify interesting interview themes and questions

- Develop an interview guide

- Organize and plan your interviews

### What you will need:

- Results from ecosystem map and charetting

- Your team

- Offline workshop: Whiteboard or planning wall, board marker and pens, sticky notes

- Digital workshop: Digital whiteboard

# *Preparing Empathy Interviews*

🕐 15 – 60 min
per Interview

## *Process – Set the Frame*

• Transfer the potential user and stakeholder groups that are relevant to your development challenge from your ecosystem map and charetting and write them on sticky notes. Add groups that are missing.

• Decide which types of users or other stakeholders would be interesting to interview. If you already have specific people in mind, write them down. Also consider which groups you have access to or alternatively how you could create access.

• Empathy interviews can vary greatly in duration. Consider what kind of interview you want to do and think about the general scope of your interview.

• Guerilla interviews (approx. 15-20 min.) are unscheduled interviews with a short interview guide. You can do guerilla interviews anywhere you can find users or other interesting interviewees: on the street, in the subway, and really anywhere you can imagine.

• In-depth interviews on the other hand last 30 min. -2 hours. The longer length allows you to engage with many more facets of your development challenge and gives you the time and space to develop a detailed understanding of user needs. You'll need to prepare a more detailed interview guide and recruit your interviewees in advance. You'll also need to either find a place with comfortable seating or arrange for video calls or telephone interviews. They are a must-have in any longer project.

• Once you have roughly determined what kind of interviews you want to conduct, it is time to draft the interview guides for the different groups. Empathy interviews are typically semi-structured interviews. They follow an interview guide, which helps keep the conversation on target, but still allows for spontaneity. Roughly summarized, an empathy interview is first about getting to know the interviewee and building trust, then explore your topics of interest and conclude by digging deeper into the most interesting areas (see the interview arch on the Visual Instruction page)

• Start with the interview guide for one user or stakeholder group and then move on to the next one. Of course one interview guide might also fit several groups.

# *Preparing Empathy Interviews*

15 – 60 min
per Interview

### *Process – Develop an Interview Guide*

- Discuss within your team which overriding themes are most relevant to explore with your selected group and write them on sticky notes. You may have already come across interesting topics during the ecosystem map or the charetting.

- Use the themes to build interview questions that will let you explore the themes further and draw out interesting stories. The interview questions can also be used to test the hypotheses from the charetting.

- Write down these questions on sticky notes. The interview guides on the Practical Example page and the following question categories might help:

- For the beginning of the interview, write down simple questions to warm up the interviewee or more general questions that introduce the topic. (For example questions like "What's your profession?" or "What do you associate with…")

- Write down experiential questions that aim to find out stories, emotions, obstacles, or motivations. It is particularly helpful to ask about past experiences. ("Tell me about your experience with…" or "Tell your best/worst experience with…")

- Write down specific questions to probe for certain aspects ("When was the last time you…")

- Or "what if questions" that we ask at the end of thematic blocks or interviews. ("If you had one wish, what would you change?")

- Note: The questions should be simple and understandable. It is usually more helpful to ask open-ended questions. They allow room to truly hear how a person experiences the world and lead to a more fruitful conversation.

- First, collect some questions aloud in the group or silently each one for themselves. Choose the best questions and arrange them into an interview guide.

- Finally think about how you'll introduce yourselves to your interviewee and how you can get them interested in the interview. For example, you might start by saying that the goal of the interview is about learning about your interviewee and solving their problems.

- Your interview guide is a safety net, but it isn't written in stone. You should feel free to explore other interesting areas that come up during the interview and therefore add questions or leave others out.

- If necessary, create additional guides for interviews with other user and stakeholder groups. Sometimes only individual questions need to be changed, sometimes you need a completely different guide.

**Step by step**

# *Preparing Empathy Interviews*

🕐 15 – 60 min
per Interview

### *Process – Create an Actionplan*

- Now it's time for the organizational details. Organize yourself within the team who takes care of what. Also think about where you can conduct interviews, and whether you'll need to do any preparation in advance.

- Ideally, you conduct an interview with 2 people, one interviewer and one note taker. Decide on your roles before the interview.

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*Tip*

The Field Guide by SITRA provides a very good introduction to the mindset and questioning techniques behind human-centered field research, and is also very compact, so you can read through it quite quickly to learn more. You can download your free copy here:

http://www.helsinkidesignlab.org/files/731/Field%20Guide%20English.pdf

*Visual Instructions*

# *Preparing Empathy Interviews*

15 – 60 min
per Interview

Seek emotional stories

Focus on Interviewee &
listen with an open ear

Come to a common understanding

Build trust

Final questions &
organizational details

Provoke Interest

Intro | Kick-Off | Build a connection | Uncover emotions | Reflect | Close Interview
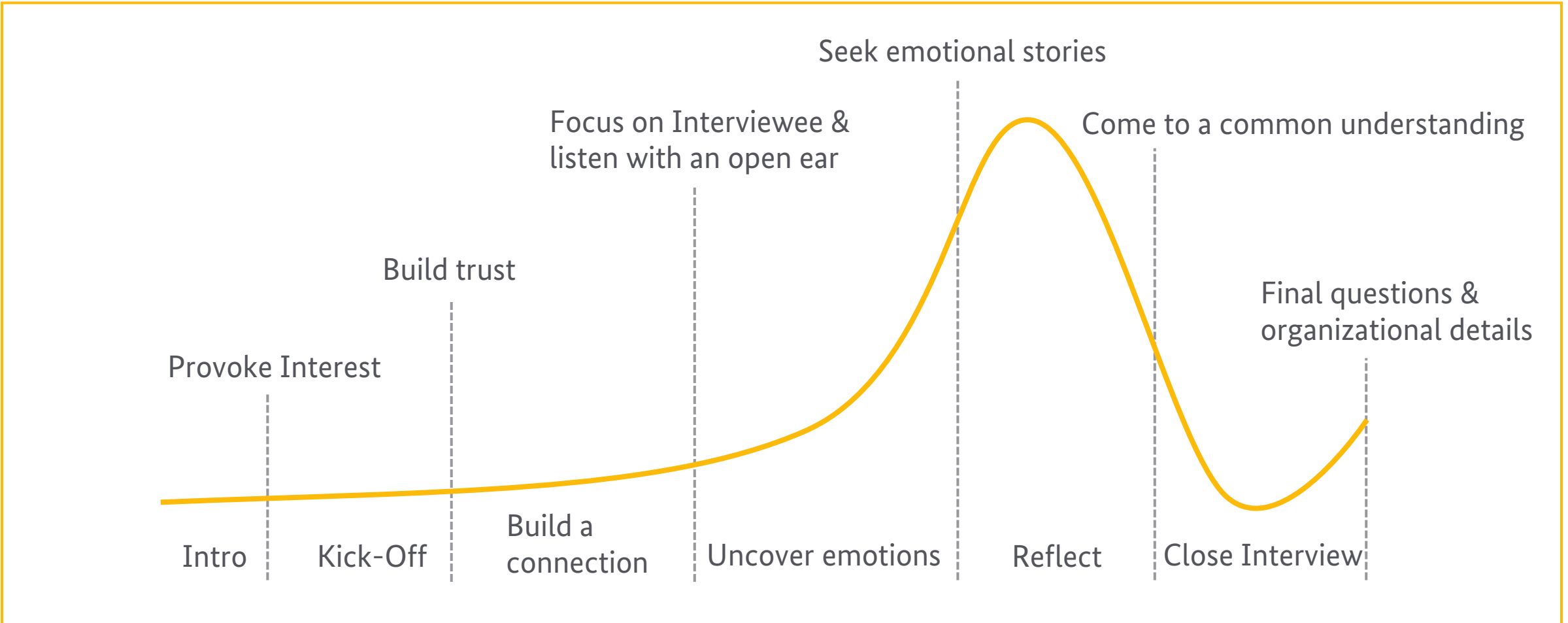
*Overview*

# *Conducting Empathy Interviews*

15 min – 2 hrs
per Interview

## At a glance

Empathy interviews with users and other stakeholders help you to understand the perspective of your interviewees and to uncover problems, needs, motivations and emotions regarding your development challenge. After you have prepared the interviews (Prepare Empathy Interviews), it is now time to conduct them – here you should consider a few practical tips.

### What it helps you do:

- Uncover problems, needs, motivations, and other emotions related to your development challenge to discover fields of opportunity for business solutions

- Understand the perspectives of your users (and other stakeholders)

### What you will need:

- Interviewee

- One interviewer or two for splitting roles during interview

- Interview guide

- Face-to-face interview:  Notebook & pen, camera

- Remote interview: Notebook & pen or text document, video call tool or telephone

**Step by step**

# Conducting Empathy Interviews

🕛 15 min – 2 hrs
per Interview

## Preparation

Prepare for your semi structured interview with the tool
[Preparing Empathy Interviews](#).

## Process

An interview guide is a good basis, but not everything you need to conduct a good interview. These tips will help you with the practical implementation – keep them in mind for your interviews:

• *Be engaged and listen* An interview should feel like a good conversation in which you're listening intently to your interview partner and are paying attention to their answers. Also, non-verbal cues such as eye contact, nodding, and smiling signal that you're engaged and interested.

• *Have a conversation* Your interview guide is just that – a guide. It's not a checklist and your interviewee should never have the feeling they are taking a survey. When your interviewee has something interesting or exciting to tell you, just react spontaneously and go with the flow; don't try too hard to pull them back to your questions.

• *One question at a time* Just ask one questions at a time, otherwise it might be confusing for your interviewees.

• *Go for stories* Pay particular attention to questions that focus on concrete experiences and situations.

• *Dig deeper* Pick up on your interviewee's answers. Especially the question "How did you feel?" and the question "Why?" are valuable questions to explore the interviewee's statement and emotions further. There is a rule called 5 why's: Asking "why" in response to five consecutive answers pushes the interviewee to examine and express the motivations behind their behavior and attitudes.

• *Allow for pregnant pauses* Try not to fill any silence. After asking a question give them time to reflect and answer. Don't assume you know what they're going to say or put words in their mouth. Let them articulate their thoughts in their own words.

**Step by step**

# *Conducting Empathy Interviews*

15 min – 2 hrs
per Interview

## *Process*

- *Stay unbiased* Observe and ask questions without judging. Don't correct, refute or challenge. Don't suggest answers to your questions.

- *Ask naïve questions* Unassuming questions encourage people to explain the logic of their behaviors. Be careful to pose these questions with genuine curiosity to avoid sounding patronizing.

- *Observe body language* Observe body language and reactions of the interviewee. This allows for spontaneous questions based on observations. So please meet in person or think of video call if possible.

- *Take notes* As much as is practical, take notes during the interview. This will help you relay the interview to team members who weren't present. Capture notes about interesting quotes, problems, opportunities, ideas, insights etc. With the permit of the interviewee also take a picture of them.

## *After the Interview*

- *Reflect on the interview directly afterwards* Mark the most import aspects of the interview. What are highlight moments of the interview? Why did these stick out to you? What were key quotes? Reflect on your development challenge: How evolved is your understanding of your selected problem and your focus based on what you uncovered in your interview?

- *Iterate your guide* An interview guide is not static - you can take out, change or add questions for a further interview

### *Tip*

Have one person lead the interview and another person take the notes. This allows the interviewer to engage in the conversation with the interviewee without disruptions and maximises your ability to document everything relevant.

**Visual Instructions**

# *Conducting Empathy Interviews*

15 min – 2 hrs
per Interview

**Overview**

# *Storytelling/Unpacking*

5 – 20 min per research story

## *At a glance*

During your research, your team spread out and gathered as much information as possible. If your team split up during your fieldwork, you'll need to come back together and share with the others what you found – this process is called storytelling or unpacking. It is primarily about sharing the information within the group, so the entire team will learn about what happened. It creates the basis for the following step: Interpret and synthesize your findings to discover your users' real needs and problems.

### *What it helps you do:*

• Consolidate, summarize, and organize your research

• Bring all team members onto the same page

• Build a foundation of understanding so that you can reach your users' deeper needs and problems

• Form first hypothesis based on your insights

### *What you will need:*

• Notes and photos from your research

• Your team

• Offline workshop: Whiteboard or similar, board marker & pens, sticky notes, timer

• Online workshop: Digital whiteboard

*Step by step*

# Storytelling/Unpacking

5 – 20 min per research story

### Preparation

- Take some minutes to look over the notes from your interviews. Transfer all your findings (even if they do not seem important to your challenge) onto sticky notes. It's even better if you can add a little sketch that represents the message you mean to convey.

- Use one color sticky note for each interview or other research context. This helps you keep your whiteboards visually organized.

- On a whiteboard, create a table with the categories: We met/ they said/ what stood out/ we wonder if this means.

### Process

- Tell your interview stories one by one to the other team members, with the help of the sticky notes you already prepared. Stick them on the *We met* and *they said* sections on your whiteboard.

- In Storytelling/Unpacking you share raw information, this means observations, experiences and statements from users and stakeholders. Try not to transfer your own assumptions or judgements onto these insights when sharing them with your team.

- Once you shared the interviews stories with your team, take some time to write down two or three points that stood out to you and add that to the designated section on the whiteboard. Where there maybe some new insights, problems, or customer needs that came out of the interview?

- Now, as a first step into interpretation, ask yourself what those insights could mean and fill in the *we wonder if this means* section on your whiteboard. These first hypothesis are relevant for the further process. They can help identify challenge areas that you might want to focus on.

- Watch the time: Set a timer during the storytelling/unpacking process and do your best to give each research story equal time (timeboxing).

- The next step will be interpreting and further examining the information you gathered

Visual Instructions

# *Storytelling/Unpacking*

15 min – 2 hrs
per Interview

| We met … | .. they said … | What stood out | We wonder if this means … |
|---|---|---|---|
| Interviewee I, age, picture, etc. | Quotes / Stories / Experiences | Insight | Hypotheses |
| Interviewee II, age, picture, etc. | Quotes / Stories / Quotes / Stories | Insight / Insight / Insight | Hypotheses / Hypotheses |
| Interviewee III, age, picture, etc. | Quotes / Experiences | Insight / Insight | Hypotheses / Hypotheses |
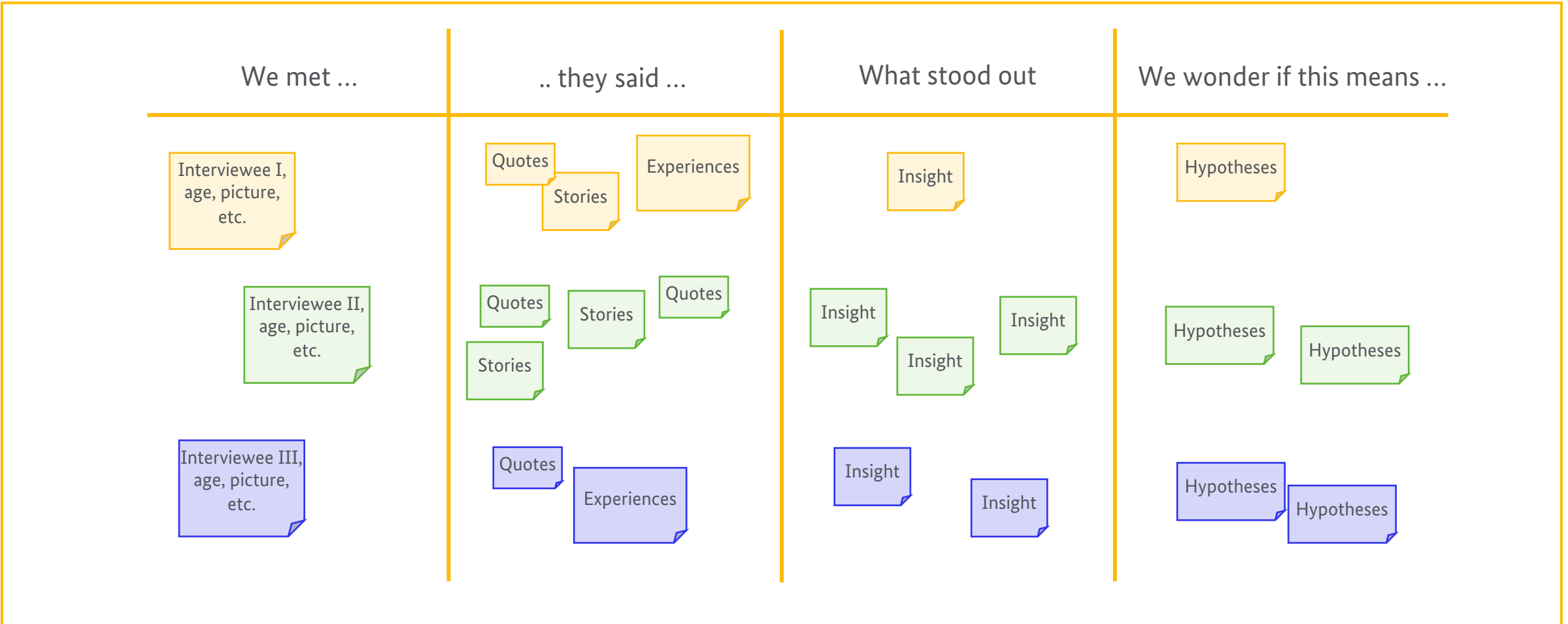
**Example: Excerpt of Storytelling/Unpacking for the development challenge to prevent and control NCDs in Ghana**

# Storytelling/Unpacking

15 min – 2 hrs
per Interview

| We met ... | .. they said ... | What stood out | We wonder if this means ... |
|---|---|---|---|
| **Agnes Agyei** 25 y.o. Lives in Accra, Ghana Pharmacist | "There are many generics that are dirt-cheap"  Likes talking to customers  "I want more time to do more follow-ups with clients" | Need for more client contact  Desire to give the best support to clients | Users need to spend more time with clients |
| **Beth Kodjoe** 56 y.o. Lives in Accra, Ghana Private secretary at WAEC | Diagnosed with diabetes and high blood pressure  Very demanding job, with many responsibilities  "There should be home testing kits, so I don't have to go the hospital for every test"  3 kids | Desire for home testing kits | Users have confidence in their ability to manage their own disease  Users schedules keep them from going to regular tests |

*Overview*

# *Affinity Map*

Minimum 2 hrs

### *At a glance*

In Storytelling you shared a lot of information. This information from your research is often challenging to work with because it is very raw. The tool affinity map can help you here: It is about structuring research information and deriving insights from it. You group the content gathered in storytelling into thematic clusters, identify patterns and draw connections or mark cause-effect relations. During this process, you interpret the information and derive insights about the user needs and problems that you can work with in the further design process. Also, you might uncover gaps within your research that you have to explore further.

### *What it helps you do:*

• Get overview about gathered research information

• Notice patterns and identify themes

• Identify connections and cause-effect relations

• Extract insights about user needs and problems

• Identify research gaps

### *What you will need:*

• Results from storytelling

• Your team

• Offline workshop: Whiteboard or similar, board marker & pens, sticky notes, timer

• Online workshop: Digital whiteboard

# *Affinity Map*

Minimum 2 hrs

## *Preparation*

- Look over the information you've shared in your storytelling session. All relevant data from your field and context research you've gathered so far should be included in the affinity map. These are observations, experiences and statements from users and stakeholders and findings from your context research.

- Affinity mapping helps you to go one step further. You generate insights by combining the collected information and interpreting it with the help of your personal approach. These interpretations are based on your experiences and knowledge, your values, your intuition and what this information means in the context of your development challenge. When placed in context, impressions, experiences and statements from your research that were surprising and fascinating, as well as repetitive patterns and relevant trends can generate new insights.

## *Process*

- One by one, pick up sticky notes and group related notes into clusters. For example, for the challenge prevention and control of NCDs in Ghana, the following sticky notes could be clustered together: a sticky note stating that NCD testing is difficult to access due to long distances or a missing car, a sticky note stating that it is not easy to be tested regularly when having kids and a sticky note stating that testing could be more convenient.

- Name the clusters to help you create an information structure and discover themes. The cluster names should be superordinate terms and summarize the content of the clusters. For the cluster based on the sticky notes mentioned above, possible cluster titles could be "difficult access" or "inconvenience".

- Visualize connections, effects and interactions with other clusters with lines or arrows.

For example, the cluster "difficult access" could have an influence on the cluster "physical condition", as irregular check-ups can lead to a deterioration of the health status.

- Interpret your research information during the cluster process and add your insights on sticky notes of a different color if necessary. The following questions might help you with the interpretation process: What could the results of your research mean? Do you notice any contradictions or conflicting goals? Do you notice gaps or tensions? Do you recognize relationships or patterns? Which conclusions would you draw from this? Which needs do you identify? Were you able to confirm or refute the hypotheses and assumptions you had before conducting the research? Look at single statements: Why did your users do or say something? Is there additional significance for your users that is hiding behind the information? For example…

*Step by step*

# Affinity Map

🕑 Minimum 2 hrs

*Example for interpreting the affinity map*

Let's assume you put the following two statements into a cluster:

- A statement from an interview with a NCD patient: "I don't have the patience to take time for all my scheduled health check-ups."

- Another statement from another interview: "It is very annoying that I have to travel far only for being tested just to wait for hours in the hospital waiting room."

What is behind these statements? What could they mean?

- An interpretation of both statements and the resulting insight could be: Reaching the nearest hospital for doing health check-ups and testing can take a lot of time due to poor infrastructure in rural areas in Ghana.

- Another interpretation could be: NCD patients have to abandon their daily life and duties for hours if they want to make sure they are being monitored which is the most inconvenient thing about doing check-ups. Patients wish for the opportunity to include testing into their daily life so they can organize their day independently

Reflect on or discuss the themes and categories you have created and how they affect your next steps. Are you able to derive one or more personas from your research? Or do you notice research gaps, which you need to fill?

> **Tip**
>
> - *Invite people from different backgrounds:*
>   Be aware that there is no single right answer on how to best cluster the individual data points. Different individuals bring in different perspectives and reach different conclusions. Including people with differing backgrounds into affinity mapping helps you explore more perspectives and yields richer results.
>
> - *Let it sink in:*
>   You may split creating your affinity map into multiple sessions. Revisiting your affinity map allows you to double-check its consistency and insightfulness.

# *Affinity Map*

Minimum 2 hrs
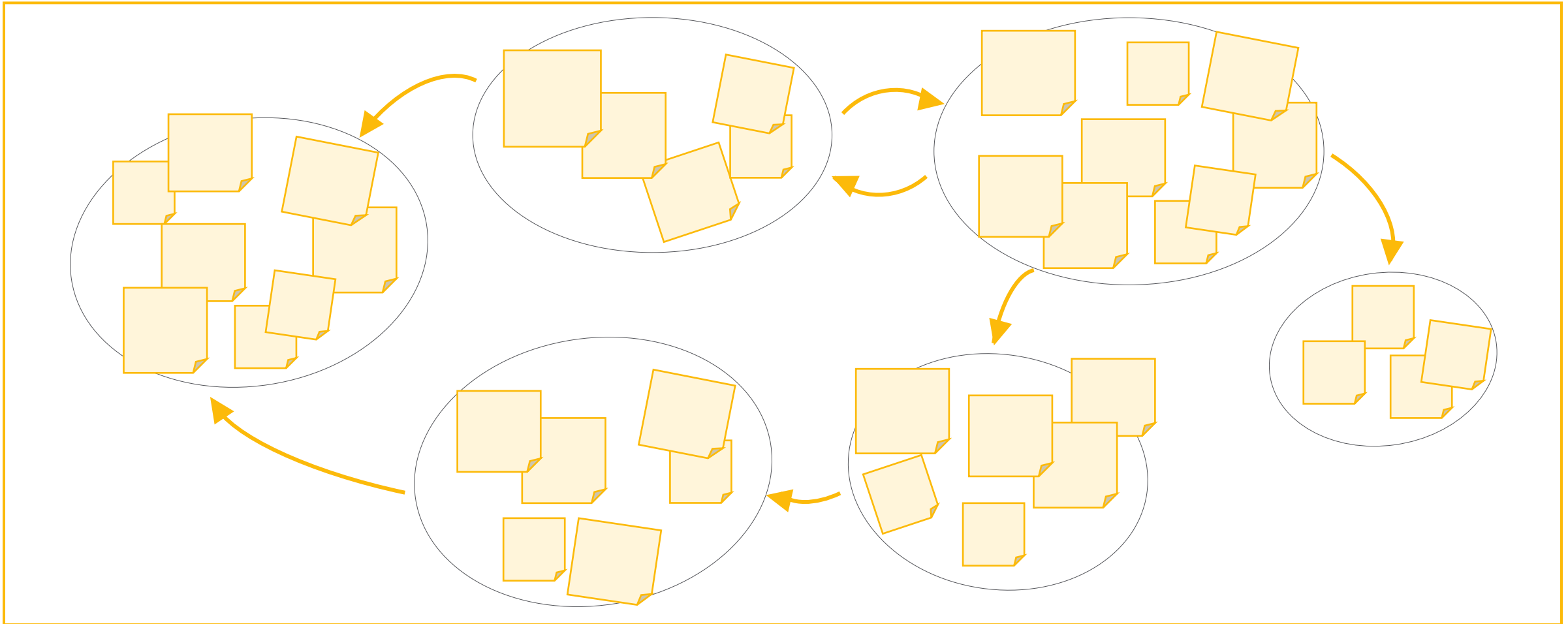
*Example: Affinity Map for the development challenge to prevent and control NCDs in Ghana*

# *Affinity Map*

Minimum 2 hrs

**Uncomfortability**

Doesn't like hospitals and their stressful procedures

Avoids activities she feels might make her sick

Has made bad experiences with doctors

**Physical condition**

Was diagnosed with Atrial Septal Defects (ASDs) 6 years ago

Was diagnosed with diabetes and high blood pressure

**Time constraints**

Goes to work early and usually gets home around 8pm

Very demanding job, as she has a lot of responsibilities

Works full-time and has two children

**Insufficient care**

Wants time to do more follow-ups with clients

Is only offered an appointment once a year

**Difficult access**

Has 3 kids and therefore want testing kits to use at home

Does not have a car to move aroung qucikly

Looking for convenient ways to sustain healthy lifestyle habits

Lives far from the next hospital or specialist

*Overview*

# *Persona*

🕐 30 – 60 min
per Persona

### *At a glance*

Personas are fictional characters that represent a user group and illustrate their needs and problems. Even though they're fictional, they should feel as real as characters in your favorite book or movie: they have a physical appearance, character traits, emotions, and a life story. Personas make your user group tangible and put them into an inspiring form. The act of creating a persona helps you to put yourself in your user's shoes. And, once you've crystallized your persona, it helps to keep the users in focus during idea development.

### *What it helps you do:*

• Clarify the most important traits and features of a user group

• Illustrate needs and problems of a user group

• Concretely imagine your user

• Take on the perspective of a user

• Set a point of reference for later idea development

### *What you will need:*

• Results from affinity map

• Your team

• Offline workshop: Whiteboard or planning wall, board marker and pens, sticky notes

• Online workshop: Digital whiteboard

**Step by step**

# *Persona*

⏱ 30 – 60 min
per Persona

### *Preparation*

- Look over the analysis and evaluation of your research findings. Which key challenges have you identified? Who is facing these challenges and needs a solution?

### *Process*

- Begin creating a persona that represents a composite of several similar and important insights. Don't try to combine insights that don't make sense together into the same persona; think about what insights might naturally apply to the same person. Give your persona a name, an age, and some details about their lifestyle. Note what they like, what motivates them, what bothers them, etc.

- Use the example on the Visual Instruction page as an orientation to adjust the categories to your development challenge and the insights from your research. You can keep the categories general (such as »Characteristics«, »Pains« etc.) or make them more specific to the development challenge, if this makes sense.

- Come up with a variety of character and personality traits for your persona.

- Especially look for surprises and contradictions within your persona's life and character.

- Make your persona as realistic as possible. It shouldn't be a caricature or stereotype.

- Does your persona get a lot of parking tickets? Do they only drink decaffeinated coffee? Do they organize their books by color? It's the little details that give your persona life and make them tangible.

- After creating a tangible persona decide for your next steps – is it helpful to create a user journey for your persona? Do you want to formulate a problem statement in the form of a Point of View or are you able to directly derive How might we questions from your personas needs and insights?

### *Tip*

Personas are the foundation for all further steps in the process. Your persona stands for the user group your solution should cater to.

If you're having trouble compressing your insights into a single persona, feel free to develop more than one persona to represent different user types with different needs.

*Visual Instructions*

# *Persona*

30 – 60 min
per Persona

### *Persona*

*How does your persona look like?*

### *Pains*

*What are they most worried about? What bothers them the most? What are the biggest obstacles between them and their ideals and goals?*

### *Gains*

*What do they dream of? What makes them optimistic? What ideals and goals do they have?*

### *Profile*

*Name, age, job, family status, cultural background*

### *Characteristics*

*What personality traits does this person have?*

### *Quotes*

*Meaningful quotes that fit the persona and that were said in the interviews*

**Example: Persona in the context of the development challenge to prevent and control NCDs in Ghana.**

# *Persona*

30 – 60 min
per Persona

---

### *Persona*



### *Pains*

- Uncertainty on what she is doing right or wrong
- Avoids physical activities out of fear for her health

### *Gains*

- Wants to engage in physical activities without fearing their effect on her body
- Wishes for access to regular check-ups and monitoring to feel safer

### *Profile*

- AMIVI BAAFI
- 30 years old
- Accra, Ghana
- Private secretary at WAEC

### *Characteristics*

- Was diagnosed with Atrial Septal Defects six years ago
- Fears for her health
- Demanding job with a lot of responsibilities

### *Quotes*

„It is not always easy to do the right thing for my health. I want to keep active but also listen to my body, and regular check-ups would make me feel a lot safer."

# User Journey

🕐 30 – 60 min per user journey

### At a glance

A user journey helps you to structure and analyze your research results from the perspective of a persona. In the user journey, you map your users' experience of certain procedures, routines, services, processes, or products, depending on what your object of investigation was during your research. The user journey describes the individual steps of a user experience, the points of contact of the user with an already existing process, product, or service (also called touchpoints) as well as possible problems and positive experiences that your users perceive within the user experience. With the help of the user journey, you can easily uncover gaps within your research as well as recognize connections and identify and visualize problems in processes.

**What it helps you do:**

• Analyze user experience in the overall context

• Identify problems and positive experiences within processes

• Identify research gaps

**What you will need:**

• Your persona

• Your team

• Offline workshop: Whiteboard or similar, board marker & pens, sticky notes, timer

• Online workshop: Digital whiteboard

**Step by step**

# User Journey

⏱ 30 – 60 min per user journey

## Preparation

- Figure out which structure makes the most sense for your user journey. One commonly used structure starts with dividing your whiteboard into three vertical columns and four rows, as pictured in the graph. Label the three columns »Before«, »During«, and »After«. Label the rows »Phases«, »Actions«, »Touchpoints«, and »Experiences«.

## Process

- Create the user journey from the perspective of a persona. To do so, use the insights generated by the analysis of the affinity map and the persona and create a user journey based on the insights.

- Using sticky notes and markers, note aspects of the user experience, step by step. Start with the top left, and work towards the bottom right. Describe the steps not only in words, but also illustrate them with pictures.

- You'll start with the »Phases« row. Name the phases of the user journey by thinking about the »Before«, »During«, and »After« of the user experience. For example, if your challenge has to do with health check-ups, the phases would be called preparing for, doing, and following up on the health check-up.

- Use the »Action« row to describe possible actions that the user might take in these phases. For example, what might a user do in preparation for a health check-up at the hospital? Write each action on a sticky note and illustrate it with a small sketch. Stick the sticky note with the corresponding research results in the row "Activities". If necessary, add research information that you have not yet noted down, but which seems to make sense for the user journey.

- Use the »Touchpoints« row to describe ways in which the user interacts with the core service or product while

carrying out these actions. What have you found out? Add sticky notes if necessary.

- Finally, fill out the »Experiences« row. Think about what kind of experience the user is likely to have at each touchpoint, and what feelings might arise. Describe the experiences and feelings on sticky notes and note with plus and minus signs whether the feelings are positive or negative. You may also notice possible conflicts or tensions. Again, add research information if necessary.

- Look at the user journey. Now you have a good overview to identify patterns, connections, and problems of your users. What's your next step? Would it be helpful to create another user journey for another persona? Do you see any research gaps? Is it helpful to formulate a Point of View or directly deriving How might we questions?

**Visual Instructions**

# *User Journey*

🕐 30 – 60 min per user journey

|  | before | during | after |
|---|---|---|---|
| **phases** | Before direct contact with product/process/ service | During direct contact with product/process/ service | After direct contact with product/ process/service |
| **actions** | Actions conducted by target person/user | | |
| **touchpoints** | Direct touchpoints with process/ product/service    Actions by people in charge of the process/service | | |
| **experiences** | The user's emotions, thoughts and insecurities regarding the product/process/ service | | |

**Example: User Journey for a persona in the context of the development challenge to prevent and control NCDs in Ghana**

# *User Journey*

30 – 60 min per user journey

|  | before | during | after |
|---|---|---|---|
| **phases** | Preparing for health check-up | Doing check-up | Following-up on check-up |
| **actions** | Decide: go to the office first or the hospital / Ask for an excused absence from work / Drive to the hospital | Wait in the waiting room until being called in | Wait for a medication prescription / Go to the pharmacy / Hurry back to the office |
| **touchpoints** | Nurse/hospital personnel welcomes patient, tells them to wait | Doctor conducts check-up / Doctor asks about medical history/gives tips/ ... | Pharmacist checks, if medication is available / Pharmacist has to order medication |
| **experiences** | Fear not to get granted absence from work / Stress / Time-pressure / Check-up as inconvenient | Annoyed by long waiting times / Insecurity about the test results / Feeling that doctors might not take the time needed | Irritation if meds are not available / Insecurity about medication quality / Time-pressure / Fear to be late at work |

# Point of View

15 - 30 min
per POV

**At a glance**

The Point of View (POV) is a tool for synthesizing your results. It's a concise way to recognize hidden needs and patterns among your users. Formulating a POV helps you to articulate a focus within your development challenge. You'll use it as a frame for creating a solution that really fits your user's needs. A POV crystallizes your observations into a single sentence that expresses the perspective of a persona. The POV contains one or more needs you uncovered as well as the insights you inferred. The POV can be a precursor for one or more How might we questions, which are the jumping-off point for your business idea development.

**What it helps you do:**

• Bring together and articulate the needs and insights you identified

• Notice patterns in users' needs

• Develop a user-centered problem statement

• Set a focus to formulate How might we questions for later idea development

**What you will need:**

• Results from persona or user journey

• Your team

• Offline workshop: Whiteboard or similar, board marker & pens, sticky notes, timer

• Online workshop: Digital whiteboard

**Step by step**

# *Point of View*

⏱ 15 – 30 min per POV

### *Preparation*

- A POV has a specific structure that you can prepare in advance on a board. Write in large, clear letters: _____ (persona) needs to _____ (need), because _____ (surprising insight).

### *Process*

- Decide for which need and insight and for which persona you want to create a POV.

- In the first blank space, fill in the corresponding persona.

- The next blank space is for this user's needs. A problem you identified as most important to your user, as well as most interesting to you. Describe the need as clearly as possible.

- Finally, fill the last blank space with the insights you inferred: Why might this user have this need? What surprised you about this need? What was especially interesting about it?

- Be careful that your insights aren't just superficial reasons or consequences of the need. Think about what's really beneath this need, not just what's immediately obvious.

### *Example*

- Here's a POV that's **not** useful: Amivi needs to check her health to feel safe when engaging in physical activities.

- This POV just describes the consequences of the need, not the deeper reasoning behind it.

- Here's a more useful POV: Amivi, the NCD patient, needs to be able to easily check her medical condition, because she is afraid to engage in physical activities which might make her feel sick.

- This POV describes not only Amivi's needs, but also the deeper, underlying reasons for it.

- Agree on a final formulation for your POV. This sentence leads into creating How might we questions that will guide the ideation process in the next phase. An example: How might we provide approved, easily accessible testing and monitoring systems to NCD patients?

### *Tip*

- Let everyone in your team come up with their own POV for a given persona. Together, vote and decide which POV statement is most insightful.

- If a persona has multiple urgent needs, you may also select more than one POV.

- Create a POV for each of the personas that you have derived from your research.

# *Point of View*

🕐 15 - 30 min
per POV

Amivi, the NCD patient,

_____
user

needs to be able to easily check her medical condition,

_____
need

because she is afraid to engage in physical activities which might make her feel sick.

_____
insight

Amivi, the NCD patient,

_____
user

needs pharmacies to provide the most affordable and effective drugs,

_____
need

because she fears buying low quality and/or ineffective generics.

_____
insight

*Overview*

# How might we Questions

🕙 15 - 30 min per
HMW question

### At a glance

After conducting research and analyzing your findings, it's time to reframe your initial development challenge or break it up into a set of actionable sub-challenges. A simple but powerful way to frame our questions (already used for the initial challenge) is to start with the words »how might we« and summarize both the user's needs and the problem we want to solve. HMW questions are a step towards solutions and a jumping-off point for generating ideas, but they don't yet contain solutions themselves. Coming up with good HMW questions takes some time, but the effort pays off later: good questions are the foundation for clear, targeted, and user-oriented business solutions in the Innovation Sprint.

### What it helps you do:

• Focus on the main problems and needs you identified

• Starting point for generating ideas for business solutions

• Provide orientation and inspiration for idea development

### What you will need:

• Identified user needs and insights from persona, user journey and/or POV

• Your team

• Offline workshop: Whiteboard or similar, board marker & pens, sticky notes, timer

• Online workshop: Digital whiteboard

<span style="background-color:orange">**Step by step**</span>

# How might we Questions

🕐 15 - 30 min per HMW question

## Preparation

• Look over the user needs and insights that you identified during analyzing your research. Your POV statements are an ideal starting point for creating your HMW questions.

• Choose all insights that you'd like to capture in a HMW question and take them one by one.

## Process

• Start each HMW question with the words »How might we…«. Further building blocks of the HMW-Question are: the persona or user group and the need you want to fulfil or the problem you'd like to solve for them. Optionally, you can also describe further context like contradictions, constraints, consequences etc. For example: How might we provide seamless access to continuous care at different facilities (need) for NCD patients on the go (user group) in a world where access to health facilities and insurance for care is fragmented and not synchronized (context)?

• Experiment by addressing analogies with other examples from the same context, exploring extreme and extraordinary insights, adding constraints and conditions influencing the solution space and taking up a user perspective.

• Create as many HMW questions as you can. Aim for at least 5-10 questions that describe your insight. Afterwards you can choose the most suitable.

• Go through the HMW questions you created. Make sure they're neither too narrow nor too broad. It can be a delicate balance. If they seem to already imply a narrow range of solutions, discard them. HMW questions should open up a rich, varied landscape of possible solutions, but if they're too general, they won't lead you toward concrete solutions.

**Step by step**

# How might we Questions

⏱ 15 - 30 min per HMW question

## *Example*

Examples of HMW questions about improving the testing and monitoring options for NCD patients:

- Here's a HMW question that won't work well: How might we improve testing and monitoring systems in healthcare? This is both too unclear and too broad. The question focuses only on the testing and monitoring systems. There's no user, much less user need, in the question. And the word »healthcare« is fuzzy and vague.

- Here's a better example: How might we provide accessible testing and monitoring systems to NCD patients in remote areas? Here, both the user and the problem are clear, and the question still leaves plenty of room for a variety of solutions without feeling to unfocused.

- Once you have formulated all your insights as HMW questions, evaluate them to decide which ones to tackle in the Innovation Sprint, which ones to leave aside and to decide if more research is necessary. During the decision process consider the market demand, which is the willingness of one or more parties to pay for potential solutions, and if any technical or regulatory reasons speak against the HWW questions.

**Tip**

We call the final HMW questions sub-challenges. You may complete a new *lab of tomorrow* challenge quiz for each sub-challenge to map everything you know about them in one place. This will later allow you to compare different sub-challenges and select the most substantiated ones for the Innovation Sprint.

**Example: Point of View for the development challenge to prevent and control NCDs in Ghana**

# How might we Questions

15 - 30 min per HMW question

How might we    provide approved, easily accessible testing and monitoring systems

HMW                                        problem

to NCD patients in Ghana

user

so they are empowered to conveniently manage their situation?

context (optional)

How might we    enable pharmacies to provide the most affordable and effective drugs

HMW                                        problem

to NCD patients

user

in a world where effectiveness is hard to determine and where people doubt the quality of generics?

context (optional)

**Overview**

# *Graphic Gameplan*

🕑 60 – 90 min

### *At a glance*

The Graphic Gameplan helps you with the project kick-off. It is not a classic project plan but gives you an overview to determine the most important factors. You can use it to create a dynamic action plan that helps your team keep track of the following points as the project progresses: What resources you have, what vision you share and where the project is heading, what your goals are, and what your next steps, what challenges you face and what factors are crucial for a successful collaboration.

❓

### *What it helps you do:*

- Define the goals and steps along the journey towards project implementation

- Create awareness for available resources & common obstacles

- Set conditions for project development and success

- Develop a common understanding of the project within the venture team

- Visually develop a holistic overview of the project's lifespan

☑✏

### *What you will need:*

- Your venture team

- Offline workshop: Graphic Gameplan printed template (optional), whiteboard or similar, board marker & pens, sticky notes, timer

- Online workshop: Digital whiteboard

*Step by step*

# Graphic Gameplan

🕑 60 – 90 min

### Preparation

• Draw or create the structure of the Graphic Gameplan on the board (as shown in the graphic on the <u>Visual Instruction</u> page).

### Process

• The Graphic Gameplan consists of 7 fields. Proceed field by field in the following order. First, each team member writes sticky notes for each field in silence. Then the content of each field is shared in the group.

### 1. Team & Resources

• Write the names of your team members on the left side. In which companies do they work and what is their role there?

• What's their profession (professional superpower) and which other skills do they bring to the teams (personal superpower)?

• Which other resources do you have available within the team (e.g. technologies, partners)

• What is the interest of your team members in the subject of the development challenge?

### 2. Vision

• What kind of future are you envisioning?

• Your vision is the picture of the future that you are working towards. An imagined, desired target state when everything is running ideally and all framework conditions fit. It points beyond your project, gives you direction and serves as a guiding principle.

• Ask yourselves what you want to achieve in the future and why.

• State your vision clearly and concisely and write it in the centre of the cloud. A good vision statement is characterized by mapping the future into a vivid, concrete and descriptive goal that everyone can easily imagine.

### 3. Goal setting

• What do you want to achieve?

• The goals section consists of two circles: an inner circle and an outer one.

• Project goal: In the inner circle, write the overriding goals your team is pursuing. What do you want to achieve as an end result? Ideally formulate SMART goals. This acronym stands for S = Specific: The goals should be concrete and clear, M = Measurable: You should be able to analyse results numerically, A = Actionable: There are clear actions that would lead to the goal being achieved, R = Relevant: it is something that needs to be done, and is possible imagine accomplishing, T = Time Bound: Meaning a specific date for completion is embedded in the goal.)

• Secondary goals: Write your other, secondary goals in the outer circle. This might include also personal goals.

*Step by step*

# Graphic Gameplan

⏱ 60 – 90 min

- In contrast to the vision, the goals describe concrete steps that are measurable and enable the formulation of clear instructions for action.

### 4. Next Steps & Phases

- How will you reach your goal?

- Place the agenda of your Innovation Sprint and get a common understanding of the process.

- Add further steps that go beyond the Innovation Sprint.

### 5. Obstacles

- What challenges & problems might arise?

- In the process of determining goals and steps, you might think of barriers that will hinder you to accomplish things. Don't ignore those thoughts but note them in the »mountains« on the template in the section »obstacles«. After accomplishing the section »next steps & phases«, you deal explicitly with possible obstacles and add them to the ones already noted here.

### 6. Success Factors

- The success factors are behaviors and agreements for the team process, such as "meet deadlines" or "support each other". External factors like reliability of partners, political stability of decisions or other topics related to your project should also be taken into consideration in this frame.

### 7. Open Questions

- Discuss which aspects are still unclear, and what you need to clarify. Note down all open questions regarding team & resources, vision, goal setting, next steps & phases, obstacles and success factors in the corresponding field.

*Tip for using the Graphic Gameplan*

- Put the Graphic Gameplan where the whole team can see it. It will serve as a project map, helping to keep important points in mind.

- Feel free to modify and expand upon the Graphic Gameplan during the course of the project.

- When you reach important milestones, or at regular intervals, check to see whether you're still on track and reflect on whether the planned course was the right one. If it isn't, you can change and improve the Gameplan anytime.

**Visual Instructions**

# *Graphic Gameplan*

60 – 90 min

TEAM & RESOURCES

SUCCESS FACTORS

VISION

NEXT STEPS & PHASES

GOALS

OBSTACLES

OPEN QUESTIONS
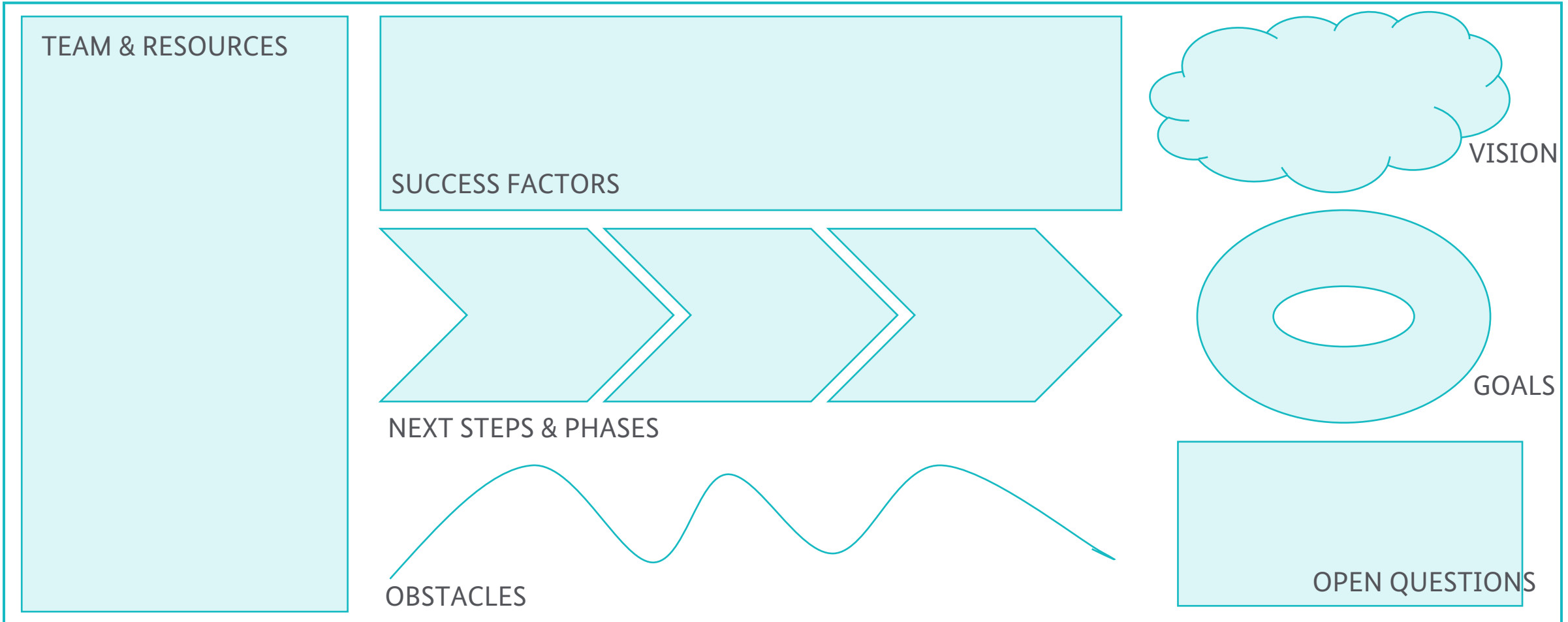
*Example: Graphic Gameplan of a team working on the development challenge to prevent and control NCDs in Ghana*

# Graphic Gameplan

🕑 60 – 90 min

## TEAM & RESOURCES

- **Andrew**, pharmacist, direct contact to users,
  **Superpower**: flyer design, photography

- **Cherifa**, web designer & communication,
  **Superpower**: arts & music

- **Kofi**, medical device development,
  **Superpower**: motivation & energy

- **Laura,** Telemedicine,
  **Superpower**: Wikipedia-addict

- Support each other, act as a team
- Keep each other updated on what we are working on
- Work towards satisfying identified user needs
- Put time and energy into raising funding
- Meet agreed deadlines

## SUCCESS FACTORS

Brainstorming with regard to resources

Develop and test model(s)

Choose one idea for further development

Raise financing until break-even point

Market Pilot

Scale and improve iteratively

## NEXT STEPS & PHASES

Meeting user needs

Financial resources

Support from employers

Time

## OBSTACLES

A world in which every patient can get the medical care they need

VISION

*In 3 years:*
*Improve access* to testing and monitoring systems for NCD patients in Ghana *by 20%*

GOALS

- Team members' roles
- How to raise financing?

OPEN QUESTIONS

**Overview**

# Expert Interviews

⏱ 50 – 60 min

*At a glance*

In the beginning of the sprint, each venture team is given sufficient time to deeply understand the sub-challenge it is going to tackle. For this, the venture teams review the insights material from the insights report, empathise with their users and explore the ecosystem of their challenge. After the venture team has acquainted itself with their How might we question/sub-challenge and the design agency's findings from the insights report, the team could conduct an expert interview. An expert is somebody who has a broad and deep competence in terms of knowledge, skill and experience in a certain field. Talking to an expert helps you to classify and review existing knowledge and insights and to clarify open questions. It gives you an outside perspective on your topic and deepens your understanding of the development challenge and How might we question and helps you to develop it further.

*What it helps you do:*

• Develop empathy for existing insights

• Clarify open questions

• Test hypotheses about existing insights and gain new insights

• Iterate How might we question and get a starting point for idea development

*What you will need:*

• Hypothesis and open questions derived from the insights material for each team's sub-challenge (persona, user journey, how might we question, etc.)

• Experts

• Your team

• Face-to-face interview: Notebook & pen, camera

• Remote interview: Notebook & pen or text document, video call tool or telephone

**Step by step**

# Expert Interviews

🕐 50 – 60 min
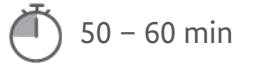
### Preparation

• Prepare an interview guide for the expert interview. Unlike <u>empathy interviews</u> with users and stakeholders these interviews aren't about uncovering the needs of the interviewee. Rather, the point is to tap into your existing knowledge to extend your understanding of the sub-challenge/How might we question. Therefore, incorporate the information you already gained during the Innovation Sprint into the interview guide.

• Think about the questions you want to ask and in which topic blocks you can structure them.

• Determine how you will introduce yourself and introduce the topic. In an expert interview, it is also important that your interviewee feels comfortable and that you ask rather simple questions at the beginning so that he or she can warm up a bit.

• Distribute roles: Who is conducting the interview? Who is taking notes? Who is observing?

### Process

• What also counts in this kind of interview: Ideally, it should simply feel like a good, focused conversation. Your interview guide is not a checklist. When your interviewee has something interesting or exciting to tell you, just react spontaneously and go with the flow.

• Also, an expert interview is led under similar rules as a user or stakeholder interview:

• *Be engaged and listen:* An interview should feel like a good conversation in which you're listening intently to your interview partner and are paying attention to their answers. Also, non-verbal cues such as eye contact, nodding, and smiling signal that you're engaged and interested.

• *One question at a time:* Just ask one questions at a time, otherwise it might be confusing for your interviewees.

• *Dig deeper:* Pick up on your interviewee's answers and ask, if there is something that interests you.

• *Allow for pauses:* Try not to fill any silence. After asking a question give them time to reflect and answer. Don't assume you know what they're going to say or put words in their mouth. Let them articulate their thoughts in their own words.

• *Stay unbiased:* Observe and ask questions without judging. Don't correct, refute or challenge. Don't suggest answers to your questions.

• *Take notes:* As much as is practical, take notes during the interview, so it is easier to remember it later.

**Step by step**

# Expert Interviews
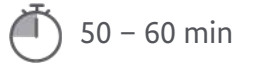
🕐 50 – 60 min

*After the interview*

- Evaluate the interview: How has your understanding changed? What was particularly interesting? Have your open questions been answered? What core insights do you draw from the interview? Align the insights gained from the expert interview with the persona(s) and user journey(s) already developed. With these combined insights you gain a new look on the biggest problems and needs of the user group. The new insights can be used to develop one or more new HMW questions that are based on the original HMW question.  These serve as a starting point for the development of ideas for business solutions (also see the tool How might we questions).

Visual Instructions

# *Expert Interviews*

50 – 60 min

## Overview

# *Brainstorming*

🕑 20 – 30 min

### *At a glance*

Brainstorming is probably the best-known creative tool. During brainstorming, all team members jointly generate many ideas for a specific question (How might we question). All ideas are pronounced aloud, written on sticky notes and collected on a whiteboard. In addition to the classic brainstorming, there are many variants and modifications.

**❓**

**What it helps you do:**

- Develop ideas for business solutions

**☑️**

**What you will need:**

- How might we question (redefined development challenge)

- Your team

- Offline workshop: Whiteboard or similar, board marker & pens, sticky notes, timer

- Online workshop: Digital whiteboard

*Step by step*

# Brainstorming

20 – 30 min

## Preparation

- Put your How might we question on the board so it is clearly visible to everyone. Read the How might we question again, because it is the alpha and omega of a good brainstorming session (see tool How might we questions).

- In a face-to-face workshop have your team standing in front of a whiteboard, all equipped with sticky notes and pens.

## Process

- Set the timer to 5-7 minutes for a brainstorming session. The time pressure helps you to stay focused and inspires your creativity.

- Develop business ideas together. When a team member comes up with an idea, he or she says the idea aloud, writes it on a sticky note, and attaches it to the board.

- Collect as many ideas as possible and observe the following rules for creative tools:

- *Go for quantity!* As you develop your ideas, write down any that come to your mind. The more ideas you create, the higher the likelihood that really good ideas will emerge. If you do not limit your ideas, you're also more likely to find a creative flow and explore different directions.

- *Connect existing ideas!* You do not always have to reinvent the wheel. Connecting solutions that already exist in different ways is a great way to be innovative.

- *Build on the ideas of others!* Use the power of the group and inspire each other to come up with new ideas based on the ideas of other team members.

- *Defer judgment!* Do not judge ideas while using a creativity tool – neither your own ideas, nor those of others. If you judge, you will only block yourself and the other team members and interrupt the creative flow. You can assess the results on a later stage.

- *One person at a time!* So that you can inspire each other and find out what ideas your team members have developed, it is important that only one person speaks at a time, and the others listen closely.

- *Be visual!* Pictures say more than a thousand words. Sketch small pictures next to the short descriptions of your ideas. It is easier for your team members to understand what you have in mind, and for the team to quickly recognize the ideas later.

**Step by step**

# *Brainstorming*

🕑 20 – 30 min

- **Encourage wild ideas!** Wild, extraordinary ideas expand the space of thought and lead us to the true innovations. Even if they seem impossible at first, it is when you think outside the box that you can draw on the full creative potential and see different perspectives.

- **Stay focused!** Don't be distracted during the development of ideas. Concentrate, stay on topic, and focus on solutions that answer your How might we question and fit the need you have identified.

- Within a brainstorming session you can conduct several rounds of brainstorming with different brainstorming variants one after the other. For example, you can combine classic brainstorming with the tool alternative perspectives.

> **Tip!**
>
> A variation of the classic (loud) brainstorming is the silent brainstorming. Silent brainstorming gives all team members five minutes to develop ideas and silently write them on sticky notes. Afterwards everyone introduces their ideas and develops the ideas further together. The exchange usually takes between 5 and 10 minutes.
>
> Silent brainstorming is particularly well suited as an entry point, since there is less pressure, and everyone can first develop ideas for themselves. Often introverted team members can better develop their creative potential in a silent brainstorming session.

**Visual Instructions**

# *Brainstorming*

20 – 30 min

How might we *provide NCD patients* with approved, easily *accessible testing and monitoring systems* so they are empowered to conveniently *manage their situation*?
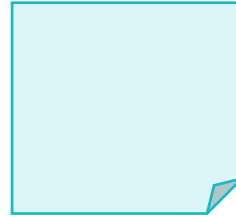
*Example: Brainstorming for the development challenge to prevent and control NCDs in Ghana*

# *Brainstorming*

⏱ 20 – 30 min

How might we ***provide NCD patients*** with approved, easily ***accessible testing and monitoring systems*** so they are empowered to conveniently ***manage their situation***?

A single patch (like a plaster) a patient can put on the wrist

Patch contains micro needles to take samples at programmed times and two electrodes that measure systolic and diastolic pressure

...

Wearable device which checks blood pressure at set times and uploads to cloud

Add-on remote monitoring services for hypertension & diabetes patients

NCD patients gets affordable home use devices for long term monitoring.

Digital health data record connected to hospitals

Free urine test strips for glucose monitoring which are relatively easy to use, platform to upload results

**Overview**

# Alternative Perspectives

⏱ 20 – 30 min

### At a glance

Alternative Perspective is a variation of brainstorming. In the Alternative Perspectives approach, you take the perspective of a known organization, group or personality with a different perspective than you. From this perspective, you develop new ideas for your How might we question. For example, you might wonder how Harry Potter would handle your issue or how the company Google would solve your problem. Therefore, you can view your question from a new perspective to get inspired and free yourself from previous limitations and concerns in order to develop extraordinary business ideas.

### What it helps you do:

• Get inspired with a unique perspective

• Develop exceptional ideas and solutions

### What you will need:

• How might we question (redefined development challenge)

• Your team

• Offline workshop: Whiteboard or similar, board marker & pens, sticky notes, timer

• Online workshop: Digital whiteboard

**Step by step**

# Alternative Perspectives

🕑 20 – 30 min

**Preparation**

- Put your How might we question on the board so it is clearly visible to everyone.

- In a face-to-face workshop have your team stand in front of a whiteboard, all equipped with sticky notes and pens.

**Process**

- Select an alternative perspective and add this to your How might we question. For example, "How would _____ (e.g. Homer Simpson) tackle this challenge?" Or "How would we address the issue _____ (e.g. the time of Caesar or if were in the world of Star Wars)?"

- Set the timer for 5-7 minutes.

- Collect ideas for your How might we question with the perspective that you have selected in mind.

- Write the ideas on sticky notes and collect them on your board.

- Follow the rules for creative tools (see tool brainstorming).

- Select another perspective and repeat the procedure. You can do several brainstorming rounds in a row.

- Experiment with different perspectives. It is possible that a perspective is not as inspiring as you first thought. Don't be discouraged. Just choose a different perspective and keep going.

- You can also use the Alternative Perspectives tool in combination with other variations of the brainstorming tool (see brainstorming). Complete several brainstorming rounds with different variations in a row. For example, you could start with a round of silent brainstorming and do two rounds of alternative perspectives afterwards. A brainstorming session with several brainstorming rounds should take between 20 to 30 minutes in total.

**Tip**

Instead of brainstorming together from one perspective, each team member can take a different perspective. In this way, you get a variety of perspectives within a brainstorming round.

*Visual Instructions*

# Alternative Perspectives

⏱ 20 – 30 min

How might we **provide NCD patients** with approved, easily **accessible testing and monitoring systems** so they are empowered to conveniently **manage their situation**?

**How would Harry Potter solve this challenge?**

**How would Elon Musk solve this challenge?**

*Example: Alternative perspectives for the development challenge to prevent and control NCDs in Ghana*

# *Alternative Perspectives*

🕑 20 – 30 min

How might we **provide NCD patients** with approved, easily **accessible testing and monitoring systems** so they are empowered to conveniently **manage their situation**?

**How would Harry Potter solve this challenge?**

Fly testing and monitoring kits to the patients on a broomstick

Create a magic potion that keeps blood sugar stable (diabetes patients)

Disapparition of NCD patients to the nearest hospital for check-ups

**How would Elon Musk solve this challenge?**

Develop device that includes all necessary features for testing & monitoring, incl. Doctor & nurse function

Create a micro chip to transplant that keeps blood sugar stable

*Overview*

# Structuring and selecting ideas

10 – 20 min

**At a glance**

After a successful brainstorming session, many, many sticky notes with your ideas will be on your boards. Before you choose an idea, you should first structure your ideas. This helps you to get an overview of the ideas, recognising relationships and, if necessary, evaluating the ideas. This will make it easier for you to decide between your many ideas later.

**What it helps you do:**

• Gain an overview of the existing ideas

• Recognize structures and relationships

• Rate ideas

• Create a basis for selecting ideas

**What you will need:**

• Ideas from former idea development

• Your team

• Offline workshop: Whiteboard or similar, board marker & pens, sticky notes, timer

• Online workshop: Digital whiteboard

**Step by step**

# *Structuring and selecting ideas*

🕐 10 – 20 min

## *Process*

- Think about how you want to proceed and determine which criteria you want to use to structure your ideas. There are various possibilities for this. Take a look at the graphics on the <u>Visual Instruction</u> page.

### *Open-result thematic clusters:*

- Organise your ideas thematically, group similar ideas and stick them together. Afterwards you can find headings for the individual idea clusters. This creates an additional overview.

### *Cluster according to predefined categories:*

- If you already have certain criteria in mind through which you want to filter your ideas, it makes sense to arrange your ideas according to these structures.

- In this case, before clustering, opt for a structure that makes sense for your project and assign these corresponding criteria to the clusters.

- If you wanted to filter out particularly futuristic ideas, you could, for example, use the following clusters for your ideas: »Today – Tomorrow – Future«.

### *Idea selection:*

- The next step is to select the most promising ideas and develop them further. Use dot voting for this: In a face-to-face workshop each team member marks the preferred sticky notes with glue dots or a pen, in a remote one, you can create coloured circles instead or use a voting function of the digital whiteboard you are using. You either decide in advance how many points each team member can use or you leave the number of votes open. This is what we call swarming. In this case everyone may make as many marks as they wish. Sticky notes may also be scored several times.

- You can also select your ideas by predefined criteria, like "easiest to implement", "best fit for user need", "simple to sell" etc.

- Consider who you are developing the solution for and recall your users when selecting ideas. You will continue with the most voted ideas for business solutions (approx. five ideas).

*Visual Instructions*

# Structuring and selecting ideas

10 – 20 min



**Open result thematic clusters**

Topic 1
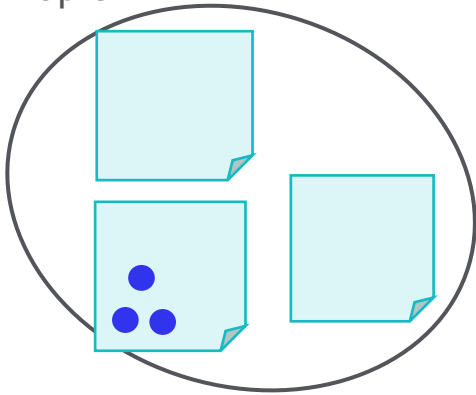
Topic 2
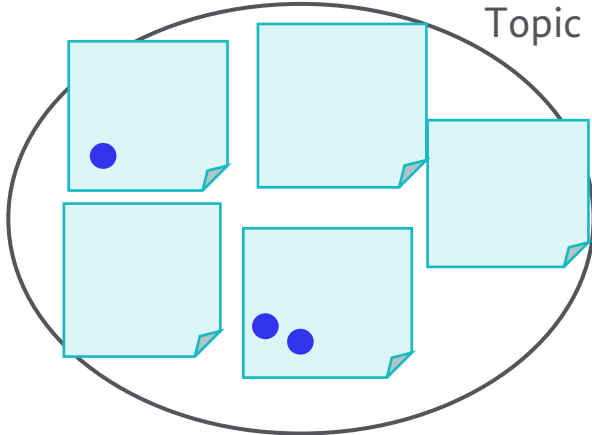
Topic 3
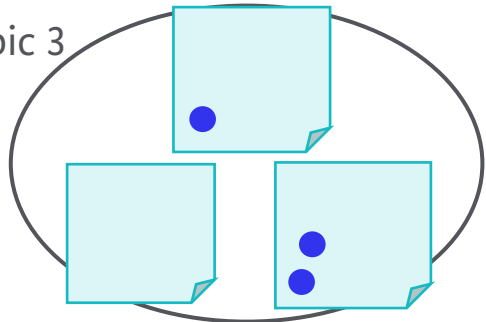
Topic 4
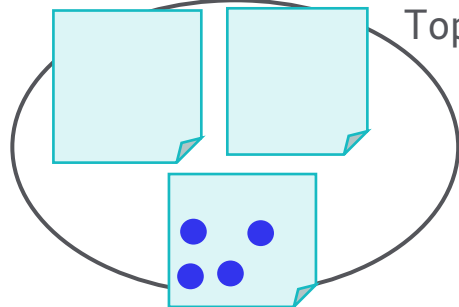
**Clusters according to predefined categories**

today
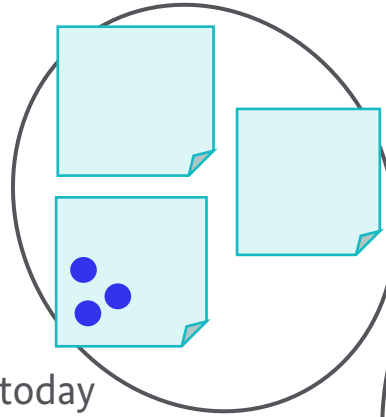
tomorrow
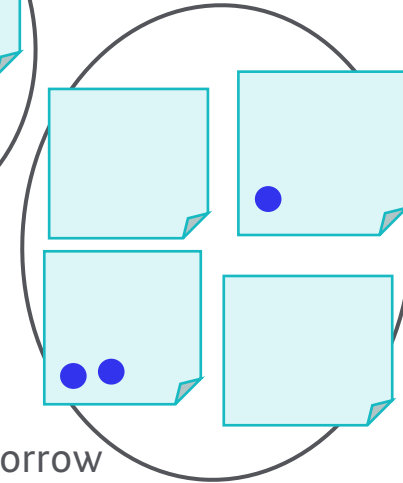
future
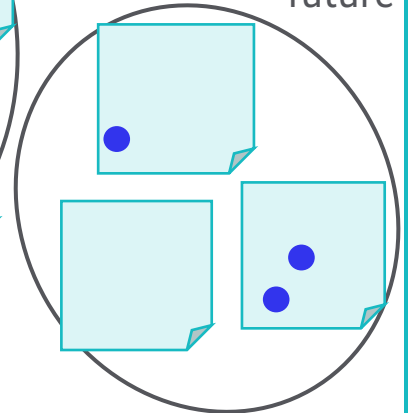
*Example: Structuring and selecting ideas in the context of the development challenge to prevent and control NCDs in Ghana*

# Structuring and selecting ideas

10 – 20 min

### Open result thematic clusters

Smart connected device

Personal Health Data platform

Remote monitoring service

**Digital health data record connected to hospitals**

**Add-on remote monitoring services for hypertension & diabetes patients**

**A single patch (Like a plaster) a patient can put on the wrist**

**Patch contains micro needles to take samples at programmed times and two electrodes that measure systolic and diastolic pressure**

**free urine test strips for glucose monitoring which are relatively easy to use, platform to upload results**

**NCD patients gets affordable home use devices for long term monitoring**

**Wearable device which checks blood pressure at set times and uploads to cloud**

**Overview**

# *Sanchez*

🕐 20 – 40 min

### *At a glance*

The Sanchez tool helps you further develop ideas from your brainstorming session. Choose your best ideas and develop five further ideas for each one. The goal is to create a wide variety of differentiated ideas. With this tool you can see what is hidden in your idea, thus you can better estimate the potential.

*What it helps you do:*

• Elaborate on your ideas and further develop them

• Understand the potential of an idea

*What you will need:*

• Selected ideas from former idea development

• How might we question (redefined sub-challenges)

• Your team

• Offline workshop: Whiteboard or similar, board marker & pens, sticky notes, timer

• Online workshop: Digital whiteboard

*Step by step*

# Sanchez

20 – 40 min

*Process*

- Put the selected ideas on your board and take one idea after another.

- Next, develop further ideas. For each idea, come up with 3-8 ideas that build on it.

- For inspiration, you might think of the following questions: How can this idea be pushed even further? How can this idea be communicated? What else could it contain? How can it be elaborated? How do the core elements of the idea work? How could the idea fit user needs even better? How could it be easier to implement?

- When you think of something, write it on a sticky note and stick it to the board.

- Spend about 5 minutes for each round.

- After all Sanchez rounds you decide which concretizations of the ideas you want to keep in the final version.

*Tip*

You can also divide your team so that each team member is working solo. Let everyone choose a different idea from your previous brainstorms that appeals to them. Set a timer for 5 minutes, while each team member develops their chosen idea as described above. Afterwards, everyone shares with the group what they came up with, and the others give feedback and expand further on the ideas.

**Visual Instructions**

# *Sanchez*

20 – 40 min

How might we **provide NCD patients** with approved, easily **accessible testing and monitoring systems** so they are empowered to conveniently **manage their situation**?

**Idea 1**

**Idea 2**

**Idea 3**

*Example: Sanchez for a development challenge to prevent and control NCDs in Ghana*

# *Sanchez*

🕑 20 – 40 min

How might we **provide NCD patients** with approved, easily **accessible testing and monitoring systems** so they are empowered to conveniently **manage their situation**?

**Patch with micro-needles**

Micro-needles continuously take blood measures

Develop reusable and washable patches in order to avoid waste and costs

Results transfered to a mobile app/ health platform

**Affordable home use devices**

Start: (Online) course on how to use them

Devices directly connected to a health platform

Second hand devices to make them more affordable

Automatic alerts when monitoring is due

**Platform to upload test results**

Device automatically uploads results

Can be accessed by clinics, pharmacies, labs, insurances,...

Direct communication through platform possible

*Overview*

# Idea Napkin

15 – 30 min

## At a glance

The ideas selected so far are now processed with the idea napkin. The idea napkin is like a short profile of your business idea. It helps you to think through and to shape the idea. The idea napkin reminds you of your users and the needs you're trying to satisfy, matches them with your idea, and develops a common understanding of the idea within the team. The idea napkin forms the basis for building a prototype of your idea. With this tool, you will need less time in the actual prototyping session with discussions about the rough design of the idea and you can quickly make it experienceable in a prototype.

### What it helps you do:

• Recognize the essence of the business idea and the associated user needs

• Create a common understanding of the idea

• Create a basis for the development of the prototype

### What you will need:

• Approx. five business ideas elaborated with Sanchez

• Your team

• Offline workshop: The idea napkin template or DIN A3 paper, pens, sticky notes, timer

• Online workshop: Digital whiteboard

**Step by step**

# *Idea Napkin*

🕑 15 – 30 min

*Preparation*

• Prepare the idea napkin templates according to the graphic on the previous page. Use one template per business solution

*Process*

*The idea napkin is divided into the following fields:*

• *1. Insights*: Here you describe for whom you developed your idea. For which context, for which situation is your idea intended? On what knowledge does your idea build? Which need does your idea satisfy or which problem for your user does it solve?

• *2. Value:* Describe the added value your idea brings to your user; what use does he or she have of your idea?

• *3. At a Glance*: Describe the core of your idea and put it in a nutshell in a maximum of three sentences.

• *4. Visualize the idea*: Create a sketch. Rough drawings are key to make your idea quickly understandable. You may also subdivide the visualization frame in several smaller frames and draw a rough storyboard to illustrate your ideas.

• *5. Name:* Consider a creative and catchy name for your idea.

• Now that you have concretized several ideas with the help of the idea napkins, you will further reduce them in the next step. For further work, you will select the idea that you think has the most potential. The underline evaluating ideas tool will help you to evaluate and select the ideas.

**Tips**

Instead of describing one business idea in more detail with the idea napkin in the group, each team member chooses one idea and fills out an idea napkin for their favourite business solution. When everyone is finished, team members present their idea napkins. Then you can select one or more of the ideas for the further process.

Make sure to visualize your idea: while it may look clear in your head, others might have a different picture in mind when imagining your idea in action.

**Visual Instructions**

# *Idea Napkin*

🕐 15 – 30 min

---

**NAME**:
*The name of the idea*

**VISUALIZATION**:

*Drawing and photographing/ Photo collages*

**BRIEF DESCRIPTION**:

*The idea in 3-5 bullet points*

**USER NEED**:

*For whom is the idea intended? In which situations/ contexts is the idea relevant? Which insights lead to the idea (challenges, fears, wishes)?*

**VALUE PROMISE**:

*What added value does your idea create for the users?*

*Example: Idea Napkin for a development challenge to prevent and control NCDs in Ghana*

# Idea Napkin

15 – 30 min

---

**NAME**:
GlycMate

**VISUALIZATION**:
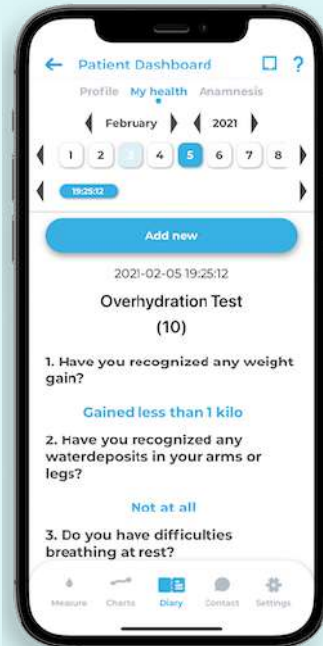


**BRIEF DESCRIPTION**:
- Mobile App that connects to a medical device that checks blood sugar, Glycated Haemoglobin and blood pressure
- The data retrieved is stored in a database
- The app allows users to insert data about their eating and gym habits

**USER NEED**:
- Users: people who live far from the nearest hospital or who have a tight schedule
- Without the solution, patients have to take long bus rides/ take off time at work for their health check-ups

**VALUE PROMISE**:
- Solutions allows for a punctual and professional monitoring without having to visit the hospital
- solutions saves patients money and time while making sure they are monitored by a professional

**Overview**

# *Evaluating Ideas*

🕑 15 – 45 min

### *At a glance*

The 2x2 Matrix is a decision support tool that can visualize different option. The matrix diagram is a square divided into four equal quadrants. Each axis represents a decision criterion. In this way you can examine your ideas with regard to two different criteria and evaluate the ideas on the basis of these criteria. For example, you could rate your ideas in terms of user relevance and feasibility, or according to originality and monetary costs. For this, you will draw a matrix with two axes, which stand for the two criteria. Then, the ideas can be sorted into the matrix. The 2x2 matrix provides clarity and helps you to select the ideas that are the most relevant for your purposes.

### *What it helps you do:*

• Create a structured overview of collected ideas

• Rate ideas

• Create a basis for selecting ideas

### *What you will need:*

• Idea napkins of five business ideas

• Your team


• Offline workshop: Whiteboard or similar, board marker & pens, sticky notes, timer

• Online workshop: Digital whiteboard

# *Evaluating Ideas*

⏱ 15 – 45 min

## Preparation

- Draw a 2x2 matrix on your whiteboard (see Visual Instruction page)

- Name the axes according to the criteria by which you want to rank your ideas and divide those axis into two matching categories (see the section Process for examples).

- Write the names of the ideas of the idea napkins on sticky notes.

## Process

- Now you can put the ideas in the 2x2 matrix.

- There are many variants of the 2x2 matrix. Here we will introduce you to two:

### *HOW-WOW-NOW Matrix*

- Let's assume that you want to rate your ideas according to the criteria »user relevance« and »feasibility«. Draw two axis and subdivide them into the categories »low« and »high«. This results in four clusters. Now put your ideas into the matrix. Within the clusters you can make differentiations. The four clusters of the matrix give you an indication of how you should deal with the respective ideas.

- Nameless cluster: low feasibility, low user relevance. You can reject these ideas.

- »Now!« cluster: High feasibility, low user relevance: Take a second look at your ideas. Do they fit to your problem in a different way? Possibly. Is it still worthwhile to continue working here?

- »How!« cluster: Low feasibility, high user relevance: Great ideas, you just have to invest a lot more energy in order to implement them. These ideas are also referred to as »moonshot« ideas.

- »Wow!« cluster: High feasibility, high user relevance: These ideas are great and easy to implement. You should definitely keep working with these.

- For the HOW-WOW-NOW matrix it is important that you have:

  o a good understanding of what kinds of solutions your target users desire

  o Relevant expertise in the team that allows you to judge how difficult the different ideas are to implement

*Step by step*

# Evaluating Ideas

🕑 15 – 45 min

*Innovation Matrix*

- Another option is to cluster the ideas according to their degree of innovation in the user group and their degree of innovation as a product/service.

- Draw two axis with the titles »User Group« and »Product/Service«.

- The axis can be subdivided further into the subcategories »Existing« and »New« as the visual instruction shows.

- Thus, you can filter out the true level of innovation in your ideas and see which ideas are truly disruptive.

- For the Innovation Matrix you need:

  o a clear understanding whether the solution ideas are new to your target user group

  o relevant expertise in the team that allows you to judge whether the solution ideas are new to the market

*Deciding which Idea to pursue*

After placing the ideas in your version of the 2x2 matrix, discuss which one is the most promising one to you. Choose one idea to continue with in the Innovation Sprint. For the idea selection use dot voting as also described in structuring and selecting ideas. This time everyone gets two votes. One idea napkin must not be scored twice.

*Visual Instructions*

# *Evaluating Ideas*

15 – 45 min

## **HOW-WOW-NOW Matrix**

high

*NOW!*    *WOW!*

User-
Relevance

low ──────────────── high

*HOW!*

low

*Feasibility*

## **Innovation Matrix**

new

Product/
Service

existing ──────────────── new

existing

*User Group*
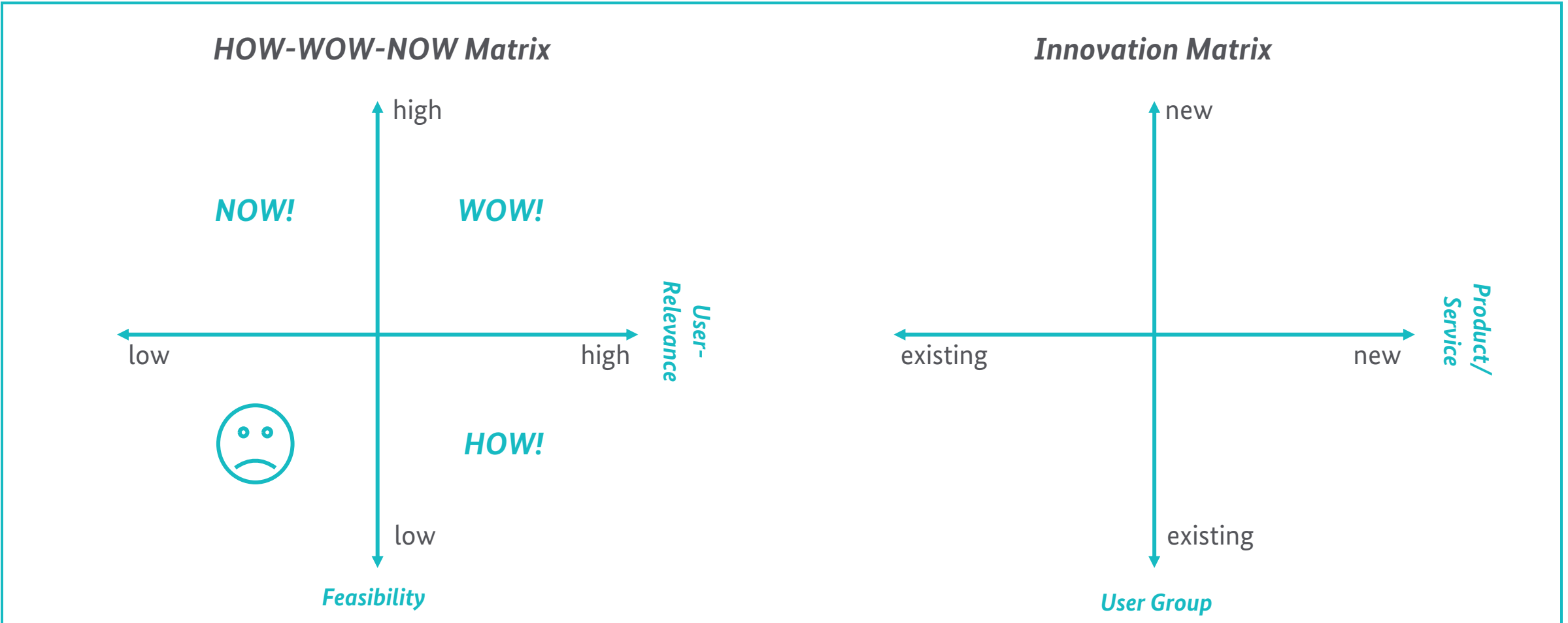
*Example: Evaluating Ideas in the context of the development challenge to prevent and control NCDs in Ghana*

# Evaluating Ideas

⏱ 15 – 45 min

## HOW-WOW-NOW Matrix

high

**HealthCloud:** platform that patients and caregiver have access to and can enter/check health data

**GlycMate:** app connected to a medical device that checks blood

*NOW!*  *WOW!*

*HOW!*

low ←———————————→ high

User-Relevance

**CardioCare:** digital center where you can send in your blood results for interpretation

low

*Feasibility*

## Innovation Matrix

new

**HealthCloud:** platform that patients and caregiver have access to and can enter/check health data

**CardioCare:** digital center where you can send in your blood results for interpretation

existing ←———————————→ new

Product/Service

**GlycMate:** app connected to a medical device that checks blood

existing

*User Group*

*Overview*

# Experiment Template for first User Tests

10 – 30 min
per experiment

## At a glance

Testing the most important parts of your idea with experiments early on helps you to build a solid understanding of its strengths and weaknesses and lets you identify ideas for improvement. The experiment template for first user tests helps you to (1) identify critical assumptions that would need to be true for your idea to become a success, (2) develop a suitable prototype (see subsequent prototyping tool) for testing your critical assumptions and (3) define a suitable test scenario with which you can test your idea with your users (called experiment). In addition, you define measurements and success criteria for your experiments in order to be able to classify your test results later.

You will use experiment templates again in later stages of the Innovation Sprint and the Incubation Phase to test all critical assumptions underlying your business model.

## What it helps you do:

• Determine type of prototype

• Develop prototype and test scenario

• Prepare user tests

## What you will need:

• Idea napkins of one business idea

• Your team

• Offline workshop: Test-Template or DIN A3 Papier, whiteboard or similar, board marker & pens, sticky notes, timer

• Online workshop: Digital whiteboard

# *Experiment Template for first User Tests*

10 – 30 min
per experiment

## Preparation

- Ask yourself what you want to achieve and find out by testing your prototype. First, write down several assumptions that are critical for the success of your business idea. As an aid in making the assumptions, ask yourselves: what would need to be true for your idea to become a success?

- First collect several assumptions, then decide which of them are most important for you to test in user tests.

- Start the formulation of an assumption with "We believe that....". The assumptions should be precise and testable. For example: We believe that the testers will easily and quickly find the products they are looking for on our website (also see the Visual Instruction page)

## Process

- Use the experiment template to prepare the verification of your assumption in user tests. Use one template per assumption and per user test. The template is divided into eight fields. Work on them in the following order:

- *1. Assumption*: Take one selected test assumption and note it down.

- *2. Experiment*: Think about how you want to test this test assumption. What kind of experiment do you want to conduct, i.e. what kind of prototype do you use and how do you stage it? For example, do you want your testers to experience your service idea in a simulation? Do you want to present a digital prototype to your testers and give them specific tasks to complete, as would be the case with a more mature idea for a software product, for example? Start by sketching out the rough concept. (See the subsequent tool prototyping for an overview of different prototypes and the tools storyboard and wireframes as in-depth prototype examples.)

- *3. Metric:* Write down how you will test your test assumption using your test procedure. Write down what you need to measure in the experiment to evaluate your assumption.

- *4. Criteria:* Develop success criteria that describe if your assumptions have been confirmed or disproved.

- *5. Duration*: Estimate how much time the experiment will take.

- *6. Title of the experiment*: Name the experiment, so everyone knows what you are talking about, when you mention the experiment.

**Visual Instructions**

# Experiment Template for first User Tests

10 – 30 min
per experiment

| Experiment | | |
|---|---|---|
| Assigned to | Deadline | Duration |

| 1. **Hypothesis** | 2. **Test** |
|---|---|
| *We believe that …* | *To verify that, we will …* |
| **3. Metric** | **4. Criteria** |
| *And measure …* | *We are right if …* |

**Visual Instructions**

# *Experiment Template for first User Tests*

10 – 30 min
per experiment

## Experiment

| Assigned to Kofi | Deadline | Duration |

### 1. Hypothesis
*We believe that at there are enough hospitals and pharmacies in Ghana willing to implement a digital platform for monitoring NCD patients.*

### 2. Test
*To verify that, we will research data on digital tools in Ghanaian hospitals and pharmacies and contact 20 clinics directly.*

### 3. Metric
*And measure usage of digital health platforms/ tools/ willingness to use them*

### 4. Criteria
*We are right if at least 50% of hospitals and pharmacies use digital tools and at least 15 of the 20 contacted clinics would be willing to implement our platform.*

**Overview**

# *Prototyping*

⏱ 45 min and up

### At a glance

A prototype is an artefact that makes your selected business idea or sub-aspects of it tangible. Prototypes can have many different faces, depending on what you want to accomplish and what material and framework possibilities are available to you. On one hand, prototypes can be used to work out the idea in the team, to develop it further and to create a common understanding of it. On the other hand, prototypes serve to communicate your idea to others - most importantly to your users, but also to decisionmakers related to the project. By testing the idea, you get feedback from those for whom you want to develop a solution. Prototyping is about understanding and evolving the idea. As a rule, the further development takes place by means of several iterations, i.e. we build a prototype, get feedback by testing the prototype, and continue to develop our prototype with inspiration from the feedback. Hence, prototyping is not about building a market-ready product, but about building an easy and tangible version of your idea napkin which can be tested and tried out by users in order to quickly be iterated for the next testing phase.

### What it helps you do:

- Shape and understand your idea

- Develop your idea further

- Test your idea with users and get feedback

- Iterate your business idea

- Communicate your idea to important stakeholders

### What you will need:

- Idea napkin of one business idea

- Experiment template for first user tests to prepare the prototyping

- Your team

- Offline workshop: Prototyping material, whiteboard or similar, board marker & pens, sticky notes, timer

- Online workshop: Digital whiteboard

*Step by step*

# Prototyping

⏱ 45 min and up

## Preparation

- Prepare your prototyping material.

- Think carefully about what you want to test with your prototype. Use the experiment template for first user tests.

- Within the experiment template, decide on a prototype that best supports your project. Prototypes can take many different forms: from the empathy prototype to the paper model, to a role play, to wireframes, it is important to select a suitable prototyping tool, based on what you would like to test.

- You can find an overview of different prototypes on the Visual Instruction pages. Also take a look at the additional resources to find programs and apps for digital prototyping that you can experiment with.

---

### Tip: Digital Prototyping

- Especially if you are working on an idea for a software product, digital prototyping may support your product best: tools for digital prototyping help you to visualize and experience your idea for a software product with an interactive prototype.

- There are various tools that you can use to implement a wide range of software products with differing levels of detail and with different test objectives in a prototype. Both simple low-fidelity prototypes and more complex high-fidelity prototypes can be developed with these tools. Digital prototypes can look attractive and are therefore also suitable to present the status quo of a product your stakeholders.

---

### Some helpful resources for digital prototyping:

- **_Figma_**: An interface design tool, that can help you create digital mock ups, landing pages and click dummies

- **_Sketch_**: Use it to create click dummies, wireframes or other graphic illustrations for your prototype

- **_SAP Scenes_**: Extensive icon collection that will help you with all storytelling prototypes, digital or analog

- **_Noun Project_**: Find icons for your digital prototypes here

<span style="background-color:cyan">*Step by step*</span>

# *Prototyping*

45 min
and up

### *Process*

- Prototyping is very playful and free, especially in the early stages. Nevertheless, here are some tips for getting started:

- Choose exactly one assumption that you want to test with your prototype. Do not lose yourself in the details, rather focus on the core elements of your idea.

- Build the prototypes cost-effectively and quickly. Do not think too long and think with your hands.  Think crazy and wild.

- Do not try to make your prototype look perfect. Prototyping is not about beauty, it's about understanding and clarity.

- Do not fall in love with your prototypes (so that you can be open to critical feedback from testers later in the testing phase).

- Test the prototype as soon as possible.

- Experiment and try different prototype variations.

- Since there are many ways to create a prototype, you can find an overview of different prototypes on the Visual Instruction pages. Furthermore, you can find a more detailed description of the prototyping tools storyboard and wireframes in the two subsequent tools of this toolkit.

Visual Instructions

# *Prototyping*

⏱ 45 min and up
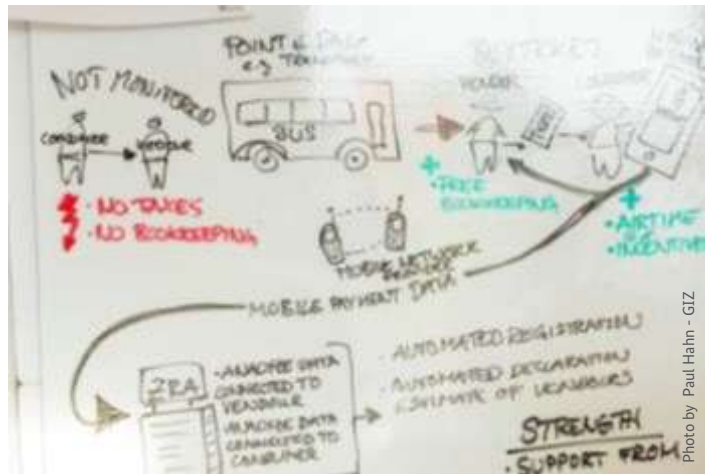


## *Sketch*

Make a sketch of your idea with pen and paper or digitally.

Suited to test your **overall concept.**



## *Mock Up*

A mock up is a physical or digital model that shows the overall impression of an idea but does not necessarily need to work.

Suited to test your **overall concept, functions/aspects or design/aesthetics.**



## *Wireframes*

Early conceptual design of your idea for a software product that shows functional aspects and the arrangement of elements.

Suited to test your **overall concept or user experience.**

**Visual Instructions**

# *Prototyping*

🕑 45 min
and up



## *Paper/ Cardboard*

Physical product design ideas made of cardboard or paper.

Suited to test your **overall concept or functions/aspects.**



## *Storyboards*

A sequence of sketches or pictures that represent your idea. Storyboards can also serve as the basis for a video prototype.

Suited to test your **overall concept.**



## *Video*

Video for the presentation of your idea.

Suited to test your **overall concept or user experience.**

Visual Instructions

# *Prototyping*

🕑 45 min and up
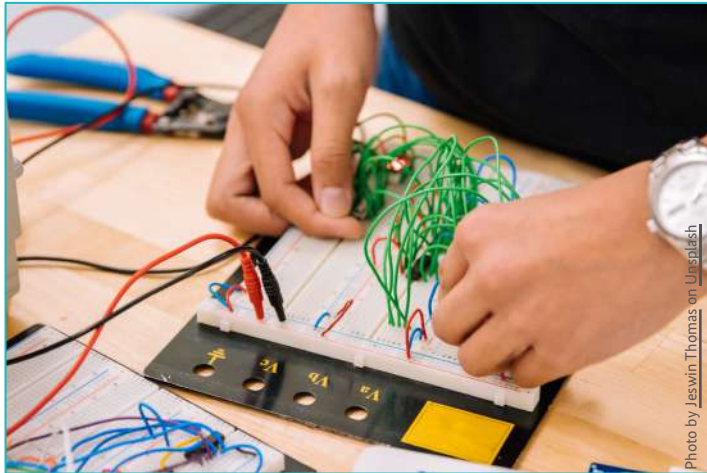


## **Open Hardware Platforms**

Analog and digital interfaces for the combination of sensors and motors.

Suited to test your **functions/aspects.**



## **Photos**

Photomontage for the simulated representation of a situation.

Suited to test your **overall concept or design/aesthetics.**
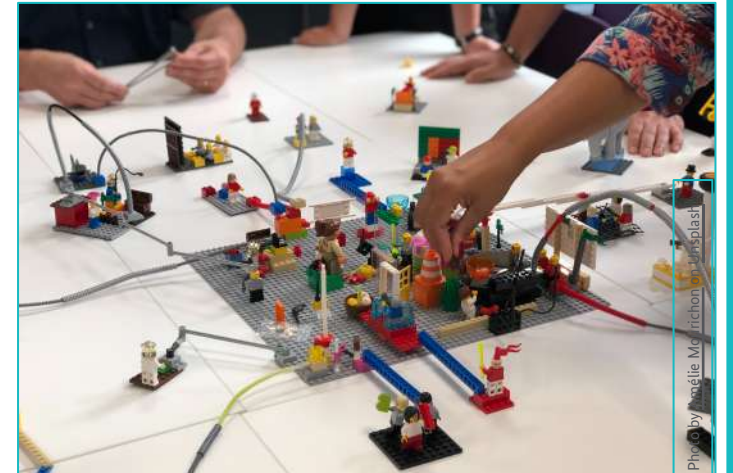


## **Physical Model**

Model of a 2- or 3 dimensional idea. Craft materials, Lego, and also 3D printing can be used.

Suited to test your **overall concept, functions/aspects or design/aesthetics.**

**Visual Instructions**

# *Prototyping*

🕐 45 min
and up



Photo by Daria Nepriakhina on Unsplash
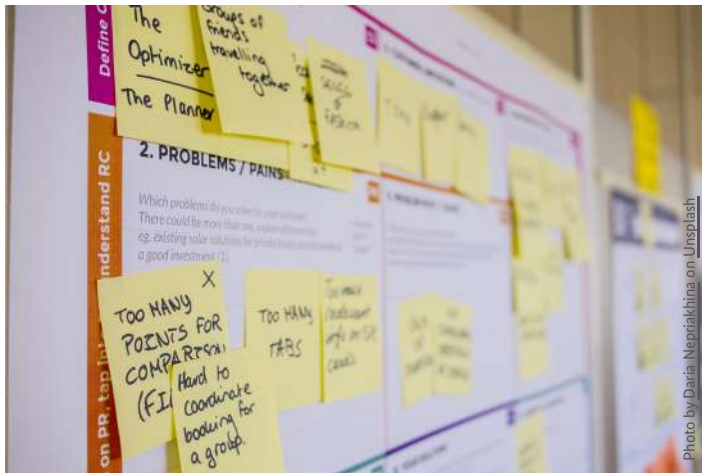
## *Service Blueprint*

Schematic representation of services that includes both the user experience and the vendor perspective.

Suited to test your **overall concept.**



Photo by Martin Hangen - GIZ

## *Business Model*

Show the introduction of your solution in the market. They are systematic representations of business-related relationships, e.g Business Model Canvas or Product Vision Canvas.
Suited to test your **overall concept or launch.**



## *Roleplay*

Presentation of the idea in a short skit, or play.

Suited to test your **overall concept or user experience.**

*Visual Instructions*

# *Prototyping*

45 min
and up

## *Scenario*

Simulation of the idea involving testers. Similar to the role play.

Suited to test your *overall concept, functions/ aspects or user experience.*

## *Advertising*

Create a fictional print ad, social media event, or flyer to see how potential users react/ if they are interested in your product.

Suited to test your *overall concept or launch.*

## *Blackbox*

A dummy of a product, service, or process that seems to work, but only fakes its function.

Suited to test your *overall concept, functions/ aspects, design/aesthetics or user experience.*

**Visual Instructions**

# *Prototyping*

45 min
and up



## *Minimum Viable Product*

Usable version of an idea that has only bare minimal functions to suit the needs of the users.

Suited to test your *overall concept, functions/ aspects, design/aesthetics or launch.*



## *Re-label*

Make another product with your own branding and packaging.

Suited to test your *design/aesthetics.*



## *Critical Function Prototype*

Prototype to test a key element of the idea.

Suited to test your *functions/ aspectsor user experience.*

*Overview*

# Storyboard

15 – 45 min
plus testing
& iteration

### At a glance

A storyboard is one of the elaborated forms of a prototype. It is a representation of an idea, a process, or a story, depicted in images. Storyboards are useful for thinking an idea through as a team and for better understanding of your user in their context. As you develop each individual scene, you'll make your idea more concrete. You can also use storyboards to test an idea with users and get feedback from them in order to improve the idea. A storyboard is a quick and easy way to prototype an idea in a face-to-face or online workshop and is therefore described in more detail.

### What it helps you do:

• Develop your idea further

• Understand your user and their problem in the context of your idea

• Get your team on the same page

• Make your idea tangible & get feedback

• Notice holes, inconsistencies, or problems so that you can improve your idea

### What you will need:

• Idea napkin and experiment templates for first user tests of one business solution

• Your team

• Offline workshop: A story board template or DIN A4 to DIN A0 paper, pens, sticky notes, timer

• Online workshop: Digital whiteboard

*Step by step*

# Storyboard

15 – 45 min
plus testing
& iteration

## Process

- Start by telling your story from the user's point of view by using a Persona. You can either start with the initial need or with the user's first contact with the idea.

- Make this story visual. Draw scenes as in a comic. Use speech and thought bubbles to make the story clear and lively. In an online workshop you can create a digital storyboard. Therefore you could use images from the Google image search, icons from The Noun Project or the figures of SAP Scenes (Download Link: https://experience.sap.com/designservices/resource/scenes#downloadscenes) for instance.

- Try and make each scene as clear as possible. What is the user's current location or situation? How do they find your solution for the first time?

- As you draw, remember to keep looking at your solution through the perspective of your user. Depict the actual problem they're having. If you come up with new ideas while drawing, all the better.

- At the end, you'll have created a complete storyboard. You can use this to tell the complete story of how your idea works.

- The next step will be to test your storyboard with your users. Therefore use the tools basic user test and feedback grid).

*Tip!*

You can make storyboards with stick figures or with much more refined drawings. The only really important point is that the graphics are clear and easy to understand. This is especially crucial when you're going to test your storyboard with users. In this case, take a bit more time with your storyboard.

*Example: storyboard for a development challenge to prevent and control NCDs in Ghana*

# Storyboard

15 – 45 min
plus testing
& iteration



## Digital Storyboards

A digital sequence of sketches or pictures that represent your idea, which can also serve as the basis for a video prototype.

Suited to test your *overall concept*

*Overview*

# *Wireframes*

🕑 30 min
minimum

### *At a glance*

Wireframes are one form of protypes. They show the structure of the user interface of a software product (such as a website or an app). They represent the individual screens and their links and simulate how the user interface works. Wireframes can be limited to sections of the user experience as well as the entire digital product. They show the information, interface, and navigation design. The focus is on how the screens and their links work and not about their visual design. Detailed text content, graphics, colour design, fonts, etc. are not relevant yet. Wireframes can be hand-drawn or created digitally. In both cases, wireframes help you get an idea for building a concrete software product, test it with users, and collect feedback. If you make your wireframes clickable you call them clickdummy or clickable prototype. That means that you have a partly interactive prototype of your software product.

### *What it helps you do:*

- Develop an idea for a software product and make it tangible

- Test the basic idea of the software product and obtain feedback

- Test information, interface and navigation design and get feedback

- Test specific features and gain feedback

### *What you will need:*

- Idea Napkin or storyboard (optional)

- Experiment templates for first user tests of one business solution

- Your team

- Offline workshop: Wireframe template printed out several times or paper, laptop, smartphone camera, suitable software if applicable, whiteboard or similar, board marker & pens, sticky notes, timer

- Online workshop: Digital whiteboard, suitable programme

*Step by step*

# *Wireframes*
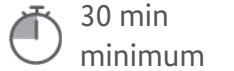
⏱ 30 min minimum

### *Preparation*

- Refer to your experiment template for first user testing. What part of the idea do you want to represent in your prototype? Which type of wireframes do you want to create (see explanation below)?

### *Process*

### *1. Create an overview:*

- Think about which screens you want to show in which sequence and roughly sketch the screens on sticky notes. Or if you do not have the possibility to visualize the screens in a quick and easy way, just write the content of the screens down on sticky notes.

Ask yourself the following questions:

- How does the user navigate from one screen or piece of content to the next?

- Which interactive features must be available? Where? In which form?

- Towards which elements and content should the user's attention be directed?

- How is the information divided across different levels?

### *2. Create wireframes:*

- Do you want to create hand-drawn wireframes or digital ones (using a digital whiteboard or digital prototyping tools)?

- Hand-drawn wireframes are particularly suitable in the first steps of the prototyping phase in order to generate feedback quickly and with little effort.

- If you are collaborating remotely, you can also hand-draw the wireframes, scan them afterwards and upload them. On the other hand, when you are working remotely, the advantage of creating the wireframes on a digital whiteboard is, that you can work altogether on the wireframes, using icons, text, forms and the other possibilities a digital whiteboard can offer.

- If the prototype has already been tested and is already more mature, it is worthwhile to create digital prototypes with the help of tools for digital prototyping. Creating digital wireframes from sketches takes some practice and might take several hours. Therefore it might be useful not to make this part of the Innovation Sprint, but to work on it in a later stage, when the prototype is more developed.

**Step by step**

# *Wireframes*

30 min
minimum

• Draw or create the individual screens into the wireframe forms that correspond to your device (i.e. laptop, smartphone, etc.). If you have no forms, draw the frame of the corresponding device on the edges of the paper.

• For a better overview you can put the individual screens in the correct sequence on a board and mark the links between the screens by drawing connecting arrows. For the testing of your prototype, do not show this whole overview, only show the testers the screen that they would see in that moment. The same applies when you create wireframes on a digital whiteboard..

### *3. Make it clickable*

• With the Marvel App, for example, you can quickly digitize your hand-drawn wireframe and make them clickable. First, take photos of each hand-drawn screen then import them into the app. Using the app you can then mark any elements (buttons, headlines etc.) on the screens and link them to the other screens. In the end, you have a simulation of your software product. Now your testers can move through the hand-drawn software product with the respective end device.

• The same applies for wireframes, that are created on a digital whiteboard or with other digital prototyping tools. Therefore you download the wireframes as pictures and upload them again into Marvel App.

• Using other tools for digital prototyping the option to make the wireframes clickable might be already included.

*Visual Instructions*

# *Wireframes*

Depending on complexity
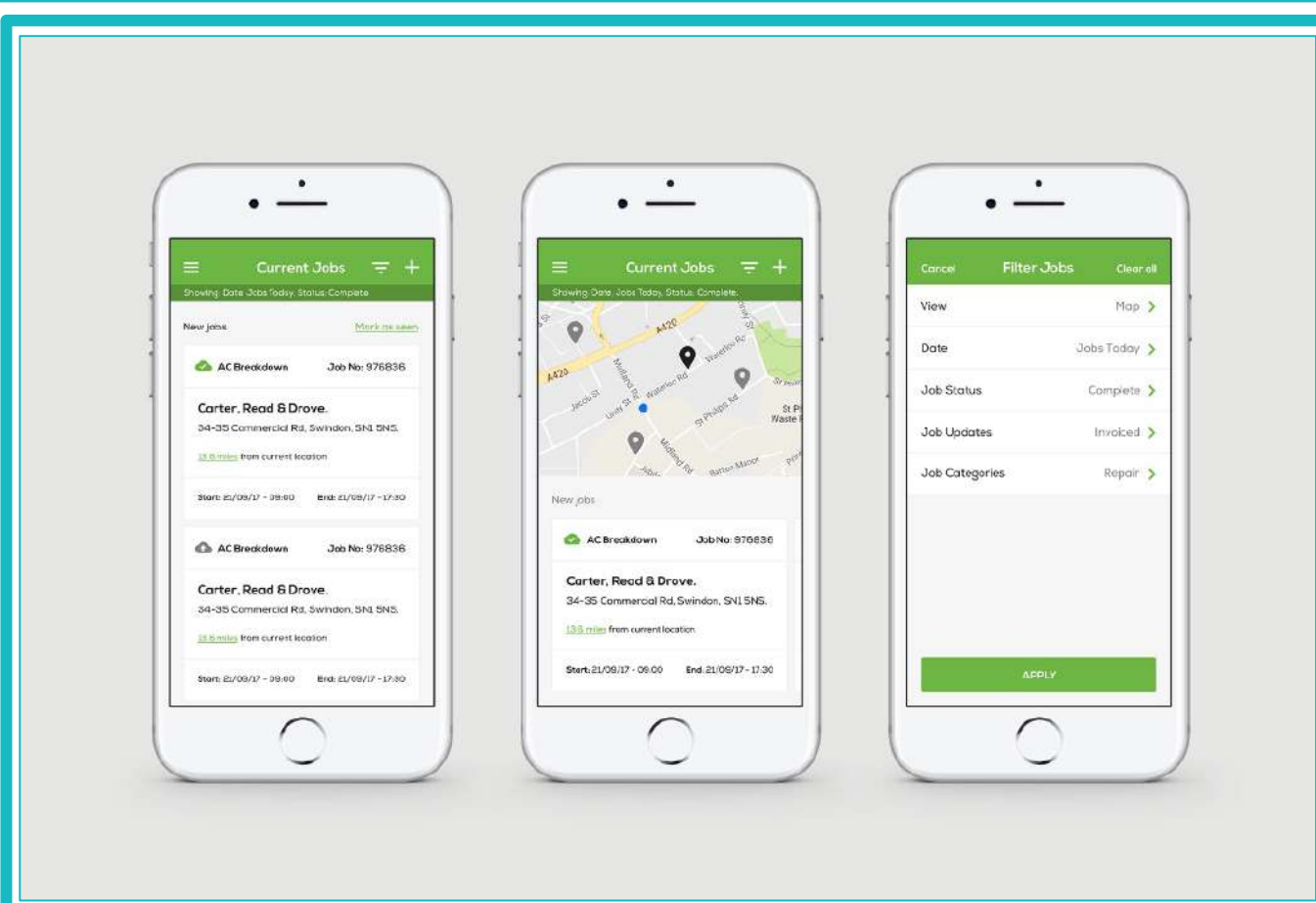


## *(Digital) Wireframes*

Conceptual design of your idea for a software product that shows functional aspects and the arrangement of elements.

Suited to test your **overall concept, functions/aspects or user experience**

*Overview*

# Basic User Test

Depending on the number of tests

### At a glance

In user tests, you test your prototype and get feedback on your business idea. The feedback helps you to prove or reject your assumptions and optimize your concept. The structure of user tests can vary strongly depending on the goal and prototype. In the following you will learn a general procedure for the preparation and execution.

*What it helps you do:*

• Develop test guide

• Organize and conduct user testing

• Prove assumptions about business idea

• Optimize and iterate idea and prototype

• Define further actions

*What you will need:*

• Prototype and defined test scenario (aka experiment)

• Your team

• Offline workshop: Whiteboard or similar, board marker & pens, sticky notes, timer

• Online workshop: Digital whiteboard

Step by step

# Basic User Test

Depending on the number of tests

### Preparation

- Include your preliminary considerations from the experiment template for first user tests and your prototype to prepare the user test. In any case, it is important that you are clear about what you want to find out through testing, i.e. what you want to learn, and determine a test procedure based on this. How do you want to test your prototype? If necessary, develop tasks and questions for your testers. Collect your ideas on sticky notes first and choose at the end.

- Think about with whom you want to conduct the test. Are there already recruited testers or do you need to take them from your network? Make sure that the testers represent your user group.

- Take ample time before user testing to prepare the setting. In a face-to-face setting, prepare the room and set out all the materials you will need for the test and organize drinks and snacks.

- Decide how long you want the test to last. As a rule, you can allow 30 to 90 minutes per tester for an ordinary test run with recruited testers. Also plan some minutes for a short debrief after each test.

- Assign roles. Who leads and accompanies the testers during the execution (e.g. give introduction, ask questions), who observes and takes notes? You can use the feedback grid to record the feedback.

- Discuss the beginning: How do you want to introduce yourself and explain your project in two to three sentences? How do you want to gain the trust of the testers at the beginning of the test? If necessary, prepare a few questions to loosen them up. .

- How will you describe the test procedure and the scenario to your testers? Give as much context as you need but explain your prototype as little as possible. Do not explain which considerations are behind the prototype. The testers should be given the opportunity to experience the prototype for themselves.

- As described above, think about how you want the tester to interact with the prototype and what questions you want to ask.

- How do you end testing? Don't end the test too abruptly and ask how your testers felt about the test run

**Step by step**

# Basic User Test

Depending
on the number
of tests

## Process

- Conduct your user tests as planned.

- *Follow the test rules during your tests:*

- Do not get lost in the details, focus on proving your test assumption.

- Testing is not selling! You might fall in love with the idea and want to convince other people of its value. But this makes it hard for testers to give honest feedback. Stay neutral while testing, also accept critical feedback and do not defend your idea. Remember: the user is the expert, they are always right!

- Just as in an interview, it is important to follow up and get to the bottom of statements. Asking "Why?" is also very important when testing. (For example: "Why do you like this aspect of the idea?", etc.).

- Respond to questions with your own questions: If a tester asks, for example, what would happen if he pressed a button, then ask back: "What would you expect?" If he asks how much the idea costs, ask "How much would you spend on it?"

- Allow some time after each round of testing for a short debrief within your team. What worked well? What didn't? What did you learn? Should you change anything about your prototype for the next test? Should you change anything about your approach, tasks, or questions? Also, mark your key findings. This will help you to evaluate the feedback later.

## Examples of test scenarios

- If you are testing a website for an online store with the help of a digital prototype, you could, for example, place one or more devices (laptop, smartphone, tablet) on a table. The tester sits down at the table with you, receives a brief introduction and is given a task (e.g., find product x and order it). The tester first navigates through your prototype on his own - thinking aloud so that you can follow their thoughts. Once the tester has completed their task, you can ask them questions about the prototype. This test scenario is also conceivable in an online workshop: For example, the tester could be sent a link to a click dummy. With the help of video call and screensharing, the testers could also show you what they are doing.

- You test the idea of a personal contact person at a customer service. You could play a short role play for your recruited testers and get feedback afterwards.

*Visual Instructions*

# Basic User Test

Depending
on the number
of tests

*Overview*

# Feedback Grid

Depending on the number of tests

### At a glance

Through user tests and expert interviews you gather a lot of input. To keep a structured record of the feedback during testing, you can use the feedback grid. It consists of four fields in which you can record positive and negative feedback as well as questions and ideas for improvement. For each user test, use a dedicated feedback grid. Combine feedback from several test sessions in one grid to compare and evaluate them. Based on the feedback gathered, you will improve your prototype and your business idea.

### What it helps you do:

• Record feedback in a structured manner

• Evaluate all feedback

• Create an iteration basis

• Optimize business idea and prototype

### What you will need:

• One or more prototypes and prepared test session

• Your team

• Offline workshop: Feedback grid template or sheets of paper, whiteboard or similar, board marker & pens, sticky notes, timer

• Online workshop: Digital whiteboard

*Step by step*

# Feedback Grid

Depending on the number of tests

## Preparation

• Prepare feedback grid templates according to the graphic on the previous page. Use one template per user test.

• **The feedback grid consists of four fields:**

• **Success:** Aspects that testers liked.

• **Improvable:** Aspects that the testers did not like.

• **Open questions:** Questions that came up during testing form the testers or during observations that you had not previously considered.

• **New ideas/proposals for improvement:** New ideas and suggestions for improvement for your business idea and/or your prototype.

## Process

• A team member takes notes during testing and writes the addressed points into the corresponding fields of the feedback grid.

• If you have done several testing sessions, you can gather the feedback in one big feedback grid on a board. This way, you have an overview of all your feedback to discuss it. If you want to do so, it is best to write the feedback directly on sticky notes and use one color of sticky notes for one tester.

• After conducting your test sessions, ask yourself: How do you evaluate the feedback? Which feedback was mentioned particularly often? Which learnings do you draw from the feedback? Is your business idea generally accepted by the users? Could you validate your assumptions? Which aspects of your business idea do you want to change, which ones do you want to keep? Which open questions should you clarify? Consider how you would like to continue working in the next iteration of your business idea and iterate the idea as well as the prototype.

**Visual Instructions**

# *Feedback Grid*

Depending
on the number
of tests

**+ SUCCESS**

**▬ IMPROVABLE**

**! NEW IDEAS/ PROPOSALS FOR IMPROVEMENT**

**? OPEN QUESTIONS**

*Example: Feedback Grid for a development challenge to prevent and control NCDs in Ghana*

# Feedback Grid

Depending on the number of tests

## SUCCESS

Solution reduces the barrier between patients and health care providers, leading to direct and immediate exchange

Solution as a time saver to NCD patients – willingness to pay for that!

## IMPROVABLE

Making the device water proof

Data storage capacity of the device

## ! NEW IDEAS/ PROPOSALS FOR IMPROVEMENT

Provision of emergency alerts in case of hypertensiveness

Make the option available to use the device without internet connection/ smart device/ access to the digital platform

## ? OPEN QUESTIONS

How to improve knowledge on how to use the devices?

Will the device be itching/ be perceived as bothering throughout a normal day of the user?

# Sustainable Business Model Canvas

2 – 4 hrs
without iteration

## At a glance

In phase 3_incubation, you (the venture teams) will design all the components of your businesses that must work together to create something desirable for customers, financially viable for stakeholders, and feasible to build and deliver.

To capture your business model and get an overview, we recommend using the Business Model Canvas by Alexander Osterwalder – a globally applied framework for developing new (or reflecting existing) business models. The Sustainable Business Model Canvas adds an environmental and social dimension to the BMC. In the Sustainable BMC, a business model is described in eleven basic building blocks which cover the five most important areas of a sustainable business: customers, offering, infrastructure, finance and sustainability.

The simple look and structure of the Sustainable BMC makes it easy to communicate and pitch your business model to others.

### What it helps you do:

- Explore and define a new sustainable business model

- Find a common understanding about the structure of a business model

- Recognize interdependencies in your business model

- Visualize and communicate a simple story of your business model

- Lay a foundation to formulate critical assumptions regarding your business model

- Iterate your business model step by step

### What you will need:

- A business idea

- Your team

- Offline workshop: Sustainable BMC printed template (optional), whiteboard or similar, board marker & pens, sticky notes, timer

- Digital workshop:
  Digital whiteboard

Step by step

# *Sustainable Business Model Canvas*

2 – 4 hrs
without iteration

### *Preparation*

• Draw or create the structure of the Sustainable BMC on a board (as shown in the graphic on the Visual Instruction page). The Sustainable BMC is divided into five main areas: customers, offering, finances, infrastructure and sustainability, which in turn consist of 11 building blocks. The canvas works best if you have a large area available so that several people can work together with sticky notes or highlighters to draw something on it or discuss the business model's elements.

### *Process*

• Take one building block after the other in the order listed below and fill it. Use the impulse questions and suggestions on the Sustainable BMC template to help you fill in the building blocks.

• Process the Sustainable BMC in the following order:

• *Customer Segments (Customers):* To build an effective business model, a company must identify the customers it tries to serve. Various sets of customers can be segmented based on their different needs and attributes.

• *Value Propositions (Offering):* The value proposition solves a customer problem or need. Each value proposition consists of a package of products and services that address the needs of a particular customer segment.

• *Revenue Streams (Finance):* The way you generate income from each customer segment with your business model.

• *Eco-Social Benefits (Sustainability):* The ecological or social benefits that are generated by your business model and the potential connections to your customers and the value proposition.

• *Channels (Customers):* A company can deliver its value proposition to its targeted customers through different channels. Effective channels will distribute a company's value proposition in ways that are fast, efficient and cost-effective.

• *Customer Relationship (Customers):* To ensure the survival and success of any business, companies must identify the type of relationship they want to create with their customer segments.

• *Key Activities (Infrastructure):* The most important activities in executing your value proposition.

**Step by step**

# Sustainable Business Model Canvas

2 – 4 hrs
without iteration

- **Key Resources (Infrastructure):** The resources that are necessary to create value for your customer. They are considered assets to a company that are needed to sustain and support the business.

- **Key Partners (Infrastructure):** The network of suppliers and partners who contribute to the success of the business model.

- **Cost Structure (Finances):** The cost structure describes the most important costs that arise when working according to a specific business model. The costs are related to key resources, key activities and key partnerships.

- **Eco-Social Costs (Sustainability):** The ecological or social costs that are generated by your business model.

- You may find it difficult to define and determine certain aspects of the canvas because you may be dealing with something for the first time. If you find yourself in a situation where you cannot yet make any statements, but above all have unanswered questions, consider how you can broaden your knowledge to make solid decisions. What do you need to do to fill in the Sustainable BMC more thoroughly? Often it helps to look up terms, do some research or get inspiration from other providers on the market. Take some extra time for those activities.

- When you have completed the Sustainable BMC, take a step back and check if you got everything and if the building blocks are linked to each other. Is every customer segment linked to a value proposition and a revenue stream? Did you check the relation between eco-social benefits and costs and the value proposition? How is the value proposition affected?

- Every business model is based on certain assumptions (e.g., you believe that your customers are willing to spend a certain amount of money on our product). These assumptions carry a certain risk of not being true, which you should try to reduce as much as possible before you enter the market with your business idea.

- The next step is to categorize these assumptions and identify the most critical ones by using the assumption mapping tool. In an even further step you'll test your assumptions and iterate your Sustainable BMC according to your findings.

**Tip**

If you have multiple customer segments it is best to pick a color for each segment in the sticky notes you use. That way you easily see if there is a value proposition and a revenue stream for each segment.

# Sustainable Business Model Canvas

2 – 4 hrs
without iteration

### KEY PARTNERS

Who are our Key Partners?
Who are our key suppliers?
Which Key Resources are we acquiring from partners?
Which Key Activities do partners perform?

**Motivation for Partnerships:**
Optimization and economy
Reduction of risk and uncertainty
Acquisition of particular resources and activities

### KEY ACTIVITIES

What Key Activities do our Key Propositions require?
Our Distribution Channels?
Customer Relationships?
Revenue Streams?

**Categories:**
Production
Problem Solving
Platform/Network

### KEY RESOURCES

What Key Resources do our Value Propositions require?
Our Distribution Channels?
Customer Relationships?
Revenue Streams?

**Types of Resources:**
Physical
Intellectual (brand patents, copyrights, data)
Human
Financial

### VALUE PROPOSITIONS

What value do we deliver to the customer?
Which one of our customer's problems are we helping to solve?
What bundles of products and services are we offering to each Customer Segment?
Which customer needs are we satisfying?

**Characteristics:**
Newness
Performance
Customization
"Getting the Job Done"
Design
Brand/Status
Price
Cost Reduction
Risk Reduction
Accessibility
Convenience/Usability

### CUSTOMER RELATIONS

What type of relationship does each of our Customer Segments expect us to establish and maintain with them?
Which ones have we established?
How are they integrated with the rest of out business model?
How costly are they?

**Examples:**
Personal Assistance/Dedicated Personal Assistance
Self Service/Automated Services
Communities/Co-Creation

### CHANNELS

Through which Channels do our Customer Segments want to be reached?
How are we reaching them now?
How are our Channels integrated?
Which ones work best?
Which ones are most cost-efficient?
How are we integrating them with customer routines?

**Channel Phases:**
1. Awareness/2. Evaluation/3. Purchase/4. Delivery/ 5. After Sales (point purchase customer support) ...of Products & Services and Value Proposition

### CUSTOMER SEGMENTS

For whom are we creating value?
Who are most important customers?

**Possibilities:**
Mass Market
Niche Market
Segmented
Diversified
Multi-sides Platform

### COST STRUCTURE

What are the most important costs inherent in our business model?
Which key resources are the most expensive?
Which Key Activities are most expensive?

**Is our business more?**
Cost Driven (leanest cost structure, low price value proposition, maximum automation, extensive outsourcing)
Value Driven (focused on value creation, premium value proposition)

**Sample characteristics**
Fixes Costs (salaries, rent, utilities)
Variable Costs
Economies of Scale | Economies of Scope

### REVENUE STREAMS

For what value are our customers really willing to pay?
For what do they currently pay?
How would they prefer to pay?
How much does each Revenue Stream contribute to the overall revenues?

**Types**
Asset sale | Subscription Fees | Licensing
Usage Fee | Lending/Renting/Leasing | Brokerage Fees

**Fixed Pricing**
List Price
Product feature/Customer Segment/ Volume dependent

**Dynamic Pricing**
Negotiation (bargaining)
Yield management
Real-time Market

### ECO-SOCIAL COSTS

What ecological or social costs is our business model causing?
Which Key Resources are non-renewable?
Which Key Activities use a lot of resources?

**Evaluation Instruments:**
Life-Cycle-Assessment (of products and services)
Common Good Balance Sheet

### ECO-SOCIAL BENEFITS

What ecological or social benefits is our business model generating?
Who are the beneficiaries? Are they potential customers?
Can we transform the benefits? If yes, for whom?

**Instruments:**
Social Reporting Standard
Common Good Balance Sheet

*Overview*

# Assumption Mapping

⏱ 45 – 90 min

### At a glance

Assumption mapping helps you evaluate and prioritize your assumptions. You map the assumptions from your Sustainable Business Model Canvas in a simple 2x2 matrix on the criteria pairs on the two axes "not important – important" and "knowledge – assumption". This allows you to identify the assumptions that are critical to your business model, so you can test them in the subsequent step.

### What it helps you do:

• Evaluate and prioritize your assumptions

• Identify the most critical assumptions

### What you will need:

• Results from Sustainable Business Model Canvas

• Your team

• Offline workshop:
  Whiteboard or planning wall, board marker and pens, sticky notes, timer

• Digital workshop:
  Digital whiteboard

*Step by step*

# Assumption Mapping
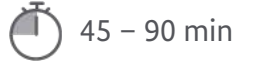
🕑 45 – 90 min

## Preparation

- Draw or create the structure of the assumption map on the board (as shown in the graphic on the Visual Instruction page).

## Process

- Assumption mapping looks at the business model through the following lenses: desirability, viability, feasibility and sustainability (see Visual Instruction page). The desirability lens focuses on the customer and asks if the solution is wanted by them. The feasibility lens asks if you are able to do it. Is your business model expandable, manageable and do you have access to key resources? The viability lens asks if the business idea is profitable enough to sustain itself and the sustainability lens incorporates the socio-ecological dimension.

- Analyse the assumptions from the Sustainable Business Model Canvas according to these four lenses. You want to treat the individual lenses separately. That means, in a face-to-face workshop you form a 2x2 matrix for each of the lenses and in a digital workshop, you can recolor the sticky notes and give each lens a different color and arrange them in one matrix.

- Take the desirability assumptions from the Customers and Offering fields, the feasibility assumptions from the Infrastructure fields, viability assumptions from the Finance fields, and assumptions regarding sustainability.

- Collect the sticky notes with the assumptions on the left side outside the respective matrix.

- The next step is mapping your assumptions in the 2x2 matrix. The matrix consists of two axes that are at right angles to each other (see Visual Instruction page).

- The y-axe is assigned to the importance of the assumption. If one assumption is very critical for your business idea map it on the top. If it is not important, map it on the bottom part.

# Assumption Mapping

🕐 45 – 90 min

- The x-axe is about how evidence-based your assumptions is. Do you have observable evidence, qualitative or quantitative, to support your assumptions? The axe is labeled with the terms »knowledge« and »assumption«.

- The 2x2 matrix results in four quadrants.

### Experiment (top right quadrant)

These are the assumptions that are critical for the success of your business model but for which you do not have sufficient evidence yet. In the next step, you need to test these assumptions with experiments (see the tool experiment template).

### Discuss (top left quadrant)

In this field you place assumptions that are important for the success of your business model and that you seem to have good knowledge about. Discuss and question your knowledge in the team. Do you really have enough evidence to support your assumptions? Keep an eye on the assumptions in this field during the further process.

- ***Do not focus on (bottom quadrants)***

The two fields on the bottom are less important and are not considered further.

- In the next step you'll define experiments for the assumptions of the top right quadrant with the help of the experiment template.
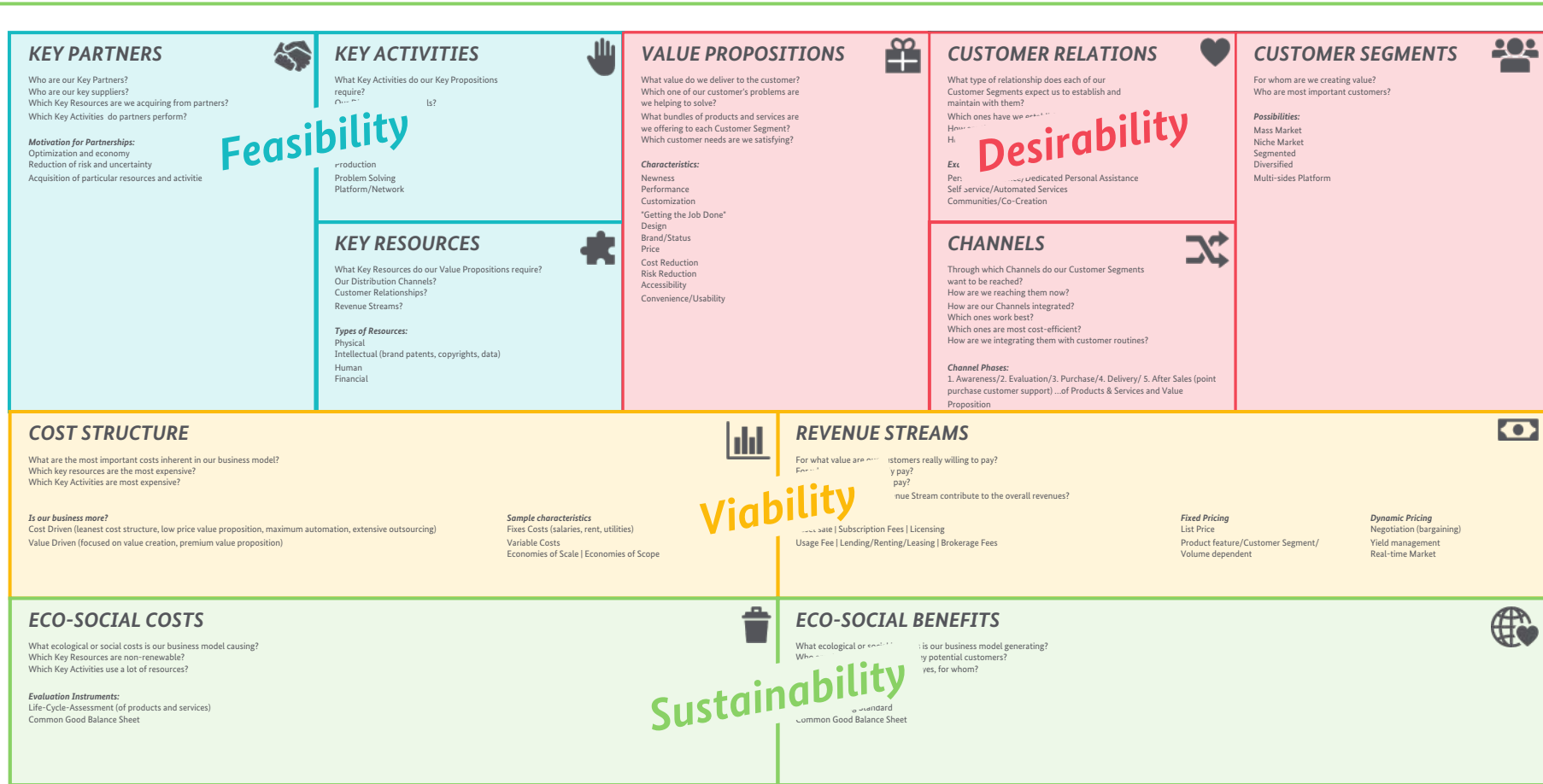
*Source: Based on Testing Business Ideas (2020) by Bland, B. & Osterwalder, A.*

**Visual Instructions**
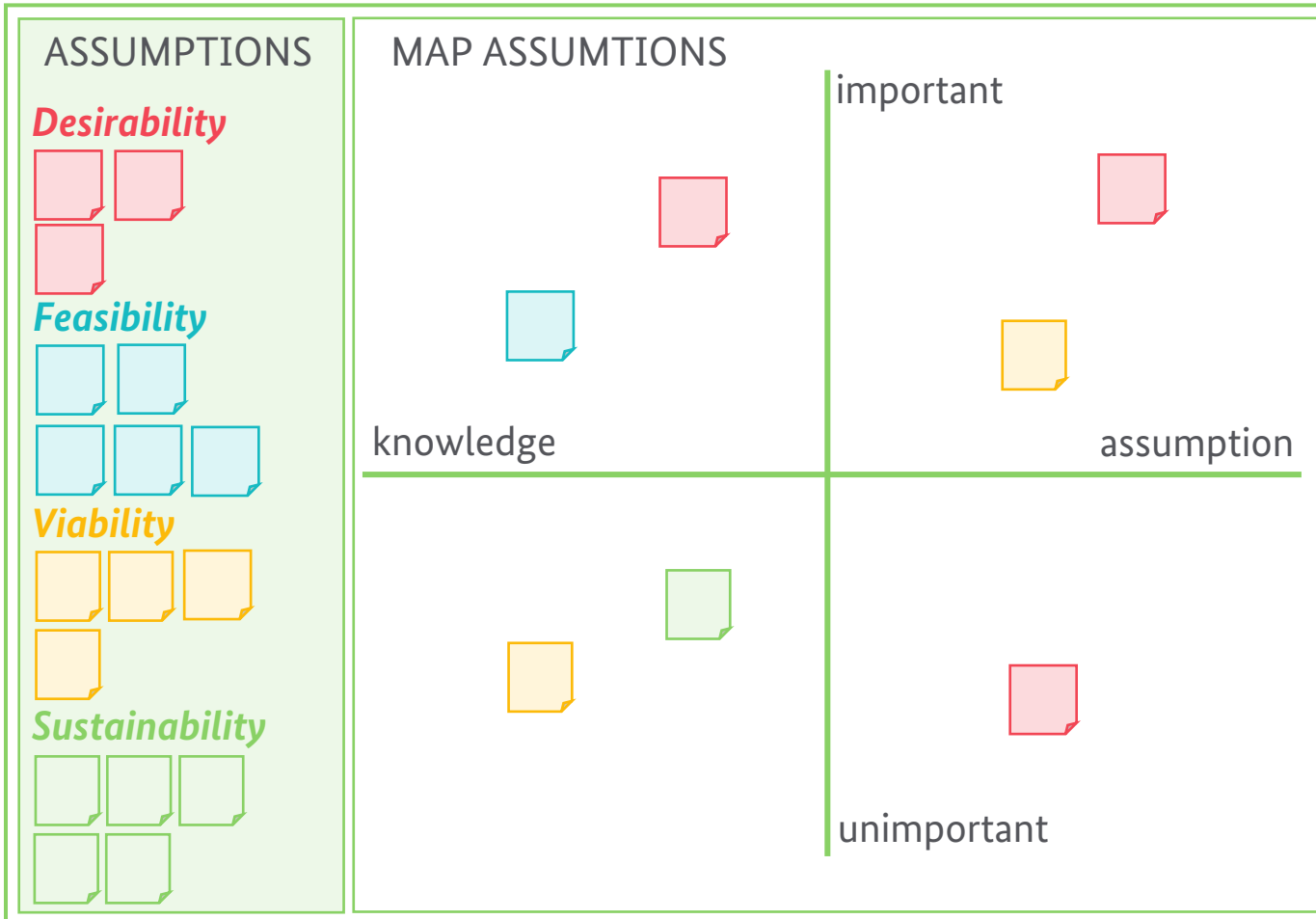
# Assumption Mapping

45 – 90 min

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Who are our key suppliers?
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Which Key Activities do partners perform?

**Motivation for Partnerships:**
Optimization and economy
Reduction of risk and uncertainty
Acquisition of particular resources and activitie

*Feasibility*

### KEY ACTIVITIES

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Our Distribution Channels?

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Problem Solving
Platform/Network

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Customization
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Which ones have we est
How
H

Ex
Per:          ed/Dedicated Personal Assistance
Self Service/Automated Services
Communities/Co-Creation

*Desirability*

### CHANNELS

Through which Channels do our Customer Segments want to be reached?
How are we reaching them now?
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Which ones work best?
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**Sample characteristics**
Fixes Costs (salaries, rent, utilities)
Variable Costs
Economies of Scale | Economies of Scope

### REVENUE STREAMS

For what value are our customers really willing to pay?
For           y pay?
              pay?
              nue Stream contribute to the overall revenues?

*Viability*

List sale | Subscription Fees | Licensing
Usage Fee | Lending/Renting/Leasing | Brokerage Fees

**Fixed Pricing**
List Price
Product feature/Customer Segment/
Volume dependent

**Dynamic Pricing**
Negotiation (bargaining)
Yield management
Real-time Market

### ECO-SOCIAL COSTS

What ecological or social costs is our business model causing?
Which Key Resources are non-renewable?
Which Key Activities use a lot of resources?

**Evaluation Instruments:**
Life-Cycle-Assessment (of products and services)
Common Good Balance Sheet

### ECO-SOCIAL BENEFITS

What ecological or social      is our business model generating?
Wh              y potential customers?
                      yes, for whom?

*Sustainability*

             g Standard
Common Good Balance Sheet

*Example*

# Assumption Mapping

⏱ 45 – 90 min

## ASSUMPTIONS

**Desirability**

**Feasibility**

**Viability**

**Sustainability**

## MAP ASSUMTIONS

important

knowledge       assumption

unimportant

Assumption mapping for a digital workshop with one 2x2 matrix for all four lenses. In a face-to-face workshop you may also create four different matrices to keep the assumptions of the respective lenses separated.

*Overview*

# Experiment Template

⏱ 10 – 30 min
per experiment

*At a glance*

When you've decided for the most critical assumptions you want to test, it is time to take the next step and prove them by conducting suitable experiments. Experiments create evidence that strengthens or refutes your assumptions, helping you to refine your business model. This way, experiments reduce risk and uncertainty of your business idea.

With the help of the experiment template, you describe the assumption you want to test and how you can test it with an experiment. A good experiment should be measurable, and the pass rate should be set before the results are in. That is why you also define measurement and success criteria in advance to be able to classify your test results later.

*What it helps you do:*

• Define experiments

• Test and validate or falsify your assumptions

• Reduce risk and uncertainty of your business idea

• Define further actions

*What you will need:*

• Results from assumption mapping

• Your team

• Offline workshop: Experiment template or DIN A3 paper, whiteboard or similar, board marker & pens, timer

• Digital workshop:
  Digital whiteboard

**Step by step**

# Experiment Template

10 – 30 min
per experiment

### Preparation

• Take the assumptions of the top right quadrants of your assumption maps. These are the critical assumptions that you need to prove with your experiments.

### Process

• Use the template to prepare your experiments. Use one template per assumption and per experiment. The template is divided into eight fields. Work on them in the following order:

### 1. Assumption

Take the most critical assumption – reframe it if you want. E.g.: We believe…

• … that our customers want to use our online tool to…

• … that customers will pay $5 per month for unlimited access to our service…

• … that there's customer interest in taking part of a workshop that…

### 2. Experiment

Think about how you will test the assumption in order to evaluate it – describe your experiment. From customer interviews to search trend analysis to running a mini-pilot, the experiment can have many different faces, but should be cheap to implement, and not require a huge amount of effort. E.g.: To verify we will…

• … survey X users…

• … talk to X experts in…

• … run a pilot event with X participants…

• … run two different facebook ad campaigns that target…

• … conduct user feedback sessions with sketches or low-fidelity prototypes of offers

• … do in-market observations and/ or on-the-street interviews with users

**Step by step**

# Experiment Template

10 – 30 min
per experiment

## 3. Metric

Write down what you need to measure in the experiment to evaluate your assumption. We will measure…

• … the different rates of clicks per purchases from each type of facebook ad.

• … how many people respond to our letters.

• … the numbers of sign-ups.

## 4. Criteria

Develop success criteria that describe if your assumptions have been confirmed or disproved. We are right, if…

• … 10 out of every 100 clicks turns into a sale.

• … 20 people register for the next event.

• … we can produce at least 95 widgets during the trial day.

## 5. Duration

Estimate how much time the experiment will take.

## 6. Deadline

Define till when the experiment needs to be carried out.

## 7. Owner

Define who is responsible for carrying out the experiment.

## 8. Title of the experiment

Name the experiment, so everyone knows what you are talking about, when you mention the experiment.

Once you have filled in the test template and developed a rough idea, you now go into detail. What do you need to do to carry out the experiment? What are the next steps?

*Source: Based on Testing Business Ideas (2020) by Bland, B. & Osterwalder, A.*

**Visual Instructions**

# Experiment Template

10 – 30 min
per experiment

## Experiment

| Assigned to | Deadline | Duration |
|---|---|---|

### 1. Hypothesis
*We believe that …*

### 2. Test
*To verify that, we will …*

### 3. Metric
*And measure …*

### 4. Criteria
*We are right if …*

*Visual Instructions*

# Experiment Template

10 – 30 min
per experiment

## Usage of feature phone vs. smartphone

| Assigned to Cherifa | Deadline: 12.3.21 | Duration: 2 weeks |
|---|---|---|

### 1. Hypothesis
*We believe that* there is enough usage of smartphones in our target group in Ghana

### 2. Test
*To verify that, we will* research data on smartphone penetration in Ghana. Is it usable in our environment? Survey on usage of smartphone apps in target group.

### 3. Metric
Level of interaction with apps.

### 4. Criteria
*We are right if* 80% of the target group use WhatsApp or similar messaging services.

*Overview*

# Value Proposition Canvas

⏱ 45 min or more

### At a glance

The Value Proposition Canvas compares user needs and expectations with the value proposition of your product or service idea. It helps you explore your user group and their needs as well as consider how you can satisfy the most important needs and expectations with your product or service. In this way, you create an optimal offer for your users.

### What it helps you do:

- Match user needs and expectations with your value propositions

- Explore the user group and their needs

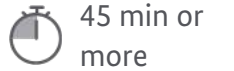- Develop ideas further

### What you will need:

- Rough or elaborated idea

- The Value Proposition Canvas template

- Your team

- Offline workshop: Whiteboard or similar, board marker & pens, sticky notes, timer

- Online workshop: Digital whiteboard

*Step by step*

# Value Proposition Canvas

45 min or more

## *Preparation*

- Print the Value Proposition Canvas or draw the structure (as shown in the graphic on the subsequent page) on a whiteboard. The Value Proposition Canvas is divided into two parts:

- Customer Segment:
In the circle, you will describe the needs and expectations of the user group you have selected. You have no influence on the contents of this field, because the information is based solely on your research results from the observation phase.

- Value Proposition:
The square contains everything your product or service promises to address regarding the tasks, pain points and expected benefits for the user group. This is your time to shine – you have an influence over what you choose to include in your value proposition.

## *Process*

- Go through each of the canvas's fields. Write your insights on sticky notes and place them onto the respective fields. Stay realistic.

### *(1) Customer Segment*

### 1. Jobs
Notes in this field are what tasks, which »jobs« your product or service performs for the user. For example, a »job« could be a task that the user is trying to do, a problem he is trying to solve, or a need he is trying to satisfy (see the *Jobs to be Done* method). After you have collected all »jobs«, prioritize them from the user's point of view.

### 2. Pains
Write the negative emotions the user has or could expect in connection with these tasks? What could be unpleasant for your users before, during, or after completing the described tasks? What is annoying them, or preventing them from doing the »job«? What could be too challenging, too time-consuming or too costly for the user? What risks or challenges could the user see? Prioritize the pain points again from the point of view of the user.

### 3. Gains
What utility or benefits does the user expect if they want to fulfill the described tasks? Prioritize the notes from the point of view of the user.

# Value Proposition Canvas
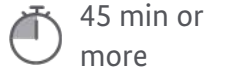
⏱ 45 min or more

**(2) Value Proposition**

**4. Products & Services**

Here you enter all the products and services that you would offer in the framework of your idea in order to fulfill the tasks of the user in field 1.

**5. Pain Relievers**

Write what your products and services will do to eliminate or mitigate your user's »pain points« from field 2.

**6. Gain Creators**

Note where your products and services are helping to meet your user's expectations from field 3. Also, where they could positively surprise your user?

*Source: Based on Value Proposition Design (2015) by Osterwalder, A. et al.*

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***Tip***

Apply Color Coding by using different colored Post-its for each field. You can more easily capture everything at a glance. Also, use the following trigger questions to map your users' jobs, pains, and gains as well as to create pain relievers and gain creators to satisfy your user.

*Visual Instructions*

# Value Proposition Canvas

45 min or more

Gain creators

Products & Services

Pain relievers

Gains

Customer Jobs

Pains