

# Solution & Prototyping

**Bring your idea to life**



# Solution & Prototyping.

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# How to use this booklet?

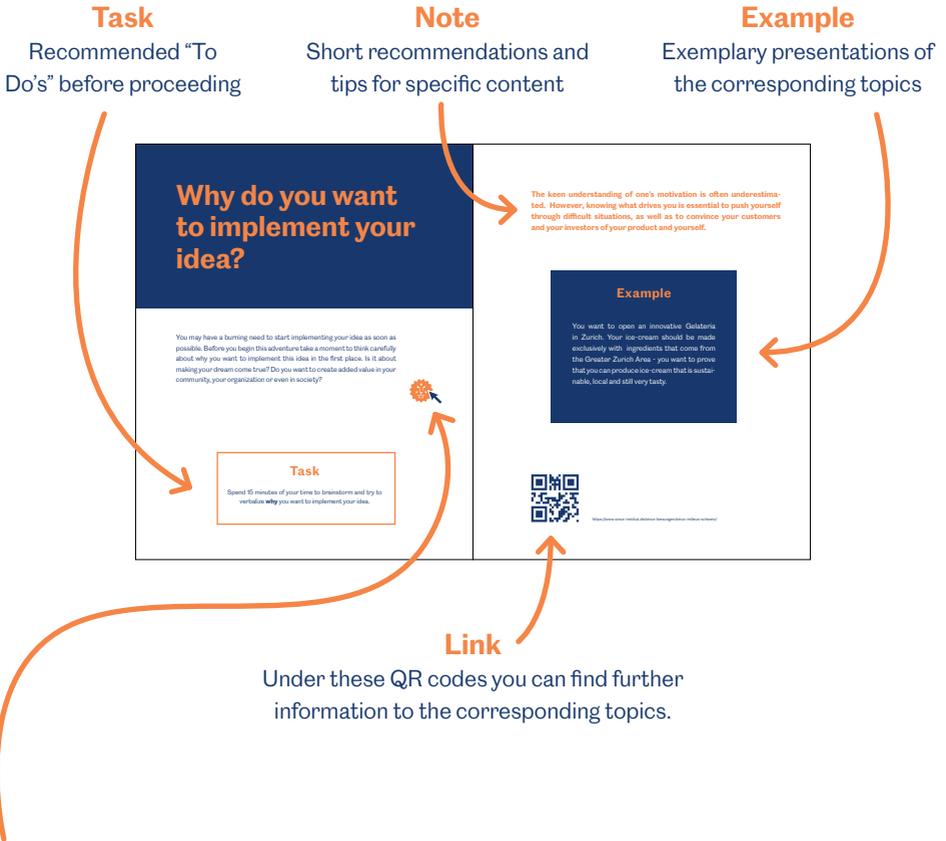
— This booklet is a part of the Bluelion Incubation Series. Each booklet deals with a specific topic that startups will have to face during the development of their ideas. The brochures follow a proven innovation process. We suggest approaching them in the recommended order. Of course, the booklets may be applied individually and independently of each other.

Each booklet guides you through the basic components of the (respective) topic and shows you the goal of the corresponding phase via various milestones. Consider the description of the process and the milestones as guidelines. Each idea is different and requires a distinct approach and prioritization.

These booklets attempt to provide some orientation in the often rather blurry process of innovation development. They are neither perfect nor complete but still provide you a good overview and a golden thread to hold onto. The overview of the relevant topics and the sketching of the individual methods and tools are complemented by Bluelion's incubation services.

On the following page, you can find a short description of different elements that you will encounter in the course of the booklet.

# What is the structure of this booklet?



**Digital Toolkit:** all the models and tools described in the booklet are available online: [www.bluelion.ch/services/toolkit](http://www.bluelion.ch/services/toolkit). In the toolkit, you will also find other helpful tools, as well as access to chosen platforms that can help you with the visualization and prototyping of your idea. **The symbol**  in the booklet indicates that you may find additional material to the current topic online.

# Bring Your Idea to Life and Test your Assumptions

Now that you know your customers and their problems, it's time to immerse into the world of your idea and develop different solution approaches. During the development stage, set your imagination free and focus on creating as many innovative solutions as you can come up with (researcher hat). Once you have collected a handful of viable solutions, it is up to you to choose the best alternative and consider the underlying assumptions. Building prototypes and testing the assumptions enables you to validate them and receive feedback on your solution. This booklet focuses on identifying the perfect solution with the final goal to attain a perfect fit between customer, problem, and solution.

## Lean Canvas

Problem	Solution	Unique value proposition	Unfair advantage	Customer segments
Describe 1-3 great problems of your customer	Describe the solution for every problem	A simple clear message that explains why your solution is different and worth attention	Something that makes it difficult for others to copy the solution	Enlist your target and user groups
<b>Existing alternatives</b> How were these problems solved in the past?	<b>Key metrics</b>	<b>Short concept</b> The X for Y analogy Youtube = Flickr for Videos	<b>Channels</b>	<b>Early Adopter</b> Describe the qualities of your ideal customer
	Which measurable figures show whether the solution works?		How you reach your customers	
<b>Costs</b>		<b>Income</b>		
Enlist your fixed and variable costs		Enlist the sources of income		

The following process will help you to validate your solution step by step:

**Step 1:** Deep dive into the idea box

**Step 2:** Find your critical assumptions

**Step 3:** Think about your test setup and prototype

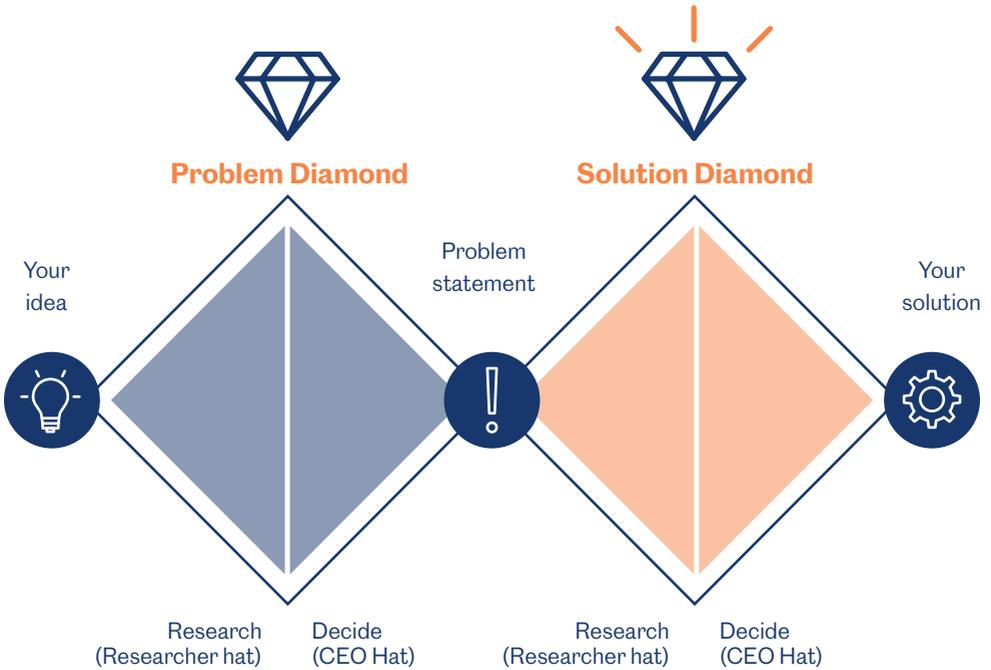
**Step 4:** Let the experiment begin

In the further course of this booklet, each of these steps will be examined in more detail and you will learn different methods that can help with the development of your solution.

# Step 1: Deep dive into the idea box

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The whole innovation process can be structured with the help of the double diamond model. If you worked on the booklet: «Problem and Customers,» you should have gathered and evaluated a vast amount of insights and information on your identified problem and customers. Also, you should have decided which problem and target group are worth focusing on (problem diamond).



Now, we move ahead with the solution diamond, and again it's time to put the researcher hat on and take a crack at the search for appropriate solutions. According to the motto «The best way to have a good idea is to have a lot of ideas», in the phase of solution development, you'll have to generate as many ideas as possible. Later, you will have time to filter out and focus on one solution. But at this stage, we prefer quantity to quality!

**When brainstorming on your idea, focus on your vision (Booklet «Your Idea»). It will help you define the scope of the idea development process.**

# Four Tips for Idea Generation

## TIP. (For now) no criticism:

Following the motto «Everything is possible» during the stage of idea generation everything is allowed. So that really everything is possible, there is one rule: there's no room for criticism at this stage. So: NO «Yes, but...» or «It is not possible to do it, because of...». It is all about breaking taboos and redesigning the world.

## TIP. Develop a bunch of ideas:

Usually, the «one in a million» idea that will spark your innovation comes after you've collected loads of other ideas without limiting yourself to any fixed number.

## TIP. Document your ideas:

If you write your thoughts down on sticky notes or visualize them with simple sketches, you will not lose them and it becomes easier to maintain an overview of all the generated ideas.

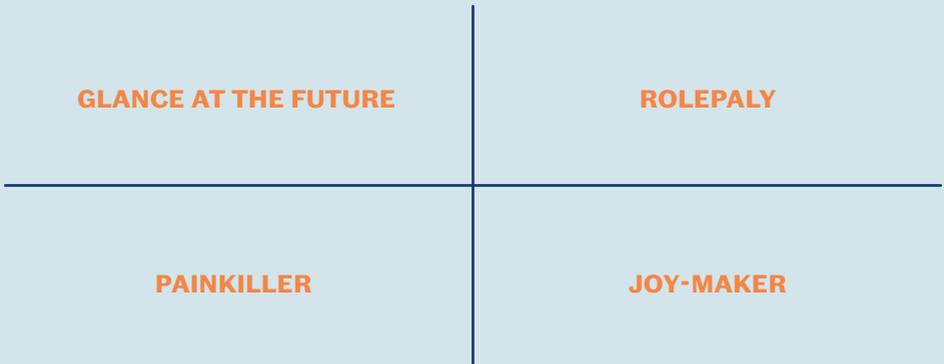


## TIP. Fun is the best idea producer:

**Set your imagination free! Above all, the creative search for ideas should be fun and inspire you to think «out-of-the-box»**

Set your imagination free! Above all, the creative search for ideas should be fun and inspire you to think «out-of-the-box» Admittedly, it is not so easy to find creative and innovative solutions at the touch of a button. There are methods and tools, though, that can assist you by showing you a more structured way. One way to generate new ideas and extend the boundaries of your search for solutions is the idea grid.

## IDEA GRID – COLLECT NEW IDEAS FOR YOUR SOLUTION



To sketch an idea grid, you have to draw a grid with four boxes on a flipchart or whiteboard. Each field is meant for one of the four categories. The aim is to fill in each field with at least three new ideas.

These questions should inspire and encourage you to think in new dimensions:

**Question 1: Glance at the future** – suppose you are to solve your customer’s problem with the help of a key technology, say, AI (artificial intelligence). What could your idea look like? Or, you are to consider a megatrend such as progressing individualization: Which ideas come to your mind?

**Question 2: Roleplay** – how would Starbucks implement the solution to the problem identified? Or Apple? Ask yourself from which successful and innovative businesses you could derive or adapt ideas.

**Question 3: Painkiller** – how can you help your customers soothe their current pain-points? What bothers or troubles your customers and how can you solve it?

**Question 4: Joy maker** – you communicate closely with your customers and know their desires. Use this knowledge! What are your customers searching for? What are they dreaming about? What do they hope to gain?

## Task

Take an hour to fill the idea grid for the identified problem. Tip: complete this task together with other creative minds. Fetch a couple of colleagues from various backgrounds and ask for help.

**Obviously, you can use other questions. Say, what if you had all the money in the world? How would things work for you then? A further proven method is the so-called negative brainstorming, when you ask yourself, how you can create even more problems for your customers.**

The idea grid is one possibility to get to numerous solution ideas. Further methods can be found in our digital toolkit. You can decide yourself which approach is most helpful to you in the idea searching process.

Have you already collected numerous solution approaches? Then make a choice. Beware: there is no one right solution. Choose the three most promising ones and stick to them for now. In case you are not sure, the innovation matrix is a helpful decision tool.



## **INNOVATION MATRIX – RANK YOUR IDEAS**

The Y-axis of your innovation matrix represents the innovation potential. This can be a little change as well as the next groundbreaking innovation. The X-axis refers to the possibilities of cost reduction or an increase in sales. You can also define your own decision criteria for the axes, e.g. the expected duration of implementation or proximity to the current core business, etc. Think about criteria, which are relevant for your choice. It is essential that they are clearly distinguishable from each other. You can find further methods for idea evaluation in our digital toolkit.



Usually it makes sense to keep working with more than one solution. Throughout the next steps you will eventually develop a feeling for the best alternative.

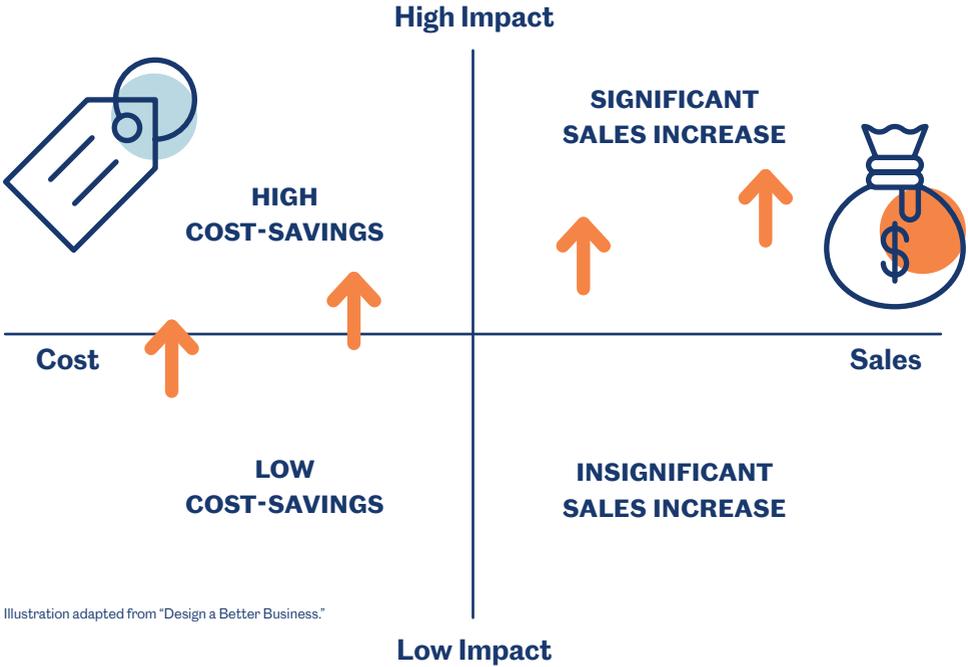


Illustration adapted from "Design a Better Business."

## Task

Match your solution approaches to the corresponding fields of the innovation matrix and determine which ones you continue to develop.

# Step 2: Find your critical assumptions

— Ideas are thoughts that are based on assumptions. Under all the assumptions you have previously taken, and that currently fill your Lean Canvas, the critical ones are most important. They determine the further success of your idea. Here again, get into the role of the researcher who has to prove if what you have developed in your safe space also works in reality.

It is not always easy to find critical assumptions. Maybe a small thinking experiment will help you:

Imagine your idea as a Jenga tower and all the building blocks as assumptions. If an assumption at the base of the tower is removed, the whole tower can crash. If you remove a block from the top of the tower - that is an assumption not critical to success - the consequences are not as serious. Accordingly, you should secure the foundation of your idea and start checking the most critical assumptions from the base onwards. For now, all other assumptions are irrelevant. Your aim is to let the tower crash as soon as possible - so that you can build it up again with a solid foundation.

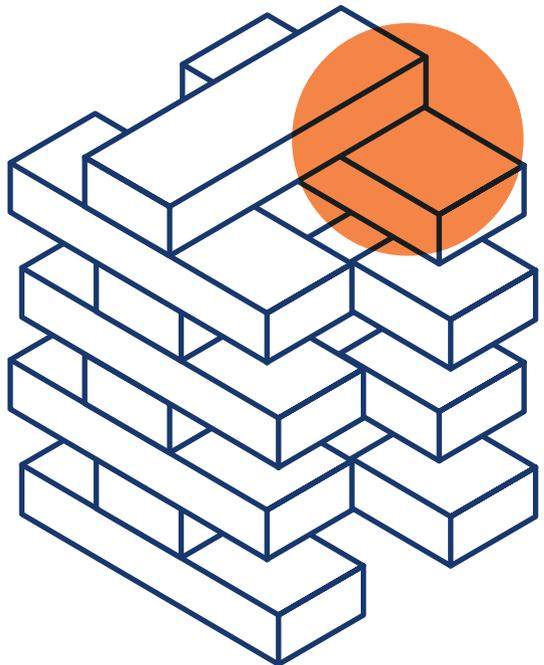
**Design A Better Business**

## Example

A Swiss startup has developed a matchmaking platform for parents and babysitters. Parents can find babysitters that are available on short notice. The critical assumption sounds as follows: «Parents are ready to trust their children to strangers when they spontaneously need someone to take care of their offspring.» If this assumption is not confirmed, the startup is going to fail.

### Task

Put your critical assumptions into words.  
Use the Lean Canvas.



Based on your critical assumptions, you can derive a hypothesis in the second step. A hypothesis is basically a formulated assumption so that you can assess and measure it. The formation of the hypothesis is the basic requirement for successful testing. It helps you to prepare a structured test as you define more precisely what you want to know and prove.

## Example

### Critical assumption

parents are ready to let a stranger taking care of their kids

### Hypothesis

We believe that in case of an unforeseen event, 50% of all parents are willing to let a stranger, who is qualified, look after their little ones

Finally, you will end up with a handful of hypotheses which you now have to verify. Start with those most critical to success. If they prove to be wrong, you may not even need to test the less important ones.

It is not always easy to formulate good and meaningful hypotheses. You can find more information on how to form a hypothesis in our digital toolkit.



## TEST AND LEARNING CARDS – WRITE DOWN YOUR PROCEDURE

You do not know how to assess the crucial points of your idea and then make use of your findings? Then the test and learning cards are the perfect tool for you.

TEST CARD	
Name of the test _____	
Responsible person _____	
Deadline _____	Duration _____
<b>Step 1: Hypothesis</b> (We believe that...)	
<b>Step 2: Test</b> (To verify that, we will...)	
<b>Step 3: Metric</b> (To measure...)	
<b>Step 4: Criteria</b> (We are right, if...)	

LEARNING CARD	
Name of the finding _____	
Responsible person _____	
Date _____	
<b>Step 1: Hypothesis</b> (We believe that...)	
<b>Step 2: Test</b> (To verify that, we will...)	
<b>Step 3: Metric</b> (To measure...)	
<b>Step 4: Criteria</b> (We are right, if...)	

Own representation adapted from Strategizer

The test card helps a lot when you have to put your hypotheses into words and think about how to verify them. With the learning card, you can systematically record your findings and demonstrate the resulting decisions and actions.

You can find a template for the test and learning cards, as well as examples on how to work with them in the digital toolkit.



## Task

Formulate your hypotheses based on your most critical assumptions and fill in the corresponding test cards.

# Step 3: Think about your test setup and prototype

— After filling in the test cards, you can start the testing phase. The entire testing phase is meant to confirm or reject your hypotheses and to get feedback on your idea. For this, you have to think about how your prototype should look like and define your test setup.

A prototype is the «What» - the haptic or visualized form of your product or service. The test setup is the «How,» which determines in which way you are going to make your prototype available to potential customers.

## Example

A startup develops a new app that should simplify online banking. Prototype: different screens (printed or digital) that tell the story of the app. Test setup: Test in two branches where the bank employees will present the app to the target group and get feedback.

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# I WANT TO TEST MY IDEA, BUT WHERE DO I START?

Considering the test setup and designing a prototype, which represents your idea, should happen simultaneously. The development of the entire test scenario depends on what you want to find out. Ask yourself the following three questions:



## What?

What would you like to discover or learn? When building your prototype, begin with the assumption or question you want to validate or answer in the test.

## Who?

You will only get helpful feedback on your idea if you test it on your previously defined personas. So you need to think about where these people are and how to integrate them effectively into a test situation to develop your idea with them.

## Where?

Customers often get influenced by a test situation and they reply and act differently than they would in their usual environment. Valuable and authentic feedback is best achieved when testing your prototype with customers in the real world rather than in an artificial test environment.

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# WHAT IS A PROTOTYPE?

A prototype is a model of a product or service. The prototype puts your idea into shape so that potential customers can experience and evaluate it. Your prototype is not a ready-made product or a fully-featured service. It just needs to be good enough to visualize and make the relevant features tangible for your target group. The aim is to test your prototypes repeatedly to develop an offer your customers are satisfied with.

# WHY PROTOTYPING?

## Give your idea a shape.

„If a picture is worth a thousand words, a prototype is worth a thousand pictures.” People capture and understand things much faster when they are able to see or experience something in action. Your idea can be communicated in a much better way than with words and texts.

## Start a conversation.

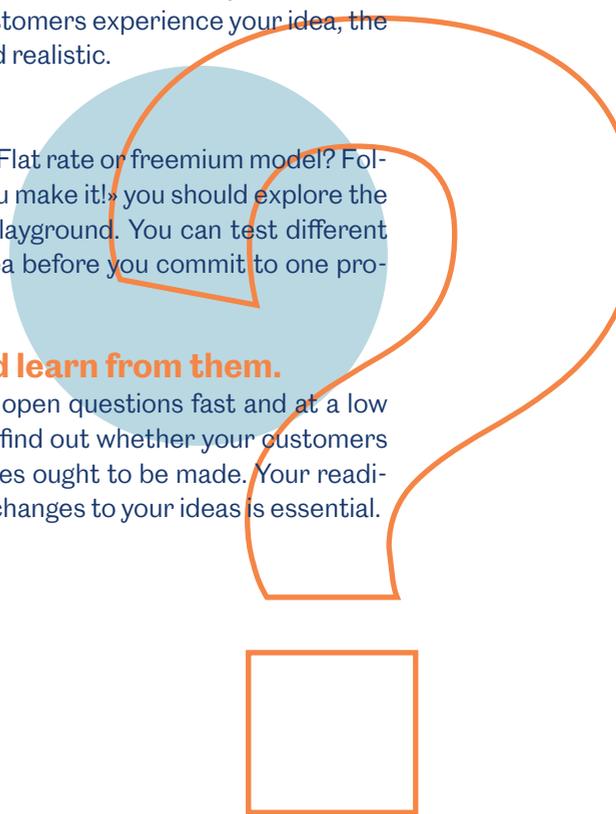
In an interview, it helps a lot if you can present your respondents something that can evoke a reaction. Even better if they can interact with it. If you manage to let your customers experience your idea, the feedback will be more authentic and realistic.

## Test different variations.

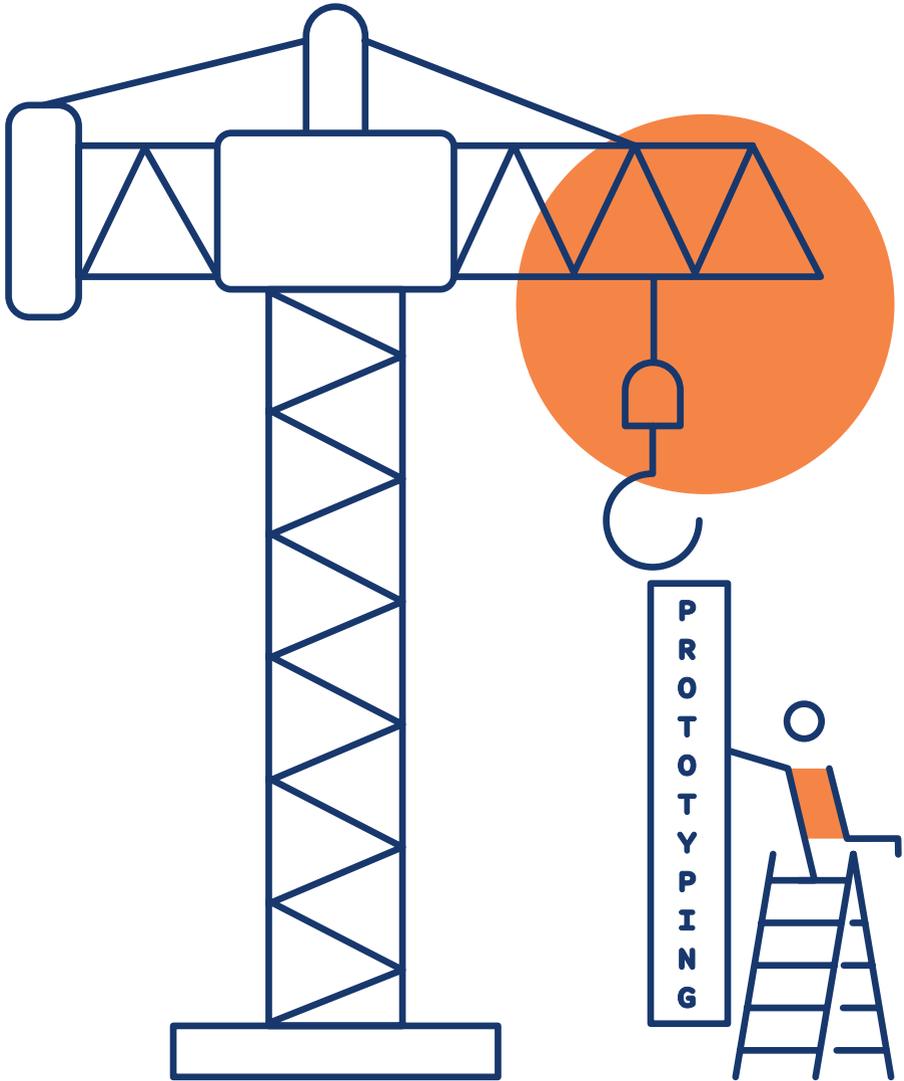
Green or yellow? Digital or analog? Flat rate or freemium model? Following the motto «Fake it before you make it!» you should explore the entire prototyping process like a playground. You can test different functions and variations of your idea before you commit to one prototype.

## Make mistakes quickly and learn from them.

Prototyping answers many of your open questions fast and at a low cost. So, at an early stage, you can find out whether your customers support your idea and which changes ought to be made. Your readiness to learn fast and bring radical changes to your ideas is essential.



The next part of the booklet introduces different types of test setups and prototypes. Read through it at least once and think about which setup and which prototype are most appropriate to validate your proposed solution.



# TEST SETUPS – FROM SMOKE SIGNALS TO CROWDFUNDING

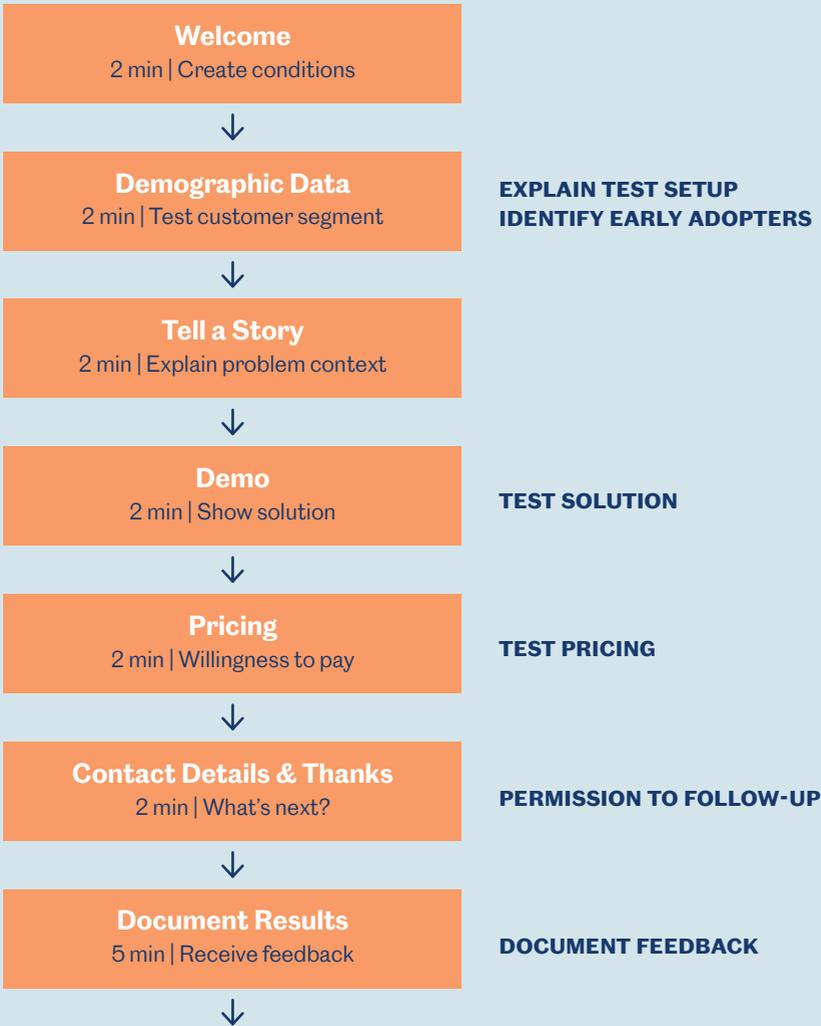
You want to know whether your customers are generally excited by your idea? How about a smoke test? Or do you have to choose between two alternatives? A landing page might save your day. A quick validation of individual functionalities and basic methods will probably work better with a physical prototype, which you can hand over to your customers in an interview. Here are variations of test setups explained in more detail:

## Problem Interview

The solution interview provides you with realistic insights and the opportunity to look at your idea from the customer's point of view. Ideally, you pick some interviewees from the participants who already did the problem interview and mix it with new interested people. This way you receive two kinds of feedback. You get the opinion of those who have already influenced your idea. Additionally you can query the unbiased feedback. The exemplary process of Ash Maurya gives you a sense of how you can design your solution interview.



The procedure of the solution interview by Ash Maurya:



The solution interview is more than a mere demonstration of your idea. Here you have a single chance to narrow your target group, to query the willingness to pay and to win the first customers.

Find an example of the solution interview in the digital toolkit.



**A solution interview is necessary to every prototyping process. Don't miss your chance to talk with your future customer about your solution.**

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## **FURTHER TEST SETUPS**

### **Smoke Test.**

Produce a lot of smoke, although your idea is not on the market yet? The smoke test is another way to find out if there is a demand for your product. The test usually works through a landing page, a simple website that explains your idea. The crucial thing is that the visitors to the site can actively express their interest in your idea via a call to action - e.g. a purchase button or subscription to a newsletter. The aim of the smoke test is to generate real demand even though your product / service does not yet exist.

### **Online Survey.**

Online surveys are inexpensive, relatively easy to create and can provide you with customer feedback on your idea in no time. With an online survey, you can also apply an appropriate filter in advance to restrict the group of people and thus survey your personas without great effort.

### **Crowdfunding.**

The crowdfunding does not just allow you to realize your ideas via swarm financing. Crowdfunding is a good way to validate your idea and get feedback on what your potential customers are still missing or what should be arranged differently.

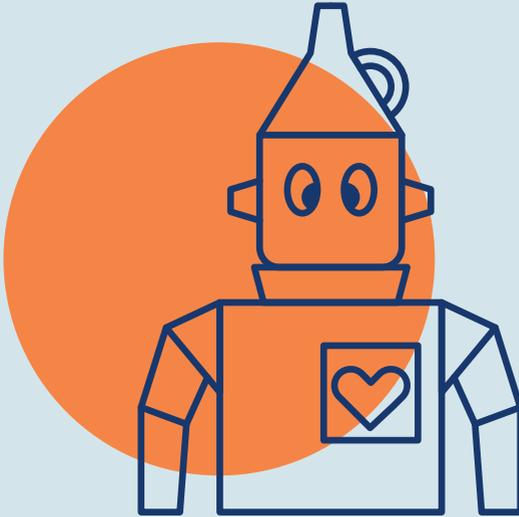
## Pop-up store.

The principle of the pop-up store is simple: commercial space, a shelf or a shop window will be used for a limited period of time to provide a platform for new ideas. In contrast to a virtual commercial space, here you can meet your customer face-to-face and get direct feedback on your idea. Of course, a real pop-up store is not a cheap prototype. You could start smaller and present your product on a market.



## Wizard of Oz.

„Fake it before you make it“ is the motto of „Wizard of Oz.“ The essence of this method is to simulate your solution through human intervention. Build your prototypes, but let a human do all the things that an algorithm or other technical solution would otherwise do for you. You are the wizard who pulls strings in the background and makes the promise available to the user.



**In this early phase it is important that you get to know your potential customers better and ask them about your solution idea. Several solution interviews are therefore a must so that you can further develop your solution together with your customers.**

This list of test setups should give you an overview of the possibilities on how to test your idea. You can find more info and further setups in the digital Bluelion toolkit.



# KINDS OF PROTOTYPES

A first prototype is characterised by the fact that you build it with the simplest possible means in the shortest possible time. The simpler, faster and cheaper a prototype is, the faster you can show it and optimize it based on feedback. In fact, prototypes can even be improvised and ugly, so to trigger the feedback you would like to have: relentlessly honest and direct.

We can differentiate between physical and digital prototypes. You can make a physical prototype out of paper, lego or wood. Digital ones usually come in the form of videos, landing pages or click dummies. Of course, a combination of physical and digital components is also possible. Ask yourself what you want to find out with your prototype. Based on that, decide which kind of prototype makes the most sense.

You can find additional kinds of prototypes and concrete tools to easily create prototypes in the digital Bluelion toolkit.

## **Physical prototype.**

Prototypes from either paper, lego, or the 3D printer are created quickly, at low cost and are very efficient. You don't need to program anything to see what doesn't work. Physical prototypes are often used to test ideas in the early stages of development. They appear non-committal in contrast to elaborated technical solutions and imply that the project is at an early stage and that inputs and changes can be integrated without much effort. An additional benefit is the opportunity to provide your potential customers with more information while giving them handouts. Also, the creation itself helps you to dig deeper into your solution.

## Landingpage.

A landing page is another prototyping possibility. No worries, you do not need any IT background for a landing page. As the term implies, such pages serve as a gateway to your idea. A central feature of a landing page is that the visitor actively acknowledges his or her interest in your solution - for example by clicking on a buy button. If your potential customers click on the button, they will be informed that your idea is still in the preparation phase. They can subscribe with their e-mail address and will be notified when the solution is on the market. That's how you easily generate your first leads.



## Video.

Video prototypes provide a great way to visualize complex ideas. This kind of prototype can be used during an interview with potential customers, or you can integrate it on the landing page. A short and concise video with an expanded one sentence pitch will help you to convey your solution idea.

## Example

A famous example is Dropbox. The enterprise tested the interest of their customers with a simple 3-minutes video, which showed the problems with synchronizing and saving data and its unique solution to the problem. After a couple of blog posts, the video went viral, and dropbox thereby validated the interest in the solution. At the same time, the team had access to numerous users, who could potentially be converted into customers.



<https://bit.ly/1vrmM6y>

## A/B Testing.

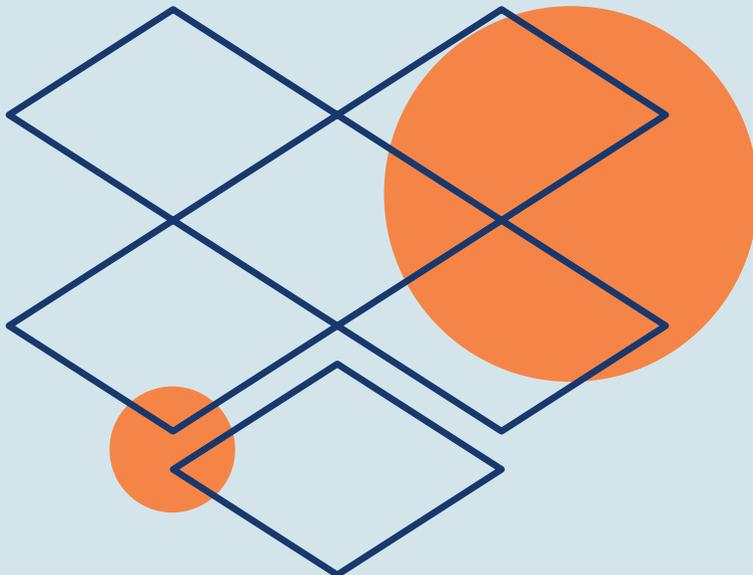
You have two variants of your idea and don't know in which direction to go? The A/B testing is a possible method. You present your customers with two different versions of the solution. Based on their feedback you can decide on one of the variants.

## Click Dummy.

A click dummy simulates a simple way how the user should interact with your solution idea. Click dummies don't necessarily have to be programmed. Your potential customers can also click through a series of PowerPoint slides and see what happens, for example, when they click on a specific function within an app. The next slide simulates the result of an action. A key aspect of click dummies is that your subjects experience processes or interactions in detail to provide feedback.

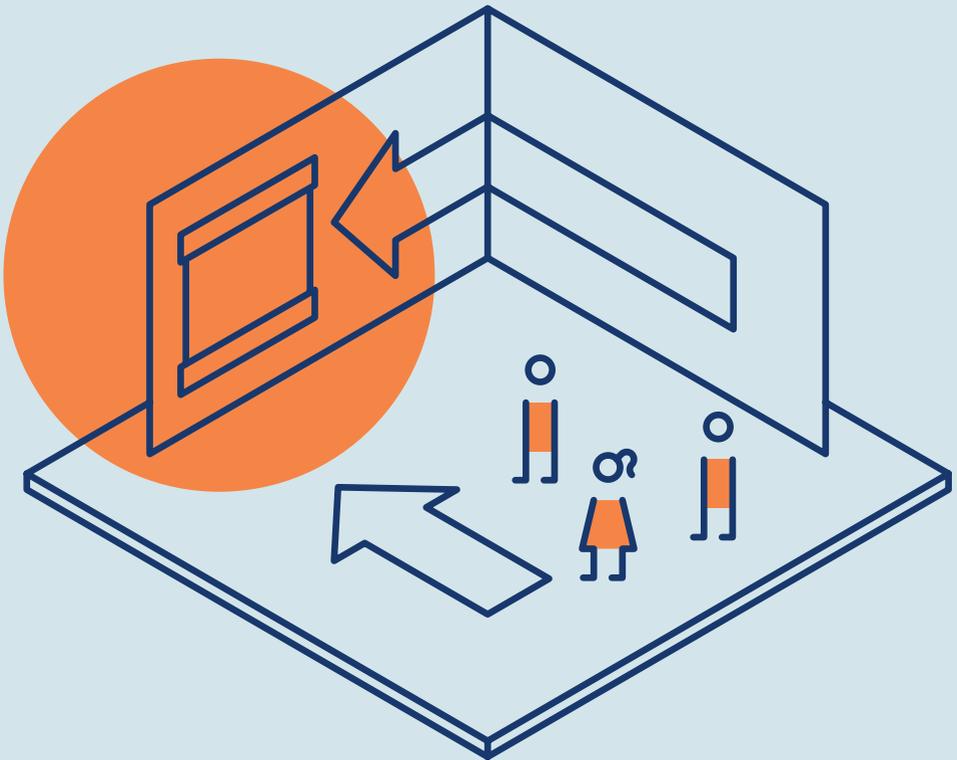
## Mock-up.

The term mock-up means «fake» or «simulation.» Mock-ups can look like real products, but they are neither interactive nor clickable. Mock-ups aim to present an illustration of the readymade product to investors. They help you receive feedback on aspects of the design, such as the choice of colors and shapes, or show an accurate picture of your solution to the respondent during an interview.



## Task

Think about which test setups and what kind of prototype is suitable to check your critical assumptions or and let's go on!



# Step 4: Let the experiment begin

## Three Tips For The Test Procedure

### **TIP. Show it, do not explain it.**

If you have the opportunity to encounter your customers face to face, show your prototypes first without any particular explanation. With the testing you want to find out how your prototype is perceived. It is not the time to justify or sell your prototype. Let your customers interpret your prototype. Observe what they do with it. Do they use it in the way you've intended? Listen to what the test person says and what questions they have.

### **TIP. Create experiences.**

Create a test environment in which the customers don't feel like they are a part of an evaluation process. Ask them questions about stories or situations in which your customers might need the prototype.

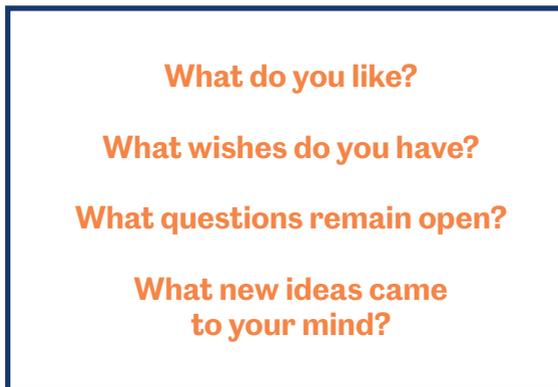
### **TIP. Be smart, act stupid.**

When testing, it's important to ask «why» so that you understand your customers' motivation. Even if you think you already know the answer.

# DOCUMENT FEEDBACK

It takes all your multitasking skills to be an active part of the testing situation and at the same time document your results and findings. This step is crucial, as you will win essential knowledge that you should integrate in the further development of your idea. Ideally, you may ask a colleague to take protocol of the interviews. For documentation, you may use, for example, photo and film recordings, which you can later reuse for a pitch. For this, make sure to get your participant's consent first. Another way to document feedback is a so-called feedback grid.

The feedback grid is good for recording and arranging feedback. Feedback provided from test participants gets recorded based on four questions:



**What do you like?**

**What wishes do you have?**

**What questions remain open?**

**What new ideas came to your mind?**

You can draw the grid on a sheet of paper without much effort and use it in individual interviews or during feedback rounds in small groups.

## Grid for Feedback Collection

### I LIKE

Things that you like or which are worth mentioning



### WISHES

Constructive criticism



### QUESTIONS

that arise during testings



### IDEAS

that came up during tests



# DEDUCE INFORMATION

With the help of the learning card, which you can find under Step 2, you can bring order in the collected feedback. It helps you systematically record findings and show the resulting decisions and actions. The insights you get throughout the testing process are used to turn your assumptions or hypotheses into facts and to optimize your solution.

**Attention! Documentation of your findings and differentiation of your learnings are crucial points of the total process. If you do not derive reflected learnings and plan appropriate next steps, you run the risk that the entire testing process was in vain.**

Your solution will most likely change along the process, and it may be that you have to go through one of the first booklets again. Stay open to changes. It is essential that you have received profound feedback during the prototyping stage and incorporated it accordingly. You should now be confident enough to wear the CEO hat and make up your mind about a solution. What should you do if your prototype has failed as a whole and your critical assumptions have proven to be false? Take the booklet «Problem and Customers» once again and check if you have defined your customers' problem correctly.

The test process is (at least primarily) completed when you and your customers are enthusiastic about the solution. To learn how your solution can be transformed into a scalable business model go on with the next booklet: «Business Model.»

## **Move on once you:**

- Have gathered different solution ideas for the identified problem.
- Have identified your critical assumptions.
- Have created a prototype for at least one idea.
- Have received feedback on your prototype from your potential customers.
- Have validated the relevant hypotheses.
- Have customized and confirmed your solution based on test results.

## **The most important takeaways from this booklet:**

Let your creativity flow and try to brainstorm as many solutions to your problem as possible.

Always build your prototypes based on a question that you would like to answer or an assumption you would like to verify.

Test your prototype as soon as possible in the real world and with real customers.

View the prototyping phase as some form of controlled crash test for your solution idea, which is all about one thing: improving your solution based on customer feedback - or rejecting it.

## **What to expect from the next booklet (Business Model)?**

-  You will get an overview of who your competitors are.
-  You will find out what market you can address and how big it is.
-  You will refine your Unique Value Proposition (UVP).
-  You will find your «unfair advantage» which you can exert against the competition.
-  You will learn about different revenue models and decide what your revenue model should look like.
-  You will think about how to structure the pricing.

# Literature

Bartl, D. & Dark Horse Innovation (2016): *Digital innovation playbook : Das unverzichtbare Arbeitsbuch für Gründer, Macher und Manager.*

Lewrick, M., Link, P., & Leifer, L. (2018): *Das Design Thinking Playbook.*

Maurya, A. (2012): *Running Lean: Iterate from Plan A to a Plan That Works.*

Pijl, P. van der, Lokitz, J., Solomon, L. K., & Schallmo, D. R. A. (2018): *Design a better business : Neue Werkzeuge, Fähigkeiten und Mindsets für Strategie und Innovation.*

Uebernicket, F., Brenner, W., Pukall, B., Naef, T., & Schindlholzer, B. (2015): *Design Thinking: Das Handbuch.*

Ries, E. (2011): *The Lean Startup.*

Berlin Valley (2018): <https://berlinvalley.com/anleitung-fuer-gruender-in-fuenf-schritten-zum-lean-startup/>

Strategyzer (2018): <https://strategyzer.com>



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