

# DESIGNSCAPES TOOLBOX

AN INVENTORY OF  
DESIGN TOOLS & METHODS  
TO SUPPORT URBAN INNOVATION

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# CREDITS

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# 1

## INTRODUCTION



# GUIDELINES

Welcome to the **DESIGNSCAPES** Toolbox!

A resource kit for anyone who wants to apply design processes to unleash innovation potential in themselves, their team or their organization.

The DESIGNSCAPES Toolbox is a collection of methods and tools that you can easily and rapidly use and apply to various innovation processes. The toolbox works particularly well if you adopt an approach that favors:

**Learning by Doing:** rather than reading about the tools, the best way to learn is to try them out, get a practical experience and reflect on what worked best for you.

**Being open:** it is good to have a growth mindset<sup>1</sup>. A growth mindset means, in a nutshell, believing that knowledge and expertise are learned and earned, as opposed to being limited by one's 'natural' talent. This also implies a certain openness towards mistakes and errors and towards seeking and being exposed to multiple and different viewpoints.

1. Dweck, Carol S. 2006. Mindset: the new psychology of success. New York: Random House

## DESIGN FOR URBAN INNOVATION

The idea that design tools and methods can support a variety of innovative projects in the urban context is the cornerstone of the European funded project DESIGNSCAPES.

DESIGNSCAPES wants to encourage the uptake and further enhancement of urban design-enabled innovations by existing enterprises, start-up companies, public authorities and agencies, and other urban stakeholders.

Design is one of the key creative domains relevant to innovation. We refer to design as a process to identify, frame and address problems. Design generally harnesses divergent and convergent thinking through a series of tools, methods, techniques and activities such as research, user participation and (user) testing, rapid and frequent prototyping, development and visualization / materialisation techniques. In this definition, design has a broader context of application than what one would generally think of (e.g., product design, fashion design, visual design). Design tools and methods can be applied to support all these activities and projects that aim at tackling problems with a certain degree of indeterminacy and uncertainty (e.g., feasibility studies, ideation phases, prototype, development, testing, and scaling up of new or existing products or services). Typically, the design tools and methods we present in this toolbox only require pencils and papers and some basic knowledge of software applications such as word processors or presentation programs. However, although such tools and methods can be easily and readily applied, it is only after repeated use and application in different contexts that they bear the most fruit.

## KEY TO THE DESIGNSCAPES TOOLBOX

### **Human-centered and participatory**

One of the core principles behind the DESIGNSCAPES Toolbox is that the needs and wants of the users and all the people who will be affected by the design project should be at the core of the design process. This is why processes such as user research, user testing and user participation are so important. The DESIGNSCAPES Toolbox offers a variety of tools and methods to more closely look at the potential users of your product or service and to directly involve them in the design process.

### **Iterative**

The tools and methods offered by the DESIGNSCAPES Toolbox should be used to develop your ideas through iterative cycles. Rather than having an idea, fully implementing this idea and then testing it, we recommend that you apply an agile approach and go through multiple cycles of ideation, prototyping, quick implementation and testing. You can, for example, have a first cycle in which you just develop a very early prototype of your idea, you then test this prototype and receive feedback and, after that, you just go back to the drawing board and develop a new, slightly more advanced prototype that takes into consideration the feedback you received. You can then test this new prototype and continue working through various iterations. This approach allows you to progressively tune and refine your ideas, prototypes, products and services.

### **Fueling convergent and divergent thinking**

The DESIGNSCAPES Toolbox can be used at different stages of the design process. In a design process, you may have stages in which you explore multiple ideas and possible directions. In these stages, this multiplicity, this divergent thinking can help you

look at your ideas or problems from different angles. However, to progress into the development and implementation of your product or service, you also need stages in which you focus and in which convergent thinking limits possibilities and directions to follow. Throughout your design process, you want to alternatively foster these two modes of thinking: exploring multiple directions through divergent thinking and re-focusing on some specific directions to follow through convergent thinking.

### **Using a variety of tools & methods**

A variety of different design tools and methods are presented in books, academic publications, websites and freely available toolkits. Such different tools and methods can be combined in different ways, also in relation to the context of application. This results in a proliferation of information on design tools, methods and approaches. In the DESIGNSCAPES Toolbox, we offer a small selection of such tools and methods. The idea is that what we present here can supplement and integrate existing knowledge rather than proposing yet another set of tools and methods.

### **What is the difference between tools and methods?**

Tools are devices or objects that can be used to carry out a particular function or activity. For example, a product designer working on a wood prototype can use a carving knife as a tool to sculpt the wood and to create a wood artifact that has some resemblance with the product she is designing. Methods are ways in which tools are used. For example, our product designer might use her knife adopting different techniques to carve different kinds of woods. She can use the knife in a particular way if she wants to create some particular sculpting effects, e.g., if she wants her prototype to look quite refined or on the contrary quite sketchy and undetermined. In other terms, methods are particular procedures or ways for accomplishing or approaching, especially a systematic or established one.

The example of wood carving is interesting also for another reason. One would generally think that if one wants to create a good wood artifact, it would not be enough just to read a PDF file containing some instructions on wood carving tools and methods. One would think that some practical training and exercise would be needed. Only after tinkering with carving processes for a while, using a variety of tools and methods and operating on different types of wood, one would acquire a good experience of carving tools and methods. Such is also the spirit behind the DESIGNSCAPES Toolbox. The tools and methods here presented are quite broad-range. Rather than describing how to use carving knives, we focus on those forms of design that can be quite easily adopted also by people who have no previous practical design skills (e.g., drawing, sculpting, etc.).

### **EXISTING DESIGN TOOLKITS AND HOW THE DESIGNSCAPES TOOLBOX IS DIFFERENT**

DESIGNSCAPES is not the first project proposing to create a design toolbox to support innovation processes. A variety of toolboxes already exist and a good number of them are currently freely available. If you want to read more about complementary tools and methods, we suggest you look into the following freely available resources. A good starting point is to look at the curated list of 'Toolbox Toolbox': <https://www.toolboxtoolbox.com>. Reacting to the myriad of toolboxes out there, the team behind 'Toolbox Toolbox' decided to curate a list of the best business, design and organisational change toolboxes created by organizations including IDEO, Microsoft, Futuregov, Google Ventures, Nesta and many more. Another overview is provided by a website that curates a collection of design research techniques: <http://designresearchtechniques.com/#/>

### Why is DESIGNSCAPES Toolbox different?

- The approach we use in presenting the tools and methods is suggestive and educational, rather than normative. Some of the existing toolkits tend to adopt an approach where the tools and methods are described as a sequence of actions and steps that need to be quite strictly followed. Typically, such toolkits would present tools and methods in relation to somewhat fixed duration, number of participants, step-by-step guide, expected outcomes. This quite normative approach is very helpful, especially for people and organizations that encounter design for the first time. However, the risk of presenting tools and methods in such a normative way is that some of these toolkits tend to oversimplify, to reduce the nuanced complexity of design and to transform it into a sequence of fixed techniques to be uncritically applied to any circumstance. The way in which we see design tools and methods, conversely, is as processes that need to be continuously modified and readapted in relation to the context of application. This is why, when we present our selection of design tools and methods, we tend to describe them as composed of modules or activities that are not cast in stone, but that can be reconfigured according to the specific needs and interests and the specific contexts of application.
- The context of application of DESIGNSCAPES is the urban dimension. Problems targeted by the applicants of the DESIGNSCAPES Open Calls might include climate change, social integration, aging society, infrastructure, smart and sustainable use of resources, mobility and citizen participation etc. These are huge and problematic areas of application, which deal with a big variety of different stakeholders and their different needs, demands, views, interests, objectives, agendas, with wicked problems, with power dynamics on how to control and use resources that are scarce or unevenly distributed. Addressing these issues requires a design

perspective that takes into consideration such complexity and the implications of design processes in relation to different social, cultural and economic contexts. This is why, the DESIGNSCAPES toolbox includes some tools and methods coming from service design<sup>2</sup>. According to the design theorist Birgit Mager, service design “choreographs processes, technologies and interactions within complex systems in order to co-create value for relevant stakeholders”. Service design is particularly equipped to consider this complexity as it adopts a systemic perspective that looks at a design project as emerging from the interaction of a wide variety of stakeholders in relation to specific contexts of application.

- The DESIGNSCAPES toolbox contains a selection of tools and methods that specifically look into how to assess the effectiveness of design approaches.

2. Polaine, Andy, Lavrans Løvlie, and Ben Reason. 2013. *Service Design: From Insight to Implementation*. Brooklyn, New York: Rosenfeld Media; Stickdorn, Marc, Markus Edgar Hormess, Adam Lawrence, and Jakob Schneider. 2018. *This Is Service Design Doing: Applying Service Design Thinking in the Real World*. Sebastopol, CA: O'Reilly Media.

2

**INVENTORY**

## **AN OVERVIEW OF THE TOOLS AND METHODS INCLUDED IN THE DESIGNSCAPES TOOLBOX**

On the next page, you can find an overview of the tools and methods included in the DESIGNSCAPES toolbox. Many more design tools and methods are described in academic literature and design books. We decided to keep our selection quite narrow as we wanted to (1) focus on tools and methods that were not too simplistic and would allow for fine grained representations of potentially complex urban interventions and, yet, could be applied also by non-design professionals and ordinary citizens and (2) propose a balanced inventory that supports all the three stages of the DESIGNSCAPES Open Calls.

# THE DESIGNSCAPES TOOLBOX OVERVIEW



#1 PERSONAS S1, S2



#2 SCENARIOS S1, S2



#3 CULTURAL PROBES S1



#4 SERVICE WALKTHROUGH S1, S2



#5 CO-CREATION WORKSHOPS S1, S2



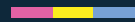
#6 STAKEHOLDER MAP S1, S2, S3



#7 BUSINESS MODEL CANVAS S1, S2, S3



#8 JOURNEY MAP S1, S2, S3



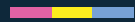
#9 BLUEPRINT S1, S2



#10 MOTIVATION MATRIX S1, S2, S3



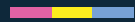
#11 TOUCH POINT MATRIX S2



#12 EXPERIENCE PROTOTYPING S2



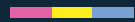
#13 THEORY OF CHANGE S2, S3



#14 KEY PERFORMANCE INDICATOR S2, S3



#15 REPLICATION ANALYSIS S2, S3



#16 TREND ANALYSIS S1, S3



#17 CAUSAL LOOP DIAGRAM S1, S2, S3



#18 SIX THINKING HATS S1, S2, S3



#19 MIND MAPS S1



#20 THE FIVE WHYS S1



#21 JOBS-TO-BE-DONE S1



#22 SWOT S1, S2



#23 VALUE PROPOSITION CANVAS S1



#24 IDEA EVALUATION MATRIX S1, S2



#25 USE CASES S1, S2



#26 FUTURE SCENARIOS S1, S2, S3



#27 WISA STRATEGY CANVAS S1, S2, S3



#28 HOW MIGHT WE? S1, S2



#29 CARD SORTING S2, S3



#30 THE ECODSIGN STRATEGY WHEEL S1, S2

Stage of the DESIGNSCAPES Open Calls: S1: Feasibility S2: Prototyping S3: Scalability proof

**HOW IS DESIGNSCAPES TOOLBOX POSITIONED IN RELATION TO THE COMPETENCES NEEDED FOR DESIGN - ENABLED INNOVATION PROJECTS?**

DESIGNSCAPES aims to build capacity for design-enabled innovation by supporting those innovation projects that occur in an urban context, facing challenges, complexity and uncertainty in ‘wicked’ contexts. One of the ways to do this is to equip people and communities with an array of skills, tools, methods, related to design, innovation and the urban environment.

A DEI Capabilities Framework (see figure 1) has been developed to map out the core capabilities that we consider critical to support design-enabled innovation. Some of these capabilities are more related to design (e.g., visualizing an innovation idea), while other capabilities have relevance in creating the needed connections to scale and reach embedment in the urban context. This DEI Capabilities Framework presents these capabilities in relation to three broad areas of application: (1) Building Relationships, (2) Leading in Complex Environments and (3) Organizational Viability.

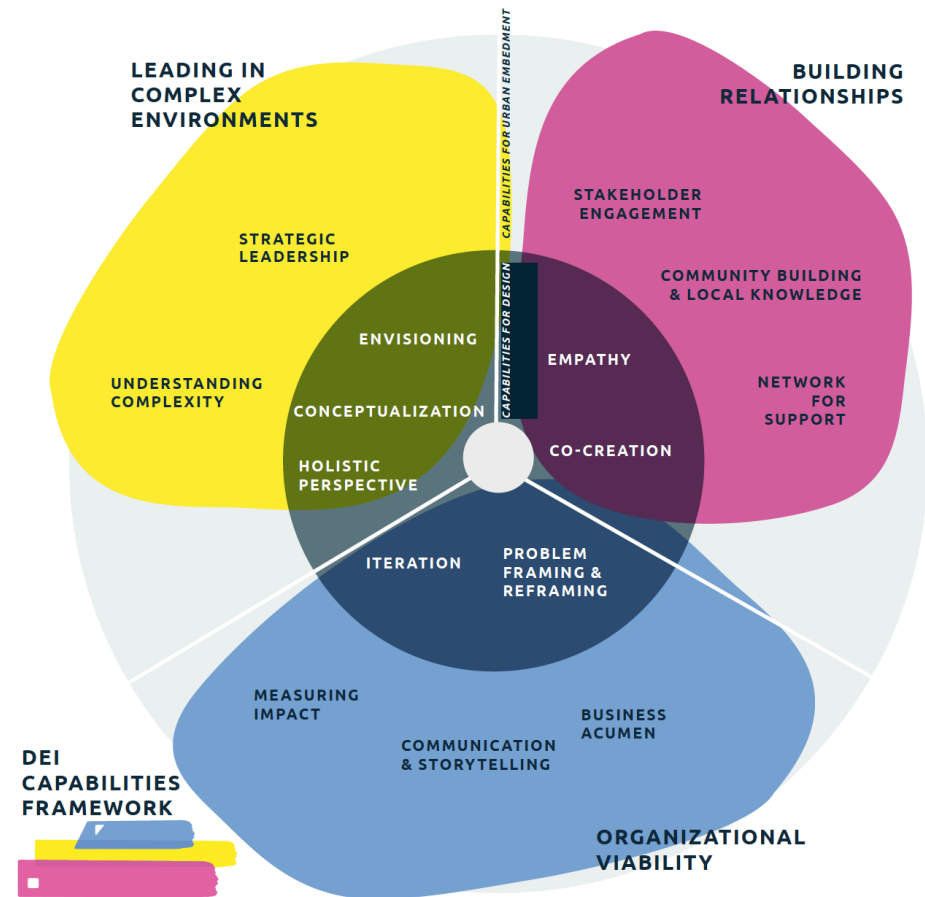


Figure 1: DESIGNSCAPES Capabilities Framework



# BUILDING RELATIONSHIPS

## THEME 1: BUILDING RELATIONSHIPS

Capability to collaborate and network in the urban context through engagement and participation.

### Why?

Design driven innovation in urban context is also based on citizens' engagement and participation. Citizens bring their social skills, their problem solving strategies and their local culture.

### How?

Facilitation and engagement tools, that support citizens' participation and social creativity.

### Through:

- Stakeholder Engagement
- Community Building & Local knowledge
- Network for Support

- Personas
- Cultural Probes
- Service Walkthrough
- Co-Creation Workshops
- Journey Map
- Blueprint
- Touch Point Matrix
- Experience Prototyping
- 5 whys
- Jobs-to-be-done
- Idea evaluation matrix
- Use Cases
- How might we?
- Card sorting

# LEADING IN COMPLEX ENVIRONMENTS

## THEME 2: LEADING IN TOOLS: COMPLEX ENVIRONMENTS

Ability to bring in strategy to achieve meaningful change and the ability to navigate complexity & uncertainty in 'wicked' contexts. Establishing the conditions that allow innovation (culture change, skills and mindset...)

### Why?

The global context we're in means we need to bridge the various gaps between worldviews, engage stakeholders at political levels, communicate with a variety of disciplines to address change.

### How?

Methods and tools to navigate complexity & uncertainty in 'wicked' contexts.

### Through:

- Strategic Leadership
- Understanding Complexity

- Theory of Change
- Scenarios
- Stakeholder Map
- Motivation Matrix
- Trend Analysis
- Causal Loop Diagram
- Design Orientating Future Scenarios
- Multifactor analysis tool

# ORGANIZATIONAL VIABILITY

## **Organizational Viability**

Ability to understand the strategic aspects of feasibility, business acumen and long-term sustainability and understanding and communicating impact.

## **Why?**

A good number of design-driven innovation projects do not pay enough attention to strategic, managerial, organizational and financial components

## **How?**

In the toolbox, we provided an array of tools that can be used to look at these components.

## **Through:**

- Measuring Impact
- Business Acumen
- Communication & Storytelling

- Business model canvas
- Motivation matrix
- Theory of Change
- KPI tool
- Replication analysis tool
- WISA canvas
- SWOT analysis
- Value proposition canvas

## HOW THE DESIGNSCAPES TOOLBOX CAN SUPPORT VARIOUS INNOVATION STAGES

Within the field of innovation management, many attempts have been carried out to define frameworks and models for the innovation process. In DESIGNSCAPES, we decided to follow a categorization proposed by the UK innovation foundation Nesta. We chose this categorization because, in general, the approach proposed by Nesta acknowledges the importance of iterative and collaborative processes where broad multi stakeholder networks are involved. According to this categorization, innovation processes unfold through the following phases:

- Exploring opportunities
- Generate ideas
- Development and testing
- Making the case
- Delivery and implementation
- Scale the innovation
- Changing systems

	Stage 1 : Feasibility			Stage 2: prototyping		Stage 3: Scalability	
	Exploring opportunities	Generating ideas	Development & testing	Making the (business) case	Delivery & implementation	Scale the innovation	Changing systems
Tools and methods from the Designscares toolbox	Journey map, stakeholder map, personas, scenarios, cultural probes, co-creation workshop, mind map, swot, business model canvas, blueprint, service walkthrough, design orienting scenarios , motivation matrix, trend analysis, the five whys, Jobs to Be Done, card sorting, value proposition canvas, experience prototyping, cultural probes, causal loop diagram, six thinking hats, how might we, The Ecodesign Strategy Wheel			Experience Prototyping, Co-Creation Workshops , Journey Map, personas , scenarios, stakeholder map, service walkthrough , business model canvas , Theory of Change, blueprint, How might we , use cases, touch point matrix, KPI, service blueprint, value proposition canvas, The Ecodesign Strategy Wheel , motivation matrix, mind map, SWOT, Design-orienting future scenarios, Idea evaluation matrix, Card Sorting		Theory of Change, Experience Prototyping, Business Model Canvas, Design-orienting future scenarios, Journey Map, Value proposition canvas, Replication Analysis tool, Personas, Motivation Matrix, Service Walkthrough, Blueprint, KPI , Theory of Change, Card sorting	

Figure 2: How the DESIGNSCAPES toolbox can support innovation phases across the three Open Calls.

# EXPLORING OPPORTUNITIES

In this stage the goal is to find out what the problem and opportunities and challenges are. This can be done by asking the right questions, clarifying the real problem and building understanding of the context and current systems leading to new opportunities and challenges around a particular issue, helping to inspire new ideas for change.

## **Activities**

- Create deep understanding of users by ethnographic research
- Map out who is involved in the challenge you are trying to solve
- Create understanding of motivation and relations between stakeholders involved
- Create understanding of the market and context
- Envision of the future and scan horizon
- Create a clear understanding of the current system

3

**THE DESIGNSCAPES  
TOOLBOX**

# PERSONAS

A persona is a description of a fictitious person who represents a user, or a stakeholder involved in a project. Generally, such a description is organized as to provide a vivid representation, i.e., a name, age and some key characteristics. It could be quite short, as in this example:

*Mr. Brown, age 65, might prefer cycling to work, whereas Miss White, age 35, might prefer to use public transportation.*

Or personas can be more articulated and also contain pictures and other information considered relevant for the project, such as in Figure 3.

Such descriptions are generally based on analyses of the users, such as interviews, surveys or group dynamics (quantitative or qualitative).

## Content and elements

Personas are simplified representations where some specific areas of focus are highlighted. There is not a strict rule on what to include when creating a persona. Typical elements that could be included are:

- Fictional name
- Job role
- Picture(s)
- Personal information (e.g., age, gender, education, ethnicity, family status, location)
- Professional experience
- Technical profile (e.g., tech savviness, social media usage, what technological devices are used on a regular basis, favourite mobile apps)

"If you don't have to enter anything and data comes from a register, then it's even smarter - you don't have to do anything. But it's important that you get a clear message from the system and know your status - or that you get a receipt"

**Notes**

1. The persona descriptions are based on data from Statistics Denmark, India Denmark, Danlay Marketing and a special query from Statistics Denmark 2011. The query concerns use of IT, education, income, age, location, attitudes regarding security on IT, and attitudes towards social development. Data concerning relations to the public sphere and self-service is collected from qualitative interviews.
2. All quotes originate from qualitative interviews (DanlayMarketing, 2012).
3. For the group "The Active ones" the household income is above 770,000 DKK; 20% are living in a medium-sized education and 20% have a vocational education.
4. Within the age group 25-44 69% have a university education (Statistics Denmark, 2011).
5. For the group "The Active ones" 20% use a tablet (Statistics Denmark, 2011), 60% of those with a higher education use a tablet more than 10 times a week (Statistics Denmark, 2011).
6. In the municipality of Lyngby-Taarbæk 41% of the families with children aged 0-4 years has signed up for Digital Mail (Danish Agency for Digitalization, 2012).
7. 70% of "The Active ones" group use a television, 70% had used desktop online (Statistics Denmark, 2011).
8. 54% of the Danes between 25-44 years old and 77% of the Danes between 25-44 years use online social networks. For both age groups 20% use professional online social networks. For those with a higher education the numbers are 42% use online social networks and 24% use professional online social networks (Data from Statistics Denmark, 4th, 2 Sept, 2012).
9. 20% of "The Active ones" have a mobile phone in the household, 42% have a tv set (Statistics Denmark, 2011).
10. 41% of employed persons with income above average and 55% of self-employed have used mobile internet outside a business within the last 3 months.
11. 90% of Danes between 25-44 years have tried to search for information on a public homepage, 70% of those between 25-44 years and 70% of those between 25-44 years have tried to upload information via a public homepage (Statistics Denmark, 2011).
12. [www.w3.org/WAI/standardsWG/2012/](http://www.w3.org/WAI/standardsWG/2012/)

**Motivation for use**

Camilla and Jesper would like to be able to use online self-service solutions outside ordinary opening hours. They want to control the process themselves and they get frustrated if they cannot understand their rights and the process of the service. (11)

**Accessible for all**

Camilla and Jesper could have a handicap. The solution should be able to cater for special needs and for users that use compensating tools, this can be ensured by applying the guide for web accessibility (WCAG).<sup>12</sup>

**Examples of self-service situations**

- Sign up for daycare
- Change kindergarten
- Sign up for school and after school
- Submit tax
- Report mileage to the Danish tax authorities
- Check estate information
- Change of address when moving
- Order new license plates
- Report for unemployment compensation
- Repay Student Loans
- Sell a car and buy a car

borger.dk

Figure 3: Personas for borger.dk, the online one-stop shop and citizen's entrance to public administration (local, regional and national) in Denmark. This description focuses on area such as change of kindergarten and change of address (source: <https://www.interaction-design.org/literature/book/the-encyclopedia-of-human-computer-interaction-2nd-ed/personas>)

- Motivation (e.g., goals and tasks they are trying to complete)
- Concerns and needs
- Biggest challenges
- Likes / Dislikes
- One or more quotes that summarize what matters to the persona in relation to the project

### Why is it relevant within an urban context?

Projects operating within an urban context tend to address a variety of city stakeholders (e.g., public administrations and institutions, companies, diverse groups of citizens). Such stakeholders might have different goals, agendas, needs and wants. Personas provide a way to map this diversity, while, at the same time, performing a certain degree of simplification.

*"...In our project, we are using a concept of 'future personas', which is imagining and empathizing with people in a transhuman age..." - Designscapes participant*

### In which innovation stages can you use it?

Personas are typically used while carrying out feasibility studies (Stage 1 of the DESIGNSCAPES Open Calls), but they can also be used in subsequent stages, for example when the original ideas, products or services evolve and incorporate new uses.

### Examples of application

Personas are quite broadly used in a variety of design projects. Most of the design books and toolkits provide examples of application and are some Pinterest boards offering repertoires of personas.

Particularly interesting are also some niche applications. In some occasions, besides the creation of posters, cards and drawings representing personas, personas are performed through theatre techniques and role playing. This allows enacting

more performative user representations that also take into consideration how users interact with each other (Nielsen & Storgaard, 2013). In some other occasions, personas are (partially or completely) dynamically created collecting and filtering large amount of data (Jung et al., 2017).

### References & resources

- Jung, S., An, J., Kwak, H. Ahmad, M., Nielsen, L., Jansen, B. J. (2017) Persona Generation from Aggregated Social Media Data. ACM Conference on Human Factors in Computing Systems 2017 (CHI2017). p. 1748-1755. 6-11 May.
- Nielsen, L. Personas, in the Encyclopedia of Human Computer Interaction. URL: <https://www.interaction-design.org/literature/book/the-encyclopedia-of-human-computer-interaction-2nd-ed/persona>
- Nielsen, L., & Storgaard Nielsen, K. (2013). Personas - From poster to performance. In Proceedings of the Participatory Innovation Conference (pp. 272-275). Lahti, FI. Software to create personas: <https://xtensio.com/user-persona/>



# SCENARIOS

Scenarios are a representation of the key actions a user will perform while experiencing a product-service system. Taking the user into account, scenarios can help addressing questions such as: What does he or she use the product/service for? Where and when? What are the results expected? What is the innovation of this product-service?

They can be used to communicate the actual implementation of the product-service system under analysis or to envision possible future solutions. A written text, storyboards, sketches, videos are all possible ways of representing scenarios, that can also be enacted.

Scenarios help us to focus design efforts on the users' requirements/needs and, particularly in the case of "desired future scenarios", the users' desired future/vision/ possibilities. Scenarios allow consideration of different stakeholders (citizens, practitioners), different assumptions (agreements/disagreements) and different domains. The designers/ practitioners/ citizens can characterise scenarios according to their desirability (views on scenarios) and feasibility (testing scenario goals against the new emerging reality). Scenario building is a valuable tool in co-design and co-creation activities, which helps us to gain a shared understanding of the specific need, challenge or obstacle.

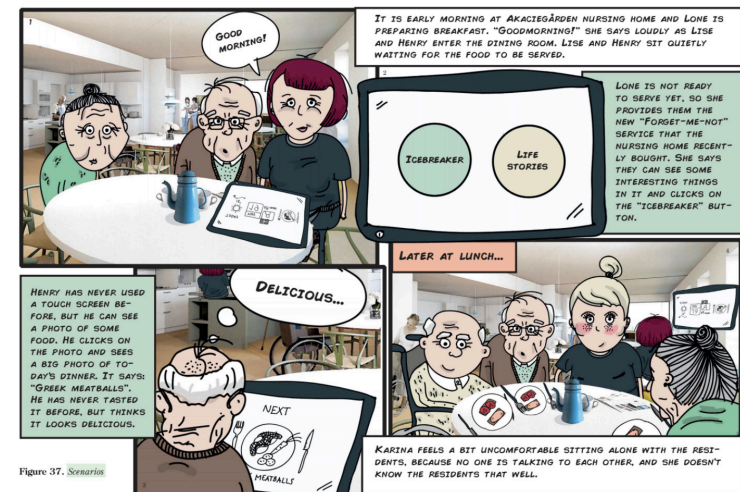


Figure 4: Using scenarios to envision an interactive system for helping elderly to eat properly (Ref. Forget me not, SSD thesis of Linnea Forss Lotte Skjødt Hansen, 2015)

## Content and elements

The core element of a scenario is a narrative that explains in a diachronic way the actions of a user. Personas (representing the users) are then the other key element of scenarios, since they are the main characters of the narrative, the driving element of the story. The narrative should clearly explain what the issue is, need, challenge that the user is facing and how he is going to address it through the use of the envisioned solution. The story should be simple and effective and should be easily communicated so that the reader can immediately see the value of the proposed solution and its implications. There could be different stages of scenarios: "main" (key path, which is the main scenario), "contextual" (how to respond to the client's needs) and "validation" (if the system/product/service responds to the proposed needs).

### Why is it relevant within an urban context?

Projects that are developed in the urban context have to take into account a complex ecosystem, made of many different stakeholders that are often involved in co-design processes. Scenarios, and in particular design orienting scenarios (Manzini et al., 2009) can be used as a conversation tool among stakeholders that can support a collective and shared vision among the different stakeholders through the complex design process.

### In which innovation stages can you use it?

Scenarios are typically used while carrying out feasibility studies (Stage 1 of the DESIGNSCAPES Open Calls).

*"...We will use journey maps to understand people's interactions (or preferred interactions) with data & the environment..."*

- *Designscapes participant*

### Examples of application

Video sketching is one of the possible techniques that can be used to represent scenarios. It is an effective and quick way to communicate the envisioned solution and can be easily iterated if needed after sharing it with the different stakeholders.

The following video sketches will be used to show the different possibilities that the very same tool offers:

Meet for dinner had the aim to increase social contact of ageing people during dinner. The scenario is enacted with some fiction elements to better depict the interaction between the actors. ([https://www.youtube.com/watch?time\\_continue=92&v=kQC3P9X\\_TIU](https://www.youtube.com/watch?time_continue=92&v=kQC3P9X_TIU)). Smells lovely was a project about the food chain. Video-sketching and in particular the animation-based sketching has been used to speculate on possible future scenarios. (<https://vimeo.com/87848351>).

Storyboards are another possible technique to represent scenarios, as shown in Figure 5.

#### STORYBOARD LOCAL

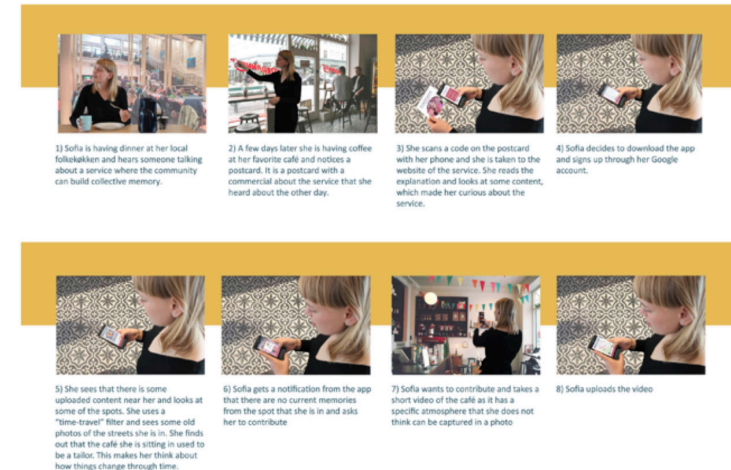


Figure 5: Storyboard for NARRAME: A SERVICE ABOUT COLLECTIVE MEMORY - A semester project from the Service Systems Design Master (credits to Drude Emilie Holm Ehn, Giulia D'Ettola, Maria Paszkowska, Nikolaj Baida, Tania Cearreta-Innocenti, 2017)

### References & resources

- Boletsis, C. (2018). Virtual Reality for Prototyping Service Journeys. *Multimodal Technologies and Interaction*, 2(2), 14
- Manzini, E. Jégou, F., Meroni, A. (2009). "Designing Oriented Scenarios" in *Design for sustainability, a step by step approach*. United Nations Environment Program (UNEP), Paris (<http://www.d4s-sbs.org/MB.pdf>).

# CULTURAL PROBES

**A cultural probe is a qualitative approach to understand the user, inspire the design functionally and aesthetically evoke the creative reaction of (potential) users while supporting the creation of design material (Gaver et al.,1999).**

They are used to create a deeper understanding of the context of the users. This technique is mostly used to inspire ideas in a design process and also serve to gather inspirational information about user's/participant's values and thoughts in order to dig the deeper details about concerns and desires. They are also used to test user's responses to specific experiences. With a cultural probe, participants "record any information about their day-to-day activities or environment which they feel is important to them" (Gillham 2005, p.4). Probes are small packages that can include any sort of artifact along with evocative tasks, such as writing a diary, taking pictures, from postcards to notebooks or cameras to take pictures of relevant moments of their everyday life. The packages are given to participants to allow them to record specific events, feelings or interactions. This tool provides direct and uncoded knowledge about users that may not be captured in observations, questionnaires, interviews or other tools to get user information. After a specified period of time, the packages are given back and analyzed by the designer.



Figure 6: Two examples of a cultural probe with tasks and materials for the participant. (Source: Mattelmäki 2006)



Figure 7: Materialisation process kit. (Source: Meyer et. al., 2019)

Main components for the application of this tool:

Cultural probes are kits made up of a variety of items and tasks intended to provide a unique insight into the lives of the participants. After defining the goals of the cultural probe kit and selecting the participants, a kit will be designed. Typical elements that could be included are:

- Camera
- Drawing materials (felt pens, crayons, coloured pencils, pens, pencils etc.)
- A notebook, a journal or diary (also, possibly, in digital format)
- Map
- Stickers
- An instruction manual

*“... In SciberCity, we are interested in the role of data as a cultural probe, how it can be curated, presented and used alongside arts-based methods as part of design...” - Designscapes participant*

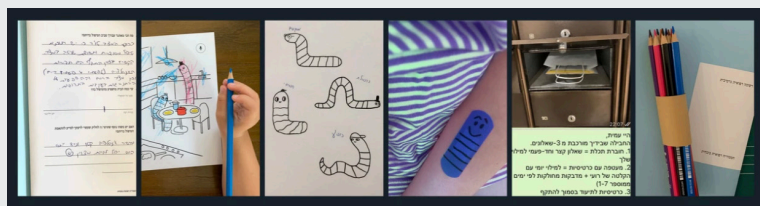


Figure 8: Cultural probes from the project: Narrativ Health Record by Michal Pazner. (Source: <https://www.mdesgrad.bezalel.ac.il/graduattess/michal-pazner>)

**Why is it relevant within an urban context?**

When pursuing design-enabled innovation in the urban context, with a user perspective, one needs to have a deep understanding of the user. In traditional surveys, questionnaires and various observational techniques are likely to produce responses that are guarded and merely scratch the surface. Compared to

observations, they offer a view to the users’ mind, allow flexibility and might be cheaper. Compared to questionnaires a probe lets participant to define important aspects by themselves. Compared to interviews the probes offer a view to the situation as it happens or just after it, but still, probes and interviews are usually mixed in order to get a richer picture of the situation. To this, cultural probes can offer insight in private, more delicate matters, when trying to design in “sensitive settings” such as poverty or social exclusion, which are typical urban challenges. Thirdly, being able to connect and learn via cultural probes with minority groups in cities or neighbourhoods’ can create better co-creation processes for innovation.

**In which innovation stages can you use it?**

Cultural probes are typically used while carrying out feasibility studies (Stage 1 of the DESIGNSCAPES Open Calls).

**Examples of application**



figure 9: Cultural probe for citizen engagement in the city (1 week)  
Source: <https://citizengovinteraction.wordpress.com/koln-experiment/cultural-probes/>.



This probe shows how this tool can be used in an urban context and how it could work for a project such as Designscapes. It aims to give a personal overview of a week in the life of a young person, living in the city of Cologne. The probe triggers the participant to observe the city with a critical eye, observing and evaluating what they appreciate or don't appreciate and finding opportunities for improvement.

Other applications of cultural probes are in the digital dimension. Digital probes are well suited for studying digital service usage. For example, WhatsApp can be used as the probe medium as it is widely used and probably as well by the target group using the specific digital services.

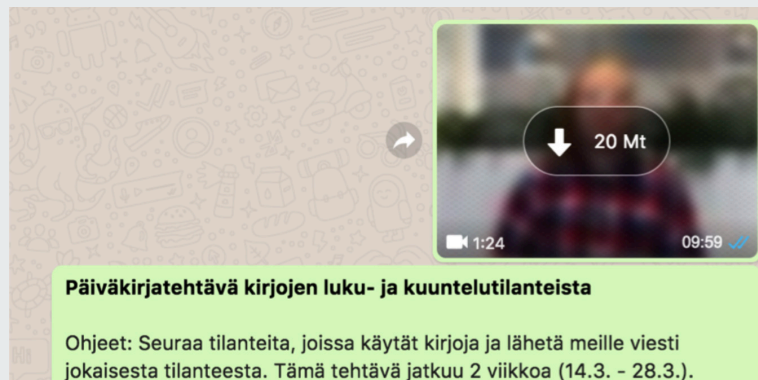


Figure 10: An example of a digital probe. First messages that were sent to the participants included an introductory video of the researcher and detailed guide for diary inputs. (source: <https://medium.com/@AarneLeinonen/cultural-probes-for-service-design-in-2018-9649159bd248>)

## References & resources

- Gaver, W., Dunne, A., & Pacenti, E. (1999) Design: Cultural probes, Interactions, Vol 6, Issue 1, Jan/Feb 1999
- Gillham, R. (2005). Diary Studies as a Tool for Efficient Cross-Cultural Design
- Mattelmäki, T. (2006). Design Probes. Aalto University. Retrieved from <https://shop.aalto.fi/media/attachments/55d58/mattelmaki.pdf>
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# SERVICE WALKTHROUGH

The service walkthrough is a tool that can be used both to represent an existing service but also to prototype a possible future one (Blomkvist, 2016). It is a practice that has been developed in the service design community to adapt the well-known prototyping techniques used in the product design context to the service level of representation. The service walkthrough has to be enacted, providing to the designers a way to understand the experience of a service from the user point of view.

## Content and elements

The technique uses a journey metaphor as the basis for how the service is represented and usually implies the design at a prototyping level of the different components of the service (from the touchpoints, to the physical context in which the service is experienced). The scale at which the service walkthrough is done can considerably vary: there might service walkthroughs made by Lego and performed acting Lego figures, but also experienced and performed by potential users at a “human-scale” level.

## Why is it relevant within an urban context?

Service walkthrough can be a useful tool to be used while designing for the urban context since it can easily address the designer’s need of experiencing in a physical space and through time the designed solution.

## In which innovation stages can you use it?

Service Walkthrough can be used in two different stages: while carrying out feasibility studies (Stage 1 of the DESIGNSCAPES Open Calls) or while prototyping a service concept (Stage 2 of the DESIGNSCAPES Open Calls).



Figure 11+12: Two different ways of performing a Service Walkthrough. In Figure 11, Lego characters are used to enact the reproduction of a service at a small scale (source: [https://sidlaurea.com/2015/10/10/design-thinking-innovation-as-a-way-of-life/desktop-walkthrough-\\_role-play\\_pilot-testing/](https://sidlaurea.com/2015/10/10/design-thinking-innovation-as-a-way-of-life/desktop-walkthrough-_role-play_pilot-testing/)) while in figure 12 a possible user is experiencing a mock-up of the service at a human scale (Boletsis, 2018)

## Content and elements

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## Examples of application

Johan Blomkvist in his paper Benefits of Service Level Prototyping (2016) proposes three different examples of service walkthrough. The first one is a treasure hunt in which one designer facilitated the walkthrough together with two assistants. In this case, they had a low fidelity prototype of an interactive smartphone application and the participants had to interact with it in a similar location of the real one. The focus was on the transitions between the different touchpoints of the service. To collect feedback some stops were made after each touchpoint of the walkthrough. The second example is about improving the customer experience

of a bank service. The walkthrough was conducted with real customers and in the real bank's settings. The focus was not on some artefact or touchpoint but more on the feelings that small details of the location and of the interaction with the service providers could elicit.

The third example is about a meal delivery service and the focus of the walkthrough was on how the information was passed along the service through the different actors involved, focusing in particular on the journey of the receipts and documentation of the different events in the service. The walkthrough was conducted in a real setting, where the order had to be collected and then sent to the next actor in the chain.

The three examples clearly show that even if the tool is the very same, the walkthrough can be designed to explore a particular aspect of a service (e.g. touchpoints' transition, customer experience, information flow).

## References and resources

- Blomkvist, J. (2016) Benefits of Service Level Prototyping, The Design Journal, 19:4, 545-564
- Boletsis, C. (2018). Virtual Reality for Prototyping Service Journeys. Multimodal Technologies and Interaction, 2(2), 14. <https://doi.org/10.3390/mti2020014>

# STRUCTURED CO-CREATION WORKSHOP

**There are a lot of different ways to organize co-creation workshops in relation to which tools you use and to the timeframe of the event. Most often, such co-creation workshops span the course of a couple of hours, but in some cases, they may extend to 2-3 days or longer. The goal of such workshops is to involve the stakeholders/clients/customers/problem-holders you work with directly as active players on your design-team. You will co-create, make and build prototypes and solutions directly with them – not merely listening to their points of views. Co-creation has become a central element in the application of participatory design practices and refers to the act of collective creativity shared between one or more people – in a sense blurring the boundary between who is the designer and who is the user of the resulting solution (Sanders & Stappers 2008). Moreover, design is always situated and our understanding of design – and the process of our being designed – necessarily comes from this situatedness (Light & Akama, 2012).**

To make the most of your co-creation workshop, we propose to think of the activity in terms of a three-stage process, with a preparatory pre-workshop phase and a post-workshop phase of follow-up.

In the pre-workshop phase, you will set the stage, specify what to work on in what given timeframe and make sure to involve/invite the relevant participants - as well as plan the logistics. The co-creation workshop itself is of course the key activity and the moment of production in which you and the people you have summoned create materials and outputs together. The post-workshop phase is the follow-up and next steps phase, where you will move the sketches further into realisation. At a very minimum you will need to be transparent about how your workshop participants can follow your work - as well as continue their engagement.

Co-creation workshops entail a number of well-defined processes: (a) identify and carefully choose the participants to engage in the co-creation sessions, arrange an appropriate venue, and invite the participants; initiate and facilitate discussions led by a moderator, who leads brainstorming or prototyping activities with the aim to engage the participants as co-creators or co-designers, and (c) finally, collect the feedback and agree on the outcomes of the discussion.

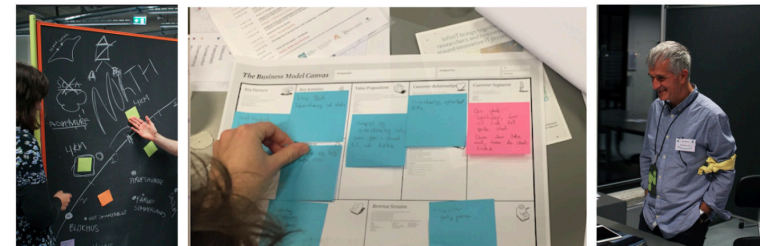


Figure 13: Image of activities in a co-creation workshop in December 2018, organised to develop new data-driven solutions to tourism related challenges in the North of Denmark. Organised between Infnit and Open4Citizens (Source: Open4citizens)



### Content and elements

The structure of the co-creation workshop is most often tailor-made to fit particular contexts depending on what findings, outputs or insights you need in a particular project. Careful consideration and choice of venue is key. Often it works great to be inside a dedicated project-room using pens, post-it notes, paper, LEGO-bricks or other materials, while also sticking flipcharts to the walls. In other cases it can be of value to be outside visiting particular spots in the city - or even several places (a possible “walkshop” see below). It is also important to invite relevant participants across your design team, clients, problem holders, community members, public authorities or other defined demographic groups (teenagers, elders, newcomers or other).

Usually, the structure of a co-creation workshop is modelled over a sequence that includes:

- An introductory session
- A motivational session (what the current state/scenario is and what the objectives of the workshops are)
- Icebreakers and short presentation round
- Production session(s) & co-design activity
- Specification of challenges and design specifications
- Mapping exercises
- Ideation and structured brainstorming
- (rapid) Prototyping
- ...Other tailor-made activities
- Round of presentations/pitches and feedback
- Wrap-up and next steps

As you select the sequence and pick what tools to weave together, think of how you will facilitate the co-creative design ensuring interactive participation among all involved - as well how you will capture/document the outcomes of the day.

### Why is it relevant within an urban context?

The co-creation workshop is a method for organising and intensely involving a range of different stakeholders and perspectives in one session. It allows for designing with them and allowing for them to make tangible their priorities and proposals. In the urban context, most often multiple actors are complexly related and this is a good format for bringing them together. Furthermore, the act of co-creating together heightens the sense of shared ownership and motivates further engagement and involvement. Most groups of people are often more likely to adopt and use a solution or service they have actively given shape to and helped create. It is really important for people to feel that they are being incorporated and listened to.

### In which innovation stages can you use it?

Structured co-creation workshops are typically used while carrying out feasibility studies and prototyping sessions (Stage 1 and Stage 2 of the DESIGNSCAPES Open Calls). Potentially, they can be used also in Stage 3 (scalability) as a tool to get info before the adaptation process to the new context.

### Examples of application

As it should be clear by now, there are almost infinite ways in which you may curate and frame a structured co-creation workshop. To indicate this variety, we bring forward 3 examples of diverse applications.

One version is “the Walkshop”: A simple but very useful method to use where there is a need for exploring the physical environment through interaction in the particular case areas. Local issues can be put into play in a memorable and embodied way as you move and use the physical space of the city. During a walk-shop, participants may follow a predetermined route, discuss selected issues, taking photo or video or mapping activity. Below is an

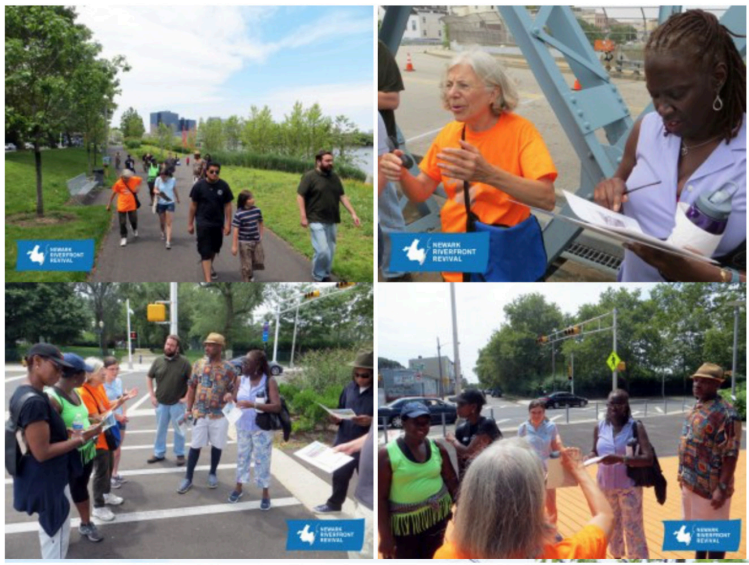


Figure 14: Image of a “walkshop” at the Newark Riverfront, NY. An interactive walking tour covering environmental clean-up activities and sharing of stories in a part of city under transformation (Source:<http://newarkriverfront.org/rsvp-today-for-july-12-ironbound-riverfront-walkshop/>)

Another version of the structured co-creation workshop is “the Service Jam”: A service jam is a collective event that brings together different citizens and people with an interest in services and design-based approaches to problem solving through creativity. It is often very experimental and open/inclusive events where teams work together and compete over 48 hours/a whole weekend to develop novel services addressing challenges framed under a common theme. It even a phenomenon organised as a global event where ‘service jams can be hosted simultaneously at multiple locations around the same topic. (Read more: <http://planet.globalservicejam.org>) Similar to the Service Jam can be what is labelled “the Hackathon”, however where the Service Jam can be about producing concepts for services, the typical hackathon is an intense ‘hack marathon’ where tech-savvy programmers in a short period works long nights and all through weekends to solve problems, eat pizza and produce code. The phenomenon has roots in Silicon Valley throughout the 1990s, but the format has spread and become popular also as a design approach adaptable to different settings and problem areas, typically involving a short timeframe, interdisciplinary teams and tailor-made methods. Hackathons are held everywhere these days, covering diverse topics in different settings among various crowds of people.

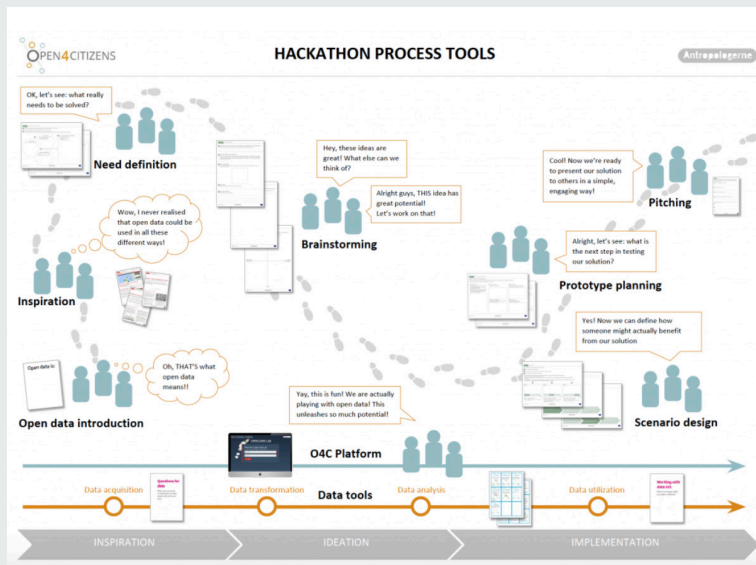


Figure 15: Overview of the hackathon process as suggested during the Hackathons held within the European Horizon 2020-project [www.open4citizens.eu](http://www.open4citizens.eu). What is visualized is the explorative and iterative path from inspiration, ideation and implementation assisted and facilitated through the use of a series of tailor-made tools. All are openly available at <http://open4citizens.eu/tools/>

### References and resources

- <https://www.interaction-design.org/literature/article/introduction-to-the-essential-ideation-techniques-which-are-the-heart-of-design-thinking>
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- Elizabeth B.-N. Sanders & Pieter Jan Stappers (2008) Co-creation and the new landscapes of design, *Co-Design*, 4:1, 5-18
- Light A. and Akama Y., *The Human Touch: Participatory practice and the role of facilitation in designing with communities* (2012), PDC 12, Denmark

# STAKEHOLDER MAP

**Stakeholder map - or actor network mapping - is a tool to create a clear overview (visual or physical) of all stakeholders - i.e., the important people (key groups, for example shareholders/funders, users, customers, staff or partner organisations) and components playing a role in a service or project. This tool is helpful to see relative positions of them and their relationships. It is useful to understand the complex relationship between stakeholders in a service or project and to explore possible hurdles (pain points) and opportunities. Although many ways of visualising stakeholder maps exist, two main dominant styles can be identified: (a) writing down the stakeholders in a table or (b) drawing concentric circles and placing the actors organically.**

The usual steps for creating a stakeholder map are:

- Identifying the involved stakeholders by conducting interviews and desk research - the goal is also to highlight the potential ones
- Drawing / writing down the stakeholders starting from the user/customer/citizen and also taking into consideration how to prioritise them in terms of significance
- Analysing and representing the relationships / connections between stakeholders (also taking into consideration how our product/service might affect these relationships)

## Stakeholder Map: Queensbridge Connected

Who are all the different people we should talk to about broadband service at Queensbridge Houses?

Providers or CBOs	City of New York	Queensbridge Residents
Queens Library	Community Programs & Development	Tenant Association president
Queens Library at LIC	NYCHA Communications	Tenant Association sub-committee
Mayor's Office of Operations	NYCHA Resident Engagement	Jacob A. Riis Neighborhood Settlement's senior group
Community Mediation Services	DCA OFE	Community Mediation Services youth group
Citi Community Development	NYCHA REES	
Urban Upbound	NYCHA Research & Analytics	
OATS	NYCHA Public Private Partnerships	
Jacob A. Riis Neighborhood Settlement	NYCHA IT	
	Digital Vans Mgmt.	
	Digital Vans	
	Mayor's Action Plan	
	Community Affairs Unit	

Figure 16: Example of Stakeholder maps in a table format

Typical elements that could be included in a stakeholder map are:

- Clustering of stakeholders (this can include one or more of the following: employees, communities, shareholders, investors, government, suppliers, labour unions, government regulatory agencies, competitors, collaborators, public communities, local communities, etc.)
- A drawing that represents the relationship and connection between the stakeholders

### Why is it relevant within an urban context?

Projects operating within an urban context tend to address a variety of city stakeholders (e.g., public administrations and institutions, companies, diverse groups of citizens). Such stakeholders might have different influences on the service or project. Stakeholder maps provide a way to map this complexity, while, at the same time, performing a certain degree of simplification.

### In which innovation stages can you use it?

Stakeholder maps are typically used while carrying out feasibility studies and defining possibilities to scale up (Stage 1 and Stage 3 of the DESIGNSCAPES Open Calls). However, the matchmaking process shows that they were also used during stage 2 (prototyping).

### Examples of application

Stakeholder maps can be made in many different ways, but usually they are a static representation of an existing ecosystem of actors. Within the design process it can be useful to have a clear idea of the relations between the stakeholders before a given solution is proposed and after it will be actually implemented. Furthermore the stakeholder map can be used as a tool for conversation (Giordano et al, 2018) when it is crucial to have a common understanding of the different roles of the stakeholders involved in a service system and when the possible solutions are clearly depending on how much power the service owner is ready to give to other stakeholders. As shown in Figure 17 having a low-fi and actionable representation of the stakeholders can allow a conversation between, in this case, the designers and the service owners, about possible future scenarios.

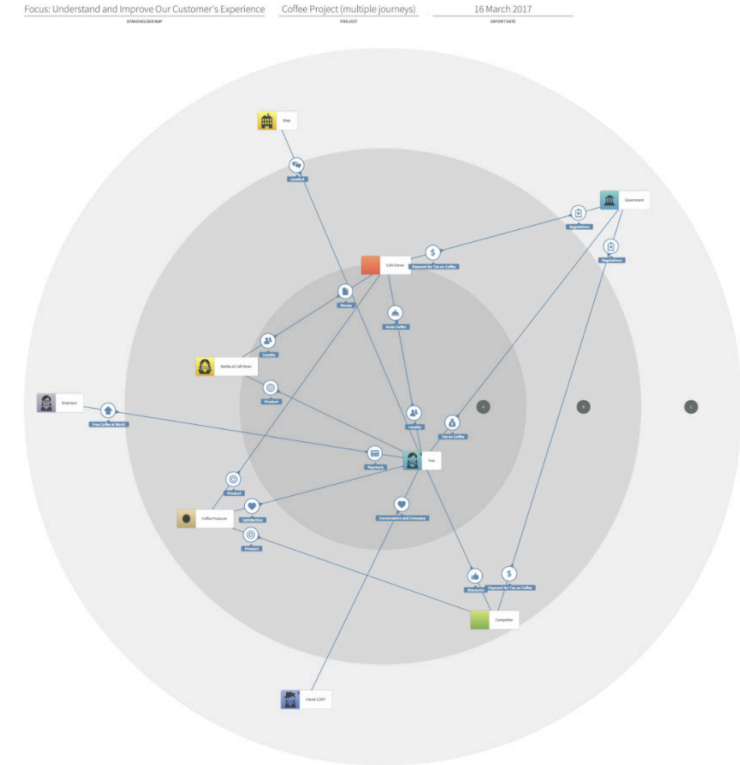


Figure 17: Example of a Stakeholder map in a circle format. Source: Service Systems Design Master, Aalborg University.

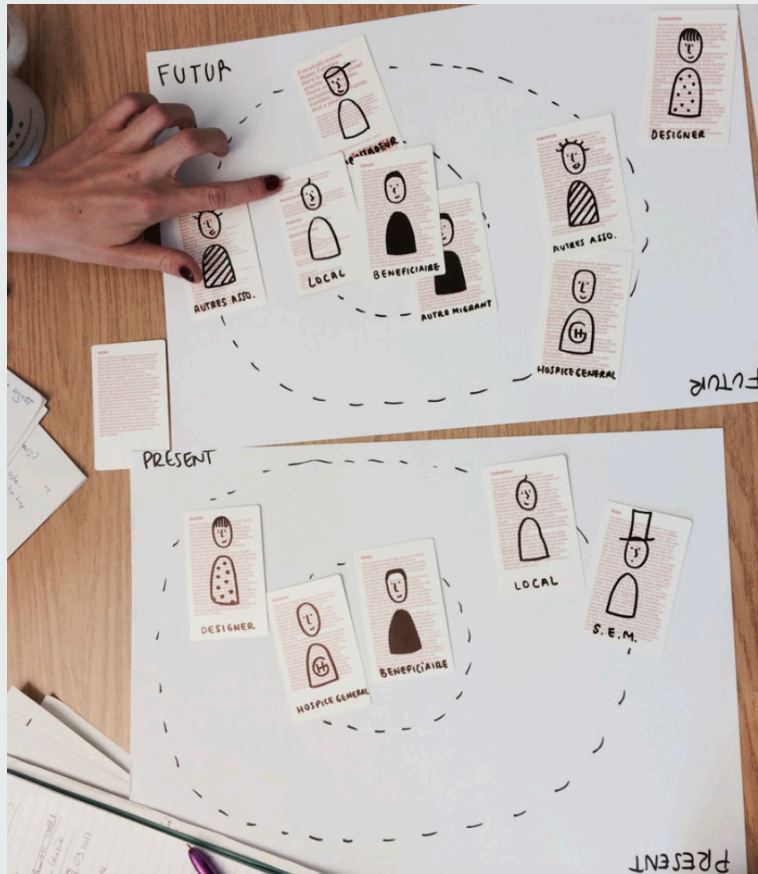


Figure 18: Actionable stakeholder map used during a workshop (credits to Fanny Giordano)

### References and resources

- Service Design Studio at the NYC Mayor's Office for Economic Opportunity. (2017). Example Stakeholder Map: Queensbridge Connected. New York: NYC Mayor's Office for Economic Opportunity. Retrieved from [http://www1.nyc.gov/assets/servicedesign/downloads/toolkit/templates/examples/3\\_CSD\\_ToolsTactics\\_StakeholderMap\\_example2.pdf](http://www1.nyc.gov/assets/servicedesign/downloads/toolkit/templates/examples/3_CSD_ToolsTactics_StakeholderMap_example2.pdf)
- Stickdorn, M. (2017). Learning Resources. Smaply. Retrieved 1 May 2018, from <http://learn.smaply.com>
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# BUSINESS MODEL CANVAS

A business model describes how an organization creates, delivers and captures value. The business model canvas is a visual template that can be used to outline key elements of a business model.

A business model can be, of course, elaborated in other ways, including more or less lengthy textual descriptions. The advantages of using a visual canvas is that it provides a quick and terse one-page presentation. Such canvases are, therefore, suitable to be used to outline different business models (e.g., during a participatory session) and compare them.

There are different types of business model canvases, but the most widespread is the one proposed by Alexander Osterwalder (Figure 19). This is probably the most popular tool used to design the operations of a new or refocused business. The model identifies nine essential building blocks (a set of key elements) for the business that needs to be designed to work supportively together.

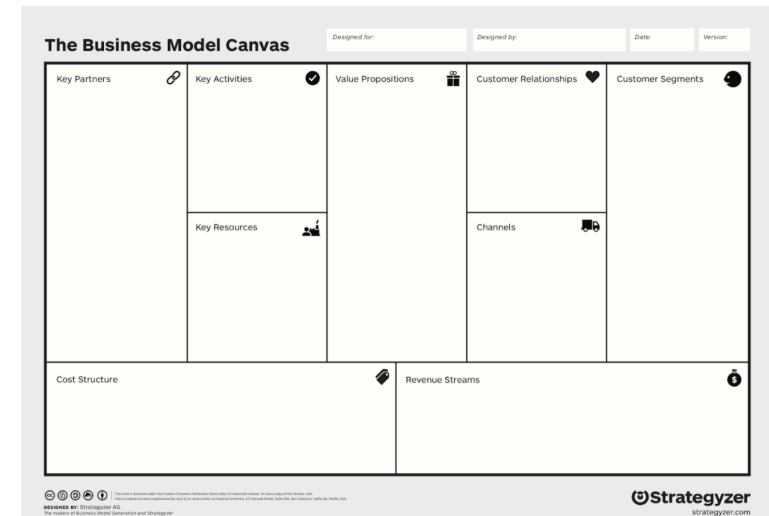


Figure 19: Business model canvas (Source: <https://strategyzer.com/canvas/business-model-canvas>)

## Content and elements

Business model canvases are concise (and simplified) representations of a business model in relation to a set of key elements. The elements included in the most widespread business model canvas are:

- Key partners
- Key activities
- Key resources
- Value propositions
- Customer relationships
- Channels
- Customer segments
- Cost structure
- Revenue streams

However, other kinds of business model canvases include

different elements such as:

- Core value proposition vs. ancillary value propositions
- Infrastructures and core components
- Environmental impacts
- Environmental benefits
- Social impacts
- Social benefits

**Why is it relevant within an urban context?**

Overall trends see cities continuously growing in size and attracting new dwellers. This environment can be particularly fertile in relation to the possibilities offered for innovation projects. No matter how small innovation projects initially are, their urban dimension generally allows for potential growth. Business model canvases can help identifying the financial dimensions of a design project and, as such, defining suitable strategies for viability and further replication.

**In which innovation stages can you use it?**

Business model canvases can be used while carrying out feasibility studies and defining possibilities to scale up (Stage 1) and Stage 3 of the DESIGNSCAPES Open Calls). However, the matchmaking process shows that they were also used during stage 2 (prototyping).

**Examples of application**

Alexander Osterwalder and Yves Pigneur present an example of the business model for Nespresso. The company initially started selling coffee pods and (third-party) coffee machines for making what they define as high-quality espresso at home. Gradually, the company expanded offering exclusive memberships to the office market.

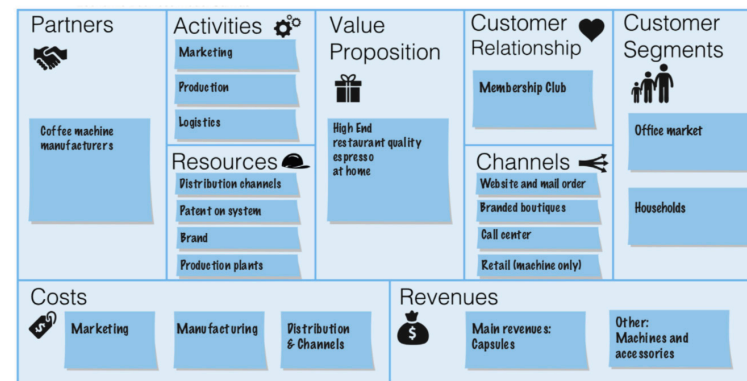


Figure 20: Business model for Nespresso (Source: Joyce & Paquin, 2016)

Alexandre Joyce and Raymond Paquin argue that this structure is not enough to capture some important elements of the business, including its environmental and social impact. They propose to add two further canvases (Figure 21 and Figure 22) to map these components (triple layered business model canvas).

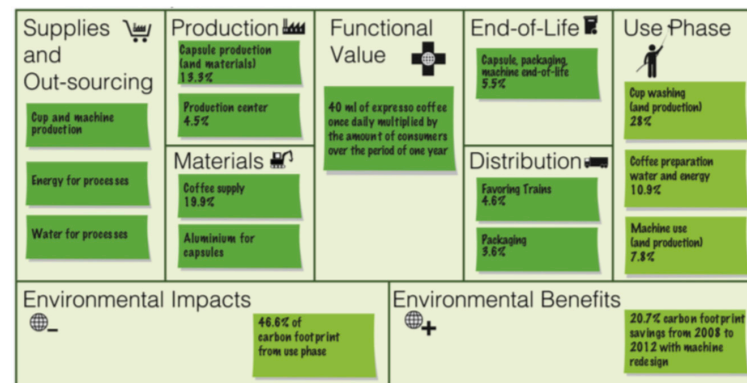


Figure 21: Environmental impact of Nespresso, showing, for example, that by redesigning the machines to be energy efficient, the company achieved 20.7% reduction in carbon emissions (in the section Environmental Benefits) (Source: Joyce & Paquin, 2016).



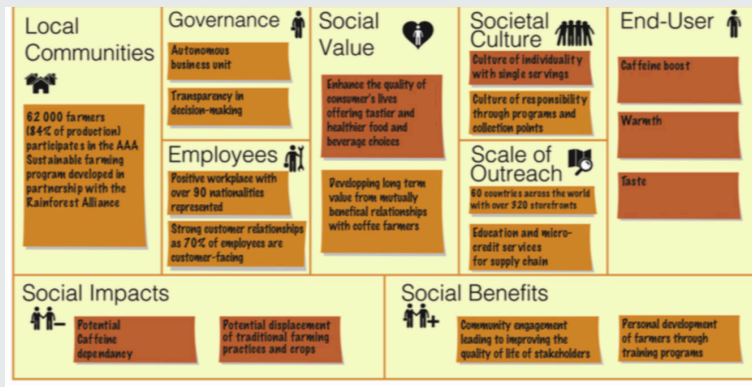


Figure 22: Social impact of Nespresso (Source: Joyce & Paquin, 2016).

Along a similar line of thinking, some other canvases are oriented toward a wider notion of business modelling, which can have at its centre the creation and support of meaningful communities.

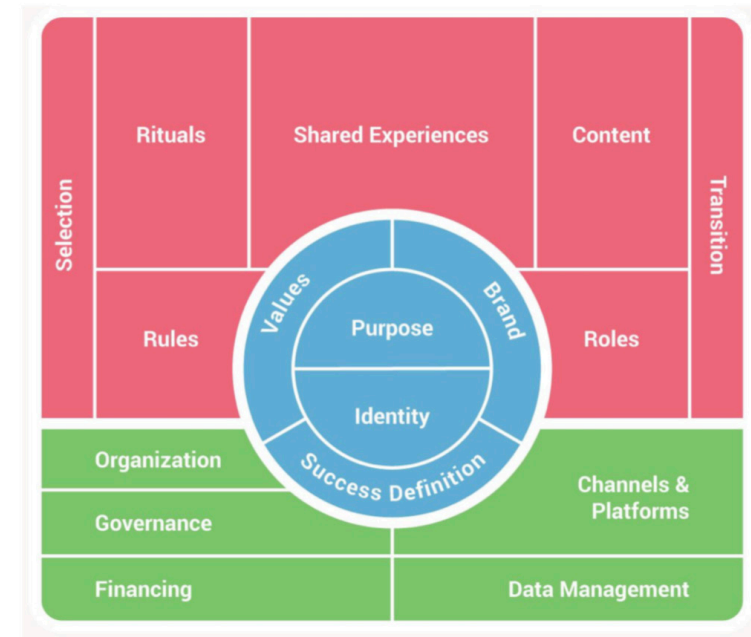


Figure 23: In the Community Canvas, the attention toward the financial and organizational sides underpin a model where success needs to be defined not only in economic terms (business profit) but also in relation to processes that support the creation of communities (Source: <https://community-canvas.org/>)

Another canvas proposed by Jukka and Katri Ojasalo tweaks the categories as to be more adapted to represent business models of services.

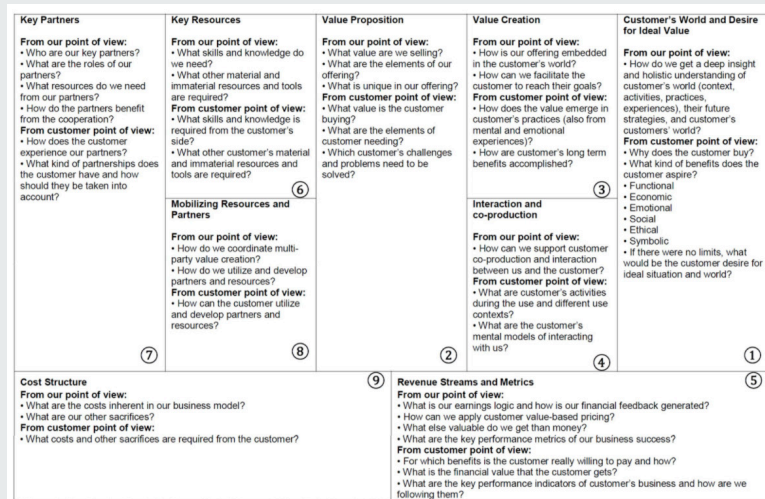


Figure 24: In the Service Logic Business Model Canvas, the focus is on adopting multiple points of view when filling the canvas: the organization that offers the service and the customer that aggregates the resources offered (Source: Ojasalo & Ojasalo 2015)

Last but not least, the platform design toolkit (Figure 25) helps companies and organization leverage the power of ecosystems to grow and reach outstanding results that cannot be reached independently (<http://platformdesign toolkit.com/>).

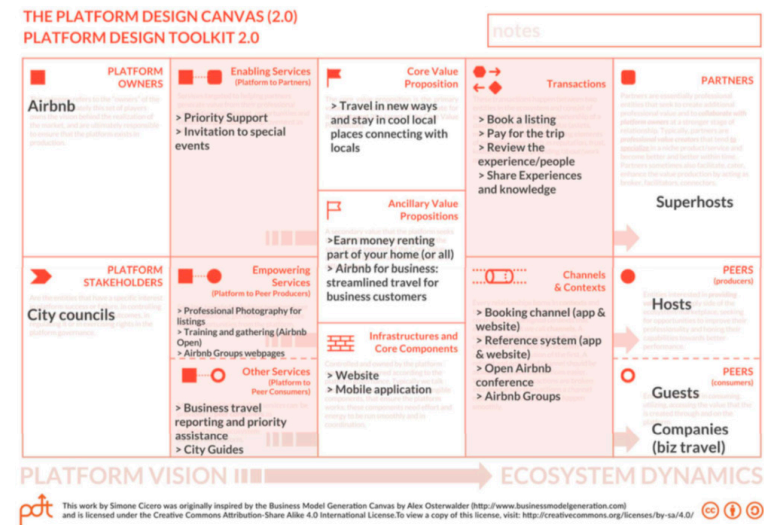


Figure 25: The Platform Design Canvas invites to think of business models of platforms that build upon ecosystems (Source: <http://platformdesign toolkit.com/>)

**References and resources**

- Joyce, Alexandre, and Raymond L. Paquin. 2016. "The Triple Layered Business Model Canvas: A Tool to Design More Sustainable Business Models." *Journal of Cleaner Production* 135 (November): 1474–86.
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- Platform Design Toolkit: <http://platformdesign toolkit.com/>

# JOURNEY MAPPING

The journey map is an oriented graph that describes the journey of one of the service actors and a service. Since the journey mapping is often used to map the experience of a service customer, this tool is often identified as the customer journey map, a journey mapping technique, however, can be used also to represent the sequence of actions any other stakeholders can be involved in, during a service.

A customer journey map represents a sequence of events, the interaction, the customer's mood in each of the events and the touchpoints that support the interaction between the customer and the service. This step-by-step description is based on the actor's point of view and it refers to a period of time that goes from the first contact between the customer and a service provider to the moment in which such interaction can be considered as completed.

A customer journey map is a powerful tool for visualising the customer experience. For a designer, it helps to understand the context of users, to identify the gaps, and opportunities, and to gain a clear image of what exactly the customers are looking for and what they want to achieve.

## Content and elements

A customer journey can be as simple as a storyboard describing the phases of the customer's experience or as complex as a matrix, describing the emotional journey of the customer (i.e. the emotional involvement of the customer in the service), the touchpoints (i.e. the material and immaterial points of contact between the service and the customer) and the timing of the interaction.

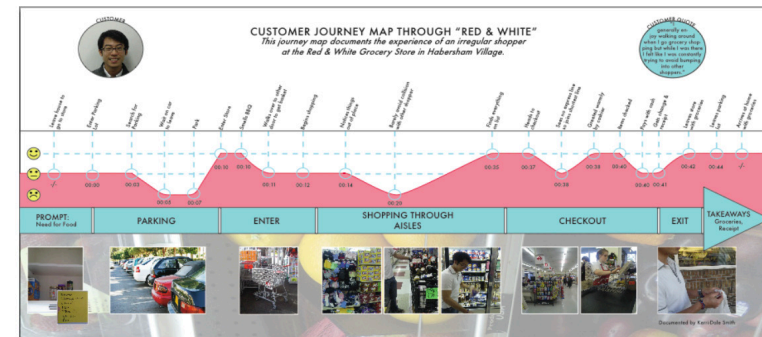


Figure 26: Customer Journey map through a grocery store (source <https://kdsksketchbook.tumblr.com>)

## Why is it relevant within an urban context?

Innovation in urban context often implies complex changes that do not only concern products, but also urban services. By definition, services are actions that a person performs to generate value; services are processes of value creation, and as such, they are developed in time. This is the reason why the concept of journey is used, to describe such a process in a period of time that goes from the first contact between an actor (customer) and a service to the moment in which such interaction can be considered as completed.

**In which innovation stage can you use it?**

Customer Journey maps are used at different stages of the innovation process. The customer journey can be used in preliminary and explorative stages, to analyse users' needs or existing services or experiences from a customer's perspective and identify possible opportunities for innovation of the new concept. In subsequent stages, the journey is a useful tool to illustrate the customer's experience while highlighting the most crucial phases, the touchpoints and, the timing of an action. In these later stages, the customer journey is the starting point to create a service blueprint. In relation to DESIGNSCAPES, journeys can be used across the three stages: Feasibility, Prototyping, Scalability proof.

**Examples of application**

A customer journey map can be used to represent different level of complexity in the service experience. The simplest application of a customer journey may consist in a linear narrative representation of the customer experience, as in Figure 27. Although very linear, the representation presents a narrative of the service, with some key elements, such as the physical evidences the customer meets during the journey (the ticket, the popcorns, the seat) and the feeling of the customer in each phase. The journey in Figure 29 has been used to analyse the typical journey of an existing service, in this case this tool has therefore been used to benchmark an existing service.

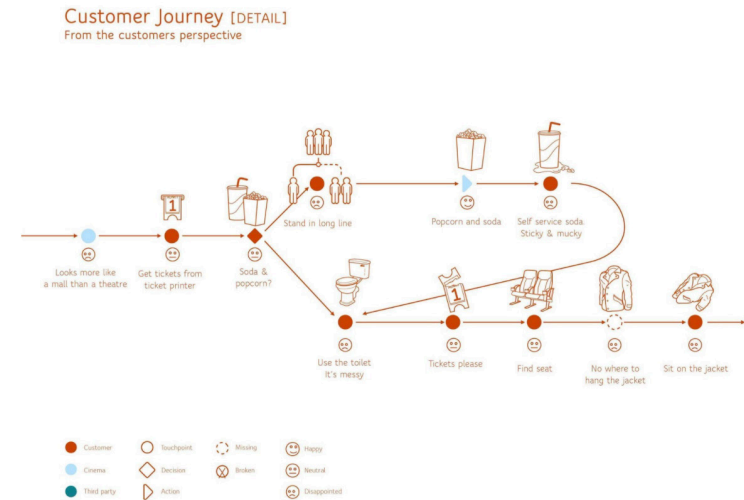


Figure 27: A linear narrative representation of the experience of a movie theatre (source: Klaar, 2014)

In a development or scalability phase the journey map can be used as a communication tool or as a negotiation tool between the service provider and the service customer. This is the case of Figure 29, representing the student journey through a semester of a Master course. In this case, the journey through the service also includes precise indications about the timing of each phase (e.g. the months in the semester), the milestones and the characteristics of the activities in each phase of the journey.

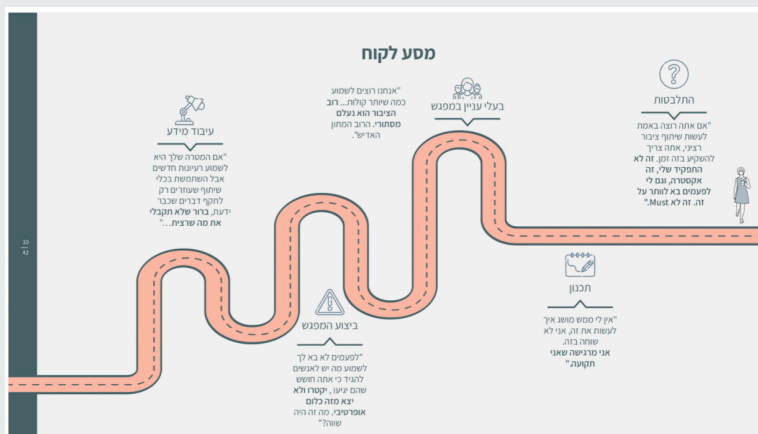


Figure 28: Customer journey, from the project: Participatory Policy-making by Shani Leiman. (Source: <https://www.mdesgrad.bezalel.ac.il/graduatess/shani-leiman>)

References and resources

- <https://kdsketchnotebook.tumblr.com>
- Klaar, Margus J (2014) How to Have Your Cake and Eat it too. An Introduction to Service Design, Bis Publishers, Amsterdam, The Netherlands

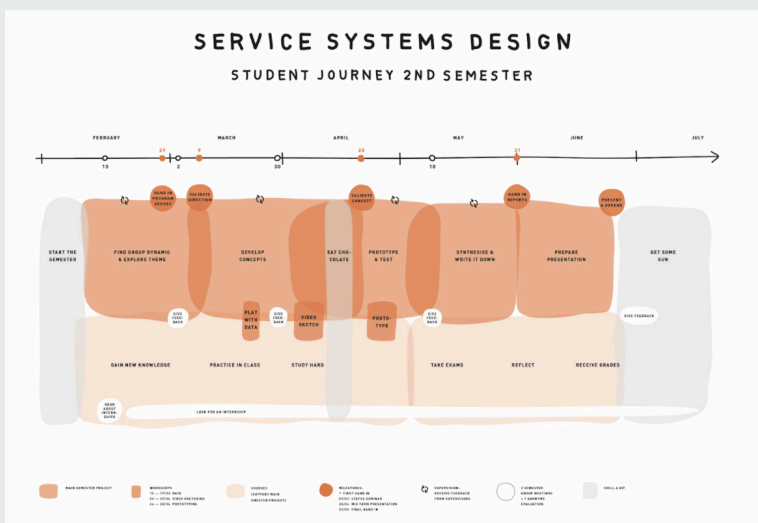


Figure 29: The journey map for the students of the Service Systems Design Master at Aalborg University.

# SERVICE BLUEPRINT

In the same way that a product has detailed design drawings, the service blueprint specifies the details of those innovation projects that have a service component. The blueprint proposes a simplified representation of the service as divided into two main dimensions: the frontstage processes (what we see and experience as a customer) and the backstage processes (what is behind, what makes the service work, the organisational and technical processes that constitute the service offering). In other terms, service blueprints display how key service processes function in the frontstage - i.e. for the aspects of the services that are directly visible or perceivable by the service customer - and how they function beyond the line of visibility, or in the backstage. Service blueprints work effectively to represent key components of services at a simplified but still fine-grained level. Service blueprints visualise the service offering holistically by aligning the user actions with other visible and invisible actions in the service backstage.

Service Blueprint for Seeing Tomorrow's Services Panel

find out more: <http://upcoming.yahoo.com/event/1768041>

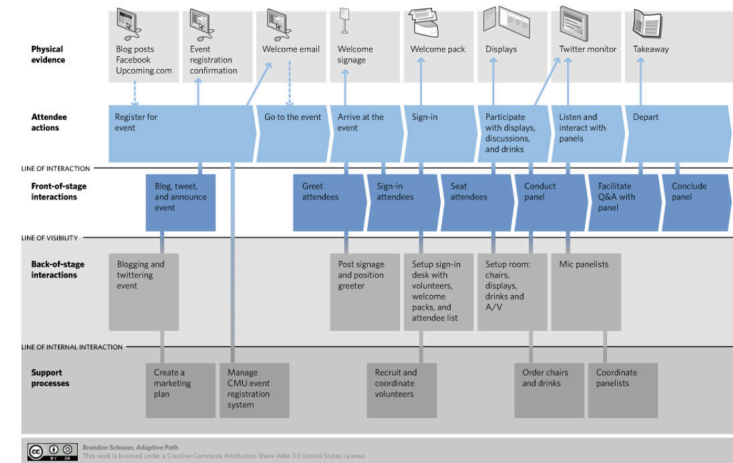


Figure 30: Service blueprint by Brandon Schauer (source: [https://commons.wikimedia.org/wiki/File:Service\\_Design\\_Blueprint.png](https://commons.wikimedia.org/wiki/File:Service_Design_Blueprint.png))

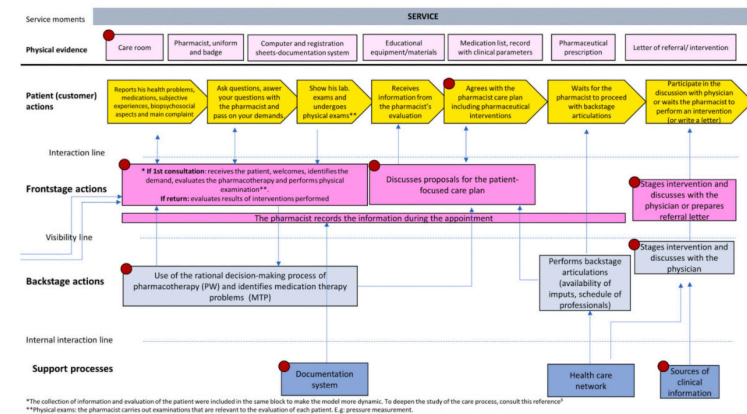


Figure 31: Service blueprint by Brandon Schauer (source: [https://commons.wikimedia.org/wiki/File:Service\\_Design\\_Blueprint.png](https://commons.wikimedia.org/wiki/File:Service_Design_Blueprint.png))



## Content and elements

Typical elements that could be included in a service blueprint are different blocks, lines and arrows as illustrated in Figure 32.

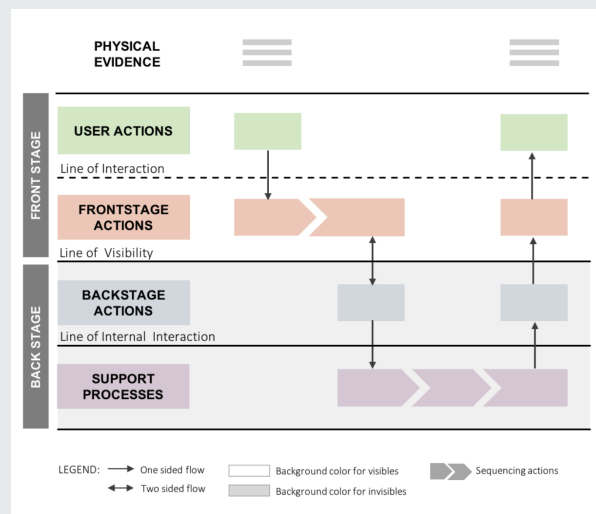


Figure 32: Service blueprint structure with its components and flows (Adapted from Ross I., Ruiz L. G., & Samadzadeh S., 2014. (source: <http://www.cooper.com/journal/2014/08/service-blueprints-laying-the-foundation>)

### The blocks can represent:

- User actions: The actions that are taken by the users to access the service
- Frontstage actions: All the actions in the service offer that are visible to the users.
- Backstage actions: All the activities in the service offering required to produce the service and that are not visible to the users.
- Support processes: Actions taken by third party partners

required to achieve the service offer.

- Physical evidence: The props and places that users encounter through their journeys. This can be, for example, any form of products, signage, or physical locations used by or seen by the user or internal employees. Physical evidence of the service can be illustrated in the blueprint to identify and show which kinds of materials are encountered through the service journey.

### The lines, which define different blocks of actions. can represent:

- Line of interaction: This is the point at which users interact with the service. It is a physical or abstract line across which the user interacts with the service. The line can be physically visible (e.g. the counter in a fast food outlet) or invisible (e.g. in the hall of an airport, where a number of information items and services reach the passenger).
- Line of visibility: This line splits the blueprint actions that can be seen or perceived by the customer (frontstage) and those that are invisible or unperceivable to her/him (backstage). The actions beyond the line of visibility are the engine of the service, i.e. the organisational processes that support service delivery.
- Line of internal interaction: This is the line across which the service provider interacts with third party partners that support other organisational processes.

### Why is it relevant within an urban context?

While tackling complex urban issues and working with multistakeholder projects, service blueprints provide yet another way to reduce such complexity, by offering a complete overview of an entire service and a simplified, but yet fine-grained view of the organizational processes needed to support such service. For a single project, various service blueprints can be created, showing,

for example, the different ways in which a customer can interact with a service. This allows engaging with different people involved and gaining insights about how their and other actors' roles fit in the big picture. The act of sketching out a blueprint usually creates opportunities for other ideas and connections to emerge, which can be used to develop new business propositions. Also, blueprinting can reveal critical points and help to identify possible service failures.

**In which innovation stages can you use it?**

Service blueprints can be beneficial while carrying out feasibility studies, prototyping, scalability proof (Stage 1, 2 and 3 of the DESIGNSCAPES Open Calls),

**Examples of application**

The blueprint shown in Figure 33 represents a pharmacy service. This blueprint bases the structure described previously. It also covers additional elements such as time measures. Illustrating the time in the blueprint can be crucial such as reducing the waiting time on the counter of the pharmacy. Besides the time layer; it has coloured icons to visualise some notable moments of service

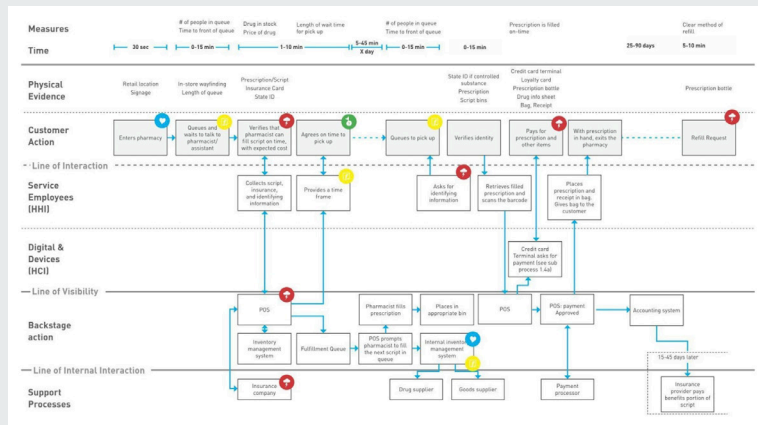


Figure 33: Service blueprint example by Cooper (source: <https://www.cooper.com/journal/2014/08/service-blueprints-laying-the-foundation>)

to consider capturing, such as; possible pain points, pain points which should be improved, opportunities for cost saving actions, the opportunities to measure the quality, etc.

The following blueprint was made to develop a service to enhance a football-watching experience (Figure 34). In this blueprint, on the top of the activity, Huang uses a storyboard to visualise what is happening at the service over time. In the main blocks, she uses figures to show users, frontstage evidence and backend (database). This narrative illustration and icons make the blueprint more visual and easier to grasp.

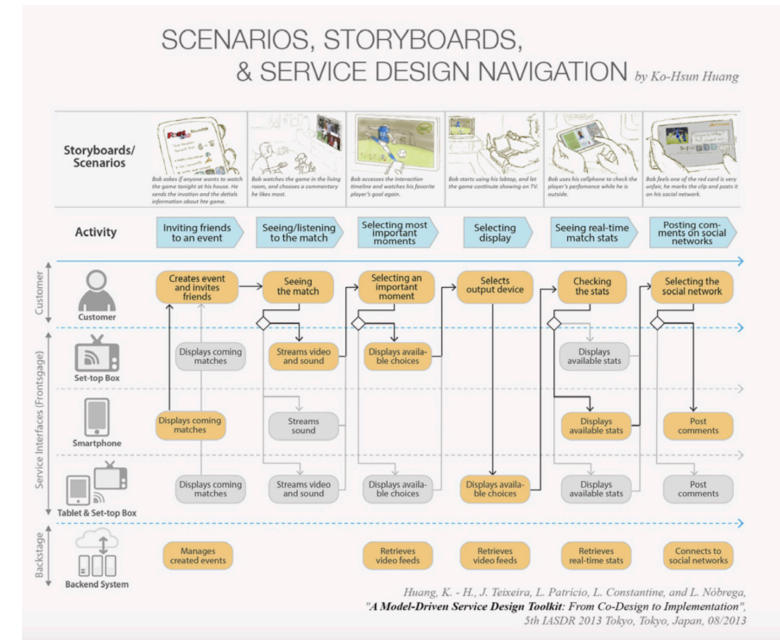


Figure 34: Integration of storyboard to a service blueprint, example by Ko-Hsun Huang (source: <http://sortapundit.com/wp-content/uploads/2018/04/storyboard-format-template-unique-integration-of-scenarios-storyboard-and-service-system-navigation-of-storyboard-format-template.jpg>)



The last blueprint by Polaine, et al. (35) represents a hair salon service (2009). In this blueprint to explore the dynamics of a service that has multiple actors, they have removed the front-stage, back-stage and line of visibility. Thus, all the actors and relevant touchpoints are separated clearly. This structure can be beneficial when there are multiple actors participating in the service by using different physical evidence and when there is a more need to emphasize the actors. Beside these, they added a fail line and an emotional journey of a user on the bottom.

As it is mentioned, in all these three different examples of applications, additional elements can be added, and the structure can be changed and adapted depending on the need of what the blueprint is used for.

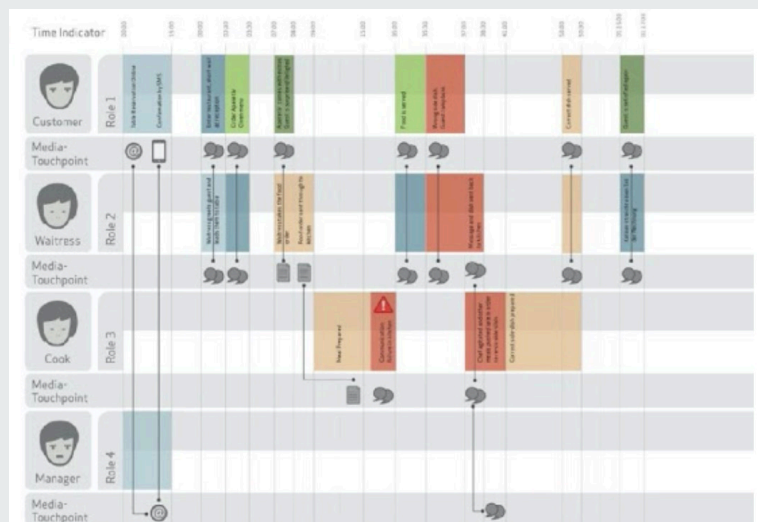


Figure 35: Blueprint by Andy Polaine, Roman Aebersold, Robert Bossart and Andrea Mettler (source: <https://www.slideshare.net/apolaine/blueprint-developing-a-tool-for-service-design>)

## References and resources

- Blueprint. (n.d.). Retrieved February 16, 2018, from <http://www.servicedesigntools.org/tools/35>
- Ross I., Ruiz L. G., & Samadzadeh S. (2014). Service Blueprints: Laying the Foundation. Retrieved February 6, 2018, from <http://www.cooper.com/journal/2014/08/service-blueprints-laying-the-foundation>
- Polaine, A., Aebersold, R., Bossart, R., & Mettler, A. (2009). Blueprint+: Developing a tool for service design. In Service Design Network Conference 2009.
- Bitner, M. J., Ostrom, A. L., & Morgan, F. N. (2008). Service blueprinting: a practical technique for service innovation. *California management review*, 50(3), 66-94.
- Grenha Teixeira, J., Patrício, L., Huang, K. H., Fisk, R. P., Nóbrega, L., & Constantine, L. (2017). The MINDS method: Integrating management and interaction design perspectives for service design. *Journal of Service Research*, 20(3), 240-258.
- Schauer, B. (2009, March 17). Service blueprint for Service Design panel. Retrieved from <https://www.flickr.com/photos/brandonschauer/33631>

# MOTIVATION MATRIX

A Motivation matrix is - like the name suggests - a tool that helps to figure out what the motivation is behind the action of each stakeholder within an innovation project (more specifically a service system). It shows what each actor (person or organisation related to the project) brings in and what each actor takes out by visualizing stakeholder's contributions and mutual benefits within a service system. The Motivation matrix is a good strategy tool for partnership managers and network development.

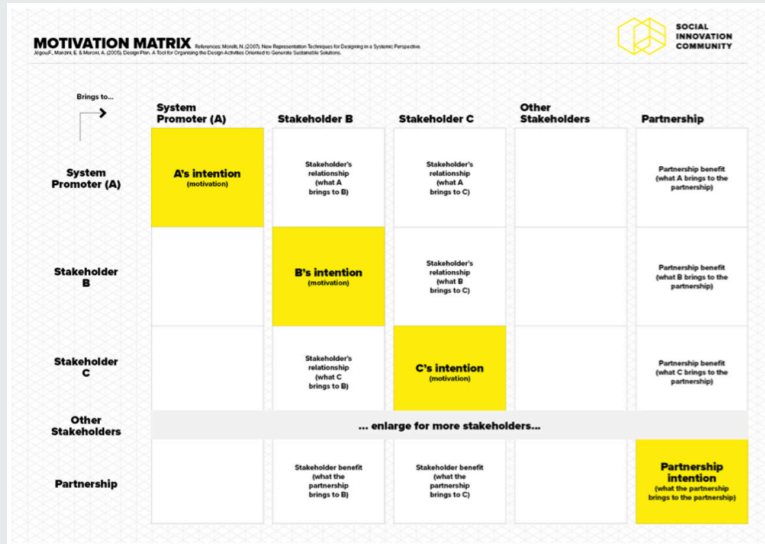


Figure 36: The Motivation Matrix helps teams understand the connections between the various actors that take part in the solution and adds clarity also to their roles by studying the motivation behind their action. Source: <http://servicedesigntools.org/tools/>

## Stakeholders' Motivation and Sustainability Table

Actors	Motivation	Contribution to the partnership	Environmental Benefits	Socio-ethical Benefits	Economic Benefits
Place below the icon of the actors and the name of the actor	Write the motivation of each stakeholder for being part of the system	Write the contribution that each actor gives to the offer/system/ platform (partnership)	Read the criteria in the next slides to describe the potential environmental benefits (given by each actor)	Read the criteria in the next slides to describe the potential socio-ethical benefits (given by each actor)	Write the economic benefit that each actor can get from being part of the system
	....	....	....	....	....
Insert actor name	....	....	....	....	....
Insert actor icon	....	....	....	....	....
Insert actor name	....	....	....	....	....
Insert actor icon	....	....	....	....	....
Insert actor name	....	....	....	....	....
Insert actor icon	....	....	....	....	....
Insert actor name	....	....	....	....	....

Figure 37: Stakeholders' motivation table. (Source: Lenses - the learning network on sustainability <http://www.lens.polimi.it/>)

### Main components for the application of this tool:

Typical elements of a Motivation matrix, which are included, are: The first row and first column map the stakeholders that are involved and that are part of the service system. The cells in the diagonal of the matrix represent the stakeholder motivation to be part of the service system, while all the other cells represent what stakeholder A (column) is providing to stakeholder B (row) through the service system under consideration.

### Why is this tool/method relevant within an urban context?

Solutions to challenges and problems in urban contexts are usually complex and multi-faceted, involving multiple

stakeholders with different – sometimes opposite motives. A project can therefore be stuck. A motivation matrix is also a useful tool for negotiation. It allows to clarify the different interests and possible contributions at stake to move forward a project, keeping all the stakeholders aware of the complex ecosystem and able to see the values and opportunities that each partner can bring.

**In which innovation stages can you use it?**

Motivation matrices can be used while carrying out feasibility studies (Stage 1 of the DESIGNSCAPES Open Calls) and prototyping (Stage 2 of the DESIGNSCAPES Open Calls). But it can be useful in the stage of scalability (Stage 3 of the DESIGNSCAPES Open Calls) as well, when one can clarify the incentives and motivations of the different partnerships.

**Examples of application**

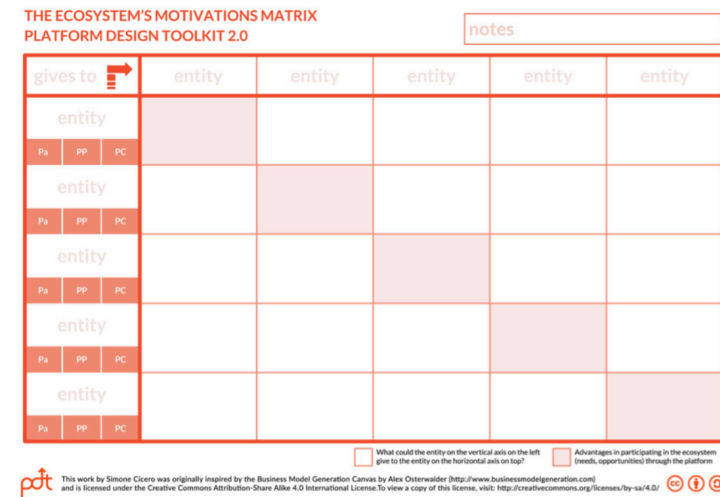


Figure 38: The Ecosystems Motivations Matrix helps you understand what the incentives are for the entities in the ecosystem to participate and exchange value. Source: <https://platformdesigntoolkit.com/toolkit/>

**References and resources**

- Motivation Matrix. (n.d.). Retrieved February 16, 2018, from <http://www.servicedesigntools.org/tools/20>
- Morelli, N., & Tollestrup, C. (2007). New Representation Techniques for Designing in a Systemic Perspective. In Design Inquiries, Nordes 07 Conference.
- Jégou, F., Manzini, E. & Meroni, A. (2005). Design Plan. A Tool for Organizing the Design Activities Oriented to Generate Sustainable Solutions

# TOUCHPOINT MATRIX

The basic idea of the touchpoint matrix is to have a visual framework that helps the designer to “connect the dots of the user experience” in order to see the different configurations, interfaces, contexts and results of the interaction within the design of the system (Gianluca Brugnoli, 2009). A touchpoint is a point of interaction with a service. For example, let us make the case of a user buying a train ticket. The user may buy the ticket online, while sitting in front of her laptop (first touchpoint). Once paid, the user might receive a digital ticket on her mobile phone via SMS (another touchpoint).

While she gets to the railway station, the user might want to stop by a ticket machine (another touchpoint), enter her ticket number and get her ticket printed. Mapping touchpoints is a good strategy to take into consideration that customers can experience a service across multiple channels (e.g., a website or a ticket machine). Matrices are generally used to map touchpoints.

The matrix is built by listing the different devices or contexts that are part of the system on a vertical axis and by listing the main actions that are supported by the system itself on a horizontal one. Once this framework has been set up, the designer can play with different scenarios, by putting a specific fictitious persona inside the framework, and start imagining his/her journey through the different touchpoints (points of interaction with the

service), connecting the related dots. This provides a deeper understanding of the various interactions happening within a system and across different channels and helps to point out where an important decision can be made during the experience from a user perspective.

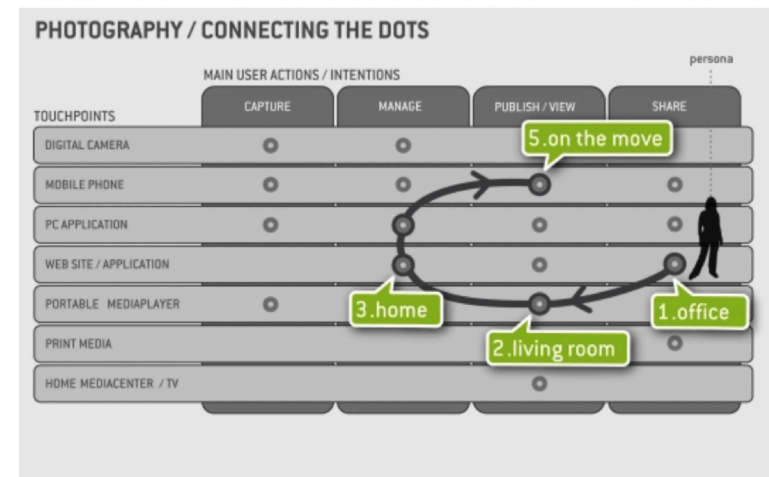


Figure 39: Photography touchpoints matrix describes a possible journey across the photography ecosystem (source: Gianluca Brugnoli, Frog Design, <http://www.brugnoli.net>)

### Main components for the application of this tool:

Touchpoint matrices are a visual representation that maps the user experience by showing the different arrangements of the action of the user, throughout different contexts. Typical elements that could be included are:

- Vertically the different devices or contexts that are part of the system
- Horizontally listing the main actions that are supported by the system
- Personas
- Touchpoints / dots between the user and the system

### Why is this tool/method relevant within an urban context?

Solutions to complex problems generally require the interplay of different channels, technological platforms, physical environments. Users, however, do not care about these different contexts and expect to enjoy a seamless user experience.

A touchpoint matrix offers a way to look into cross-channel and cross-platform experiences and to ensure the quality of connection in the whole service, rather than just in a single touchpoint.

### In which innovation stages can you use it?

Touchpoint matrices can be effectively used to prototype services (Stage 2 of the DESIGNSCAPES Open Calls).

### Examples of application

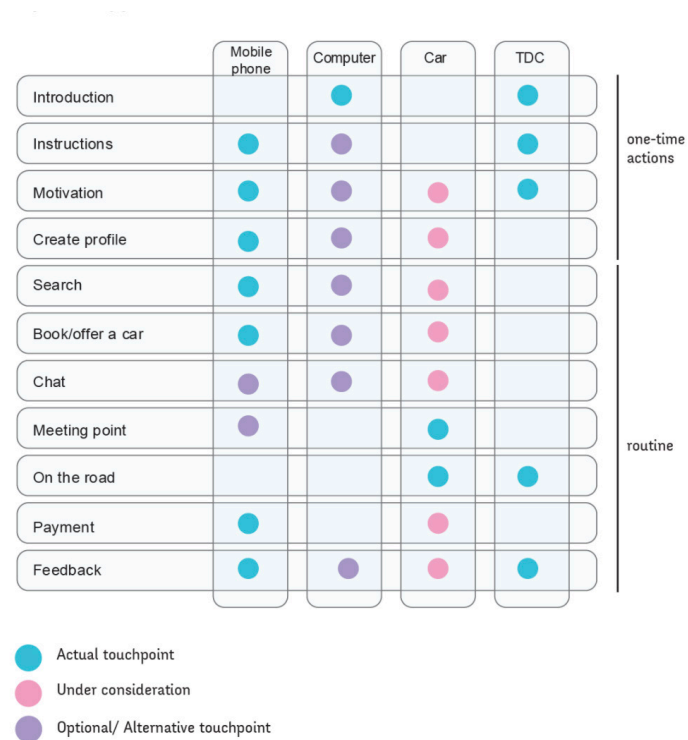


Figure 40: Touchpoint matrix describes a possible journey across a carpooling service (source: Fanny Giordano)

	AWARE	JOIN	USE	SUSTAIN
App		○ ●	○ ●	○ ●
Website	○ ●	○ ●	○ ●	○ ●
Email			○ ●	○ ●
Google Engine	○ ●			
Social Media	○ ●		○ ●	○ ●
Wonderful Cph / Visit Dk	○			
Apple Store/Google Play	○ ●	○ ●		
Bus	○ ●			●
Cultural Institutions	○ ●			●
Community Organizations		●		●
Local Shops	○ ●			●
Word-of-monh	○ ●		○ ●	○ ●

Figure 41: Touchpoint matrix from a service named NARRAME - a platform where locals and visitors are invited to co-create the narration of the neighbourhood by sharing and viewing videos, images and audio files. The Touchpoint Matrix provides a visual framework of the different touchpoints of NARRAME that a potential future user might interact with. The matrix supported the team with a deeper understanding of the service interactions as well as exploration of the possible paths and opportunities of the system. This investigation was useful for mapping all the possible phases that are conducted through different channels. In this way, the matrix shows the fluidity of experience through the different touchpoints (Brugnoli, 2009).

**References and resources**

- Touchpoint matrix, (n.d.). Retrieved February 16, 2018, from <http://www.servicedesigntools.org/tools/108>
- Gianluca Brugnoli (2009) <http://www.brugnoli.net>

# EXPERIENCE PROTOTYPE

While designing a chair, it is easy to imagine how a prototype could look like. It could be, for example, a wooden or a plastic model of the chair. This model can be small or full scale. If it is full scale, then some future users could even try it and see whether it is comfortable or if it looks nice. But while designing, for example, something like a new microfinance service for low income residents of a city, what kind of prototype can be created? Such a prototype would have to take into consideration that, for example, the final service will be offered through a variety of channels (e.g., physical stores, online, via phone, etc.). The service will also probably offer different and personalized possibilities to obtain credit. How can we prototype such services? An experience prototype is a way to represent these and similar services in relation to the experience that the customers will have while interacting with the (final) service. In other terms, the prototype can recreate the customer experience of key moments of the whole service. In this sense, this tool can be seen as a simulation of the final expected experience and helps the designer to foresee and tackle some of the specific uses and performances. These prototypes can be used to involve real users and get their feedback.

An experience prototype can be any kind of representation, in any medium and is designed to understand, explore or communicate what it might be like to engage with the product, space, service or system. It can include different techniques such as storyboards, scenarios, sketches, video, or step-through-simulations, all of which helps to communicate an experience.



Figure 42: Experience Prototyping to test the ideas for new products and services by IDEO and Nokia (source: <http://www.servicedesigntools.org/tools/21>)

## Content and elements

Experience prototypes are usually quick and simple (and therefore flexible) representations, that can be made up from a variety of materials and adjusted according to the experience would like to be tested. Typical elements that could be included are:

- Paper, cardboard, photos, post-it-notes, string
- A digital camera
- Audio/video-recorder

## Why is it relevant within an urban context?

Service prototypes allow quickly representing also the immaterial components of services and to either test them or co-design them together with a variety of stakeholders in a variety of contexts.



### In which innovation stages can you use it?

Prototypes are typically used while carrying the prototype phase (Stage 2 of the DESIGNSCAPES Open Calls)

### Examples of application

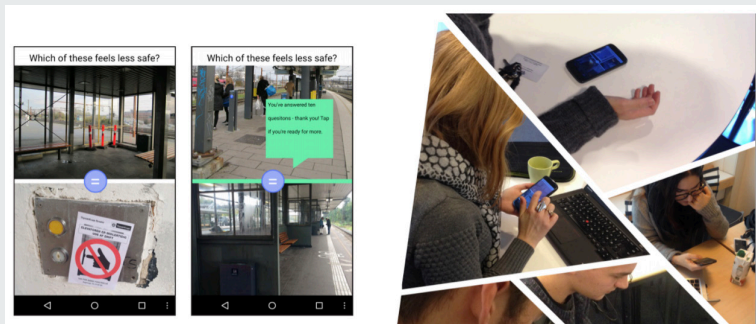


Figure 43: This is the experience prototyping session from a first semester project of the Service Systems Design Master at Aalborg University Copenhagen. The students first made a digital prototype of an app and then made the users experience it in real settings (credits to Lara Clare Casciola, Esben Grøndal, Nea Alina Annika Kosonen and Katharina Maria Stark).



Figure 44: This is the experience prototyping session from a thesis project of the Service Systems Design Master at Aalborg University Copenhagen. The student is prototyping the experience of recognizing music genres with the resident of a nursing home with the aim of discovering what the different labels can elicit in terms of memories and feelings (credits to Louise Helmer Nielsen).

### References and resources

- Experience Prototype. (n.d.). Retrieved February 16, 2018, from <http://www.servicedesigntools.org/tools/21>
- Buchenau, M., & Suri, J. F. (2000, August). Experience prototyping. In Proceedings of the 3rd conference on Designing interactive systems: processes, practices, methods, and techniques (pp. 424-433). ACM.



# THEORY OF CHANGE

**Theory of Change is a way of mapping the ‘change journey’ of a project or innovation so you can see the connections between the ‘presenting problem’ the project wants to solve, the expected impact on that problem at the end of the project and everything that’s supposed to happen in between. A simplified Theory of Change for Designscapes is shown in the figure below.**

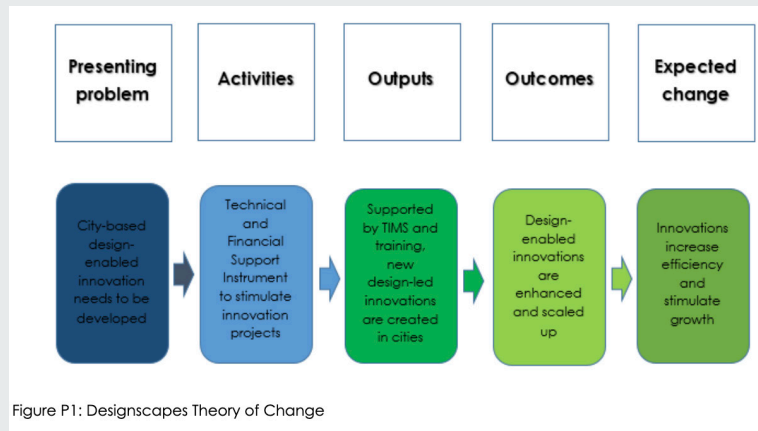


Figure P1: Designscapes Theory of Change

Figure 45: Designscapes Theory of Change

Theory of change is on the one hand a planning tool. It shows the ‘intervention logic’ of a project – the steps that need to be taken to realise a desired goal or impact, and the expected results of these steps. In other words, a Theory of Change shows the theorised ‘causal pathways’ between a project’s objectives, its activities, and its expected outcomes and impacts. It says: “if we take action X, then this will cause effect Y and this will eventually lead to outcome Z”. Theory of Change is therefore also a key evaluation tool. It tests the ‘intervention logic’ of a project and allows this to be modified or refined through the evaluation process.

## Content and elements

The figure below provides an overview of the steps you need to take to identify the five key elements of your pilot theory of change.

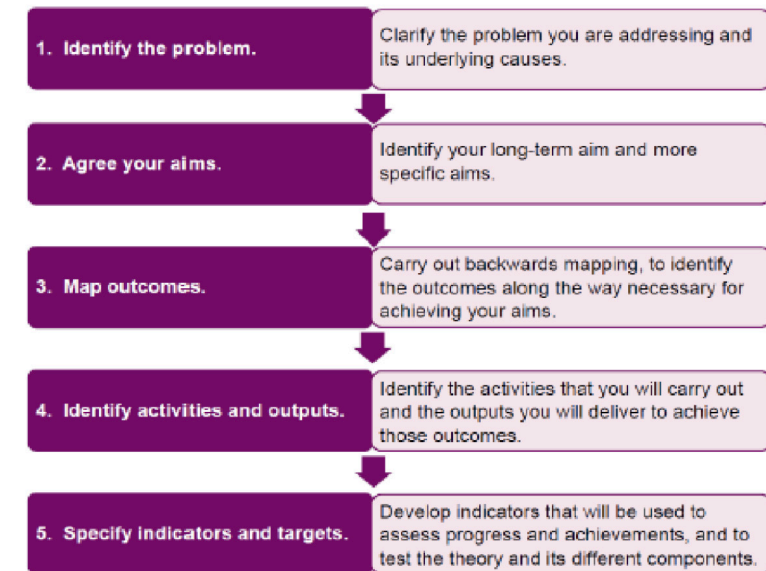


Figure 46: Stage 1 - Developing the basic Theory of Change model

More specifically, in order to create the theory of change for your pilot, it is useful to:

- Work together with the key people who will be involved in pilot implementation. This can be colleagues from your organisation, partner organisations, and even end users
- Follow the suggested sequence (steps 1 through to 4)
- Once you have mapped each step sufficiently, try and organise the information into logical sequences, e.g.: “if we do this activity, then these outputs will be produced, then the following outcomes arise then these will contribute to the following impacts.”
- Finally, do step 5 and think of some indicators – in the form of key performance indicators (KPIs) – that you can use to assess progress and achievements along the change journey of your pilot. You can use the KPI template (see Appendix 12) to help you with this work.

#### **Why is it relevant within an urban context?**

As a pilot, using this theory of change template will help you:

- Understand your pilot’s change journey
- Implement or adjust project activities so you’re more likely to achieve your intended outcomes
- By collecting data on your indicators assess and understand where you are in your change journey
- Help you evaluate your pilot more effectively.

This tool can be used for innovations in a variety of contexts and not only in urban contexts – but it is particularly suitable to understand projects or innovations in complex settings. As such, it is particularly suited for pilots developed in urban settings, dealing with complex problems and potentially involving several participants and actors.

#### **In which innovation stages can you use it?**

This tool should be used by Designscapes pilots selected at stages 2 and 3 of the call for pilots. Successful applicants will need to construct a project theory of change after having attended the compulsory training on theory of change, mechanisms and KPIs provided by Designscapes partners.

#### **Examples of application**

Theories of change are used in a variety of contexts and projects. Interactive examples include:

- Using theory of change to map to map out how to use mobile phone to improve quality of service delivered by Community Health Volunteers in Mozambique:  
<http://slideplayer.com/slide/7061508/>
- A presentation explaining the use and design of theories of change for different contexts:  
<https://www.cecan.ac.uk/news/cecan-seminar-theory-of-change>

# KEY PERFOR- MANCE INDICA- TORS (KPI) TOOL

## Designing and collecting KPIs

**The aim of the tool is to create an efficient mechanism that allows data relevant to Designscares project level Key Performance Indicators (KPIs) to be captured.**

KPIs are one of four main sets of indicators used in project evaluation. The others are:

- Critical Success Factors
- Outcomes indicators
- Key Results Indicators

People tend to confuse, and sometimes conflate, these different types of indicator. The table below describes each type and what they are used for.

Type	Definition	What it's used for
Critical Success Factor	The critical areas in a project whose high performance or success is important, and the steps that need to be taken to succeed	To specify the reasons for things that need to be done – and the actions necessary – to achieve success in a project
Key Performance Indicators	Measures to assess process and progress towards results	To assess the ongoing effects of the actions taken and where the project is in relation to its results
Outcomes indicators	Immediate outcomes – changes in awareness and knowledge as a result of a project action Intermediate outcomes – changes in behavior and capacity as a result of a project action	To assess the immediate and intermediate effects of the actions carried out in a project
Key Results Indicators	The 'end results' of a project and its likely longer term impacts	To assess the the consequences and broader and longer-term social and economic changes of the project beyond the intermediate effects

Figure 47: The four types of indicator used in the Designscares evaluation

Key Performance Indicators (KPI's) make the connection between the CSA's, the outcomes and the KRIs. They track the actions between the CSA's and the outcomes and KRIs. So, first, they have to measure a process. Second, they have to be key - i.e. they need to be the only measures that are essential to demonstrate progress towards 'results'. Third, they have to measure progress on that process. Fourth, they need to capture 'live' data - i.e. the information source used to measure process and progress is continually generating updated information. Fifth, they need to reflect 'context'. For example it's no use having a KPI, for example, for the number of customers attending an event without measuring the number invited to attend, etc. Finally, they have to be 'metrics' - i.e. a KPI needs to be a quantifiable measure that can demonstrate progress either from a baseline or in context - not just a measure which is 'absolute' or 'unit-specific'.

### Content and elements

You can use the template provided below, together with your completed pilot theory of change, to draw up your KPIs.

<b>Critical success factors for your pilot</b>	<b>KPI</b>	<b>Pilot outcome</b>
The problem your pilot seeks to address and the associated key activities needed to realise the change (outcomes) your are seeking to achieve	The ongoing measure that tracks progress towards outcomes	Identified outcome (change in the presenting problem) your are seeking to achieve, as identified in your theory of change

Figure 48: Developing pilot level KPI tool

Having developed your KPIs, the idea is to use them to regularly collect data on how you are progressing. You can use these data yourself to help you identify actions that might need to be taken if your project is not achieving expected progress.

### Why is it relevant within an urban context?

As a Designscapes pilot, using the tool will:

- Help you assess your progress in relation to project indicators needed to achieve key project outcomes and impacts and what steps, if necessary, need to be taken to maximize the chances of success.
- Help you communicate achievements to a wider audience.

KPIs are relevant to any kind of project and not specifically to those operating in urban contexts only.

### In which innovation stages can you use it?

Figure 48 above provides a simple word template designed to be completed by Designscapes pilots selected at stages 2 and 3 of the call for pilots. Successful applicants will need to complete this template after having done the compulsory training on theory of change, mechanisms and KPIs provided by Designscapes partners and having completed their pilot level theory of change.

### Examples of application

A good illustration of how CSA's, KRI's and KPI's work, what are the differences between them and how they relate to each other, can be provided in relation to a football team (in this case Liverpool FC) and illustrated in the figure below.



Figure 49: Creating KPIs and KRIs – the example of Liverpool FS

# REPLICATION ANALYSIS TOOL

Assessing the replicability of DESIGNSCAPES pilots.

**Replication can be understood as a process of taking a product, service, model or even information into a different setting (context) or to a different target group than the one it was originally conceptualised for. This process is also sometimes referred to as 'scaling out' and is different from 'scaling up' which tends to involve increasing the volume of what is delivered.**

Replication tends to be a three-stage process:

- **Knowledge and awareness stage:** In order to replicate or adopt an innovation, it needs to have been shown to meet needs, to be effective and to be known by those considering adopting it.
- **Choice and decision stage:** this involves relevant actors making choices about the replication destination, the process of doing this, and how it will be financed. Both of the first two stages benefit from the existence of evaluation and / or cost-benefit data.
- **The final implementation stage** involves taking the product, service or other innovation into one or ideally several contexts.

This tool supports pilots to collect information relating to the first stage of this process, in order to inform the next stage – helping to inform your decisions about how to scale out your project.

## Content and elements

To assess the replication readiness of your Designscales pilot, you should work through the following list of questions.

### Intervention (pilot) features and design

- What is the nature of the pilot / intervention?
  - Straightforward design with a logic model and/or a manual describing it and how it should be implemented
  - Straightforward / simple design that is well explained – but no manual
  - Several activity strands, no logic model or manual that describes the pilot and there are several hard to define components
- How much do you know about what the essential parts of your pilot are that make it successful?
  - No knowledge about which parts make the intervention successful
  - Some knowledge (e.g. from introducing the pilot into different contexts or theory of change)
  - Strong evidence and evaluation-based knowledge about aspects of the intervention that are responsible for its impact
- Will your Designscales pilot work in other contexts?
  - The pilot is culture or context specific
  - There is some evidence of the pilot working elsewhere
  - There is strong evidence that the pilot will work elsewhere
- What evidence do you have that your Designscales pilot has an impact?
  - The impact is unknown or unclear
  - Reasonable evidence from evaluation or other measurement
  - Strong and rigorous evidence from rigorous evaluation relevant to the scale and nature of the intervention.

**Replication plans, strategies and structures**

- What is the main reason or motivation to replicate the intervention?
  - To increase scale: does the delivery setting allow rapid scaling?
  - To increase financial returns: is there robust cost / benefit data?
  - Other reasons: please specify
- What is your business model for replication?
  - No business model
  - Outline business model
  - Detailed business model
- How are you planning to deliver the project in another context?
  - Via direct delivery
  - Via indirect delivery
  - A third party will deliver it
- Is there a clear owner of the replication project?
  - No
  - Yes, there is one individual with relevant skills and experience
  - Yes, the project owner is an experienced individual with previous experience in scaling and is trusted by stakeholders.
- What understanding and evidence do you have of the match between the social, economic and environmental needs of the local and replication contexts?
  - No understanding of the needs in the new context
  - Some understanding of the needs
  - In-depth field research implemented to understand differences and similarities in needs
- What evidence do you have of the supply or people or organisations willing to deliver the replicated project?
  - No interested parties or only some initial contacts
  - There is evidence of a supply of people or organisations willing and qualified to take on the replicated project

- There is strong evidence of several people or organisations eager and qualified to take on the replicated project

**Organisational culture, capability, capacity**

- Are the functions and organisational values necessary for replication (relating to process, systems, training, legal agreements, procedures and ensuring quality) well defined and developed?
  - No
  - Yes, a few are defined and developed
  - Yes, most are defined and developed
  - Yes, all are accurately defined and developed
- What is the quality of staff involved in the replication effort?
  - They generally display a low level of curiosity, tolerance for ambiguity and willingness to learn. They struggle to see other people's perspectives.
  - They display some degree of curiosity, tolerance for ambiguity and willingness to learn and have some understanding of the need to step into other people's shoes to solve problems.
  - They display a high degree of curiosity, tolerance for ambiguity and willingness to learn, and may have prior experience of replication. They focus on solving problems from other people's perspective.
- What is the seniority of staff involved in the replication effort?
  - They are mainly junior and are not able to take many autonomous decisions.
  - They have some degree of autonomous decision making ability.
  - They are sufficiently senior to work autonomously and take decisions.
- To what extent are organisational and pilot technologies transferable to different contexts?
  - They are specific to the context in which they were created.
  - With some changes, they can be used in different contexts.

- There is evidence to show that they can be used in a different context.
- What is the nature of communication patterns within the project and with external stakeholders?
  - Communication is siloed and technocratic.
  - Cross team communication is possible but not 'habitual'. External communication could be improved in terms of storytelling and working through resistance.
  - Individual, team and cross team communication patterns are fluid and able to bring the story across also in the face of resistance.
- To what extent do staff and external stakeholders support replication?
  - Most are fairly or very hostile to replication
  - Most are fairly or very neutral about replication
  - Most are fairly or very supportive of replication
  - All are fairly or very supportive of replication
- Is the brand understood and valued by your audience (beneficiaries, customers, funders etc.)?
  - No or very little understanding
  - Brand is partially understood and valued
  - Brand and organisational values are clearly documented, internally agreed and externally valued

### **Why is it relevant within an urban context?**

As a result of using the tool, you will gain a better insight into how replication ready your intervention is, and what you need to do to improve your chances of successful replication. It is relevant to any kind of project and not specifically to those operating in urban contexts only.

### **In which innovation stages can you use it?**

Pilots at stages 2 and 3 can use it to gain a better insight into how replication ready their intervention is. Those in stage 2 can use it

to prepare for the third call – while those in stage 3 can use it as part of the stage 3 process.

### **Examples of application**

There are no concrete examples of previous uses of this tool as it has been devised specifically for this project but using resources developed by others. Additional resources include:

- Online replication readiness test developed by Spring Impact: <https://toolkit.springimpact.org/Home>
- A guide suggesting different ways to prepare for enhancing the replicability of proven or evidence-based projects: <https://www.childtrends.org/wp-content/uploads/2007/10/Seven-Activities.pdf>
- Slide presentation on understanding replication as a continuous improvement process: <http://slideplayer.com/slide/3736009/>



# TREND ANALYSIS

Researching the future is a survival strategy whenever you are faced with VUCA (volatility, uncertainty, complexity, ambiguity). We live in a world where change is exponential, and one can no longer afford to focus solely on today. We need to think about tomorrow and the day after tomorrow, by incorporating foresight methods and scenario-thinking capabilities.

Trend analysis is one of the most explorative tools in foresight. Trend analysis can be supportive to identify and analyze needs and opportunities in order to develop new business strategies, design visions and product / service ideas. Van der Duin, Drop & Kloosterhof (2001, p.23) define trend-analysis as: "...the assessment of the possible consequences of certain future trends or developments for an organization with a specific problem or question".

Trend analysis can be carried out also considering PESTED factors (acronym for Political, Economic, Sociological, Technological, Environmental and Demographic change).

Trend analysis is useful when we want to design services for a future that we do not know yet. Incorporating trends helps you to observe weak signals that might give you a clue about new needs and help you to anticipate changes.

## Image representing one specific application

- Conducting a trend analysis is not an easy method and there are also various ways of describing the process. It is a structured process to look into the changes that occur over longer periods of time (approx. 3-10 years) and to bring it back to validate what it means for the context you are working in.



Figure 50: Process of scanning trends and collecting signals of change



Figure 51: Examples of customized trend reports ( source: research & innovation consultancy Out Of Office )

### Main components for the application of this method

Trends analysis tries to find answers to the following questions:

- What developments in the fields of society, markets and technology can we expect over the next 3 to 10 years?
- How do these developments relate to each other?
- Where do they stimulate each other and where do they block each other? How do trends influence the strategy of an organization?
- What are the resulting threats and what are the opportunities? Which ideas for new products and services can we think of now on the basis of the trends?

A trend analysis process can be described by the following components:

- Search (or detect): this stage is focused on exploring, discovering and detecting the signs of change via scanning and listing as many trends as possible from desk research and field research.
- Understand (or sensemaking): an analysis to understand the signs of change. Here we connect the different research findings and integrate and articulate insights and key messages.
- Apply: in this stage research and trend insights are applied, aiming to create change and identify new directions for products and services based on the trends. New opportunities and ideas for future scenarios are developed, including provoking thoughts and new inspiring visions.

### Why is this tool/method relevant within an urban context?

The book *Innovation Capacity and the City* (Concilio & Tosoni, 2019) describes the city as 'a hotbed for creativity and innovative culture' and a perfect location to observe changes, evolving preferences, adaptation of new technology by various

communities can be spotted and observed and used as a source of inspiration but also highlight potential risks.

### In which innovation stages can you use it?

Trend Analysis is usually applied at the beginning of a design process and can be best applied at stage 1 of an innovation project. It can also be used as a strategic planning process and therefore applied at stage 3 (Stage 1 and 3 of the DESIGNSCAPES Open Calls).

### Examples of application

Trend analysis is being used by many companies and public organizations as part of their innovation process and strategy development to explore alternative scenarios. Arup Foresight developed a research-based publication and card set (and digital application) called 'Drivers of Change' to help its business and clients identify and explore factors which will impact the world in the future. It also explores trends, emerging risks and opportunities.



Figure 52: Drivers of Change Tool by Arup - a planning tool that helps the user to ask the right questions in order to plan effectively for the future. (source: <http://www.driversofchange.com>)

## References

- Duin, P. van der. (2006). Qualitative futures research for innovation. Eburon.
- Van der Duin, P.A., R. Drop & A. Kloosterhof (2001). The world of future studies according to KPN Research. Leidschendam: KPN Research
- Boeijen, A. van, Daalhuizen, J., Schoor, R. van der, & Zijlstra, J. (2014). Delft Design Guide: Design Strategies and Methods. BIS Publishers.
- Concilio, G., & Tosoni, I. (Eds.). (2019). Innovation Capacity and the City: The Enabling Role of Design. Springer International Publishing. <https://doi.org/10.1007/978-3-030-00123-0>
- Design A Better Business. Retrieved March 31st, 2020, from <https://designabetterbusiness.com/2016/05/12/how-understand-your-market-crush-competition/#>
- Drivers of Change. Retrieved April 27th, 2020 from: <http://www.driversofchange.com>

# CAUSAL LOOP DIAGRAM

When working with ill-defined, ever changing and unpredictable problems, systems thinking offers a collection of tools that better helps you to understand where to intervene in a system. Causal Loop Diagram is a visual representation of any given system, its key variables (i.e., factors, issues, processes) and how they are interconnected. Causal Loop Diagrams aims at providing a quick understanding of the complex dynamics behind wicked problems.

Main components for the applications of this tool

A Causal Loop Diagram is useful in uncovering a system's underlying feedback structures, and in identifying high and low leverage intervention points in a system. A Causal Loop Diagram consists of four basic elements:

- Nodes — these are the things in our system
- Edges (links between them) — connections between the things in our system
- Directions — in what direction the connections go and how the nodes are connected
- Whether loops are reinforcing or balancing — which shows what type of behavior the system will produce. i.e. whether they would grow (or decrease) over time, or oscillate and remain balanced

By representing a problem or issue from a causal perspective,

you can become more aware of the structural forces that produce puzzling behavior.



Figure 53: The most commonly used examples: the left loop is balancing, the right reinforcing

## Why is this tool/method relevant within an urban context?

Within Designscapes, we aim to build capacity for 'design-enabled innovation' in an urban context, said differently, we want to support projects that occur in urban context, facing urban challenges, complexity and uncertainty in 'wicked' contexts. As such, systems thinking can help elaborate the complexity behind urban interventions.

## In which innovation stages can you use it?

The Causal Loop Diagram is typically used at the initial stages of an innovation project (Stage 1 of the DESIGNSCAPES Open Calls). It is important to note that a Causal Loop Diagram is a visualization

of the system at that time. Therefore, it is a tool for continued system analysis.

### **Examples of application**

A great starting point is to look at Kumu, a platform that provides software for mapping systems and better understanding relationships (<https://www.kumu.io>).

The platform also provides a lot of different examples.

### **References & resources**

- The Systems Thinker, retrieved at March 31st, 2020, from <https://thesystemsthinker.com/causal-loop-construction-the-basics/>
- Meadows, Donella H., and Diana Wright. 2009. Thinking in Systems: A Primer. London [u.a.]: Earthscan.
- Kumu, retrieved at April 29, 2020 from: <https://www.kumu.io>

# SIX THINKING HATS

**Six Thinking Hats is great if you want to have a constructive discussion with your team and a tool that encourages people to take a look at the topic from different perspectives ('hats'). It is a great tool to help teams to think into six clear functions and roles, getting them to consider all sides of an issue. Each hat has a different color, which refers to a different thinking approach or style. It can help difficult discussions and endless debates to get unstuck and become meaningful, more focused conversations. This technique was popularized in the book *Six Thinking Hats* (De Bono, 1985).**

As mentioned in the DIY Toolkit ([www.diytoolkit.org](http://www.diytoolkit.org)) developed by Nesta, there are two ways of using the Thinking Hats:

- Everyone 'wears' the same hat at the same time. Choose one of the hats and ask everyone to contribute to the discussion from that hat's point of view. Each of the six hats is used to discuss an issue.
- Everyone 'wears' a different hat and the topic is discussed from multiple points of view. All hats need to contribute sufficiently to the discussion. Hats can be switched around during the discussion, forcing people to look at the issue differently.

## Main components for the application of this tool

Obviously, the Six Thinking Hat tool has 6 components or thinking styles, which can be adjusted and customized, depending on your team. But this is how it could look like:

- White hat: factual and is the information hat, it is objective and implies no judgment of the value of the information. Questions that can be asked wearing this hat are "what is the available information?" and "what are the facts we have?"
- Red hat: focus on intuition, gut reaction, and emotion. The questions that can be asked are "what do you feel about the suggestion?" and "what is your gut reaction toward the suggestion?"
- Black hat is for judgment, to look at the potential negative outcomes of a decision. The aim of this part is to identify the cons of the suggestion and the disadvantages and why the suggestion may not work based on logical reasons.
- Yellow hat is about positivity and consider how proposed ideas or solutions can work. Questions which might be asked are "what are the advantages of applying the solution?" and "why do you think it is workable?"
- Green hat represents creativity and out of the box thinking. It explores possibilities, alternatives, and new ideas.
- Blue hat is the organizing hat. It can also be used to explore the process of implementing an idea. How will it be done? In what sequence will actions need to be taken?

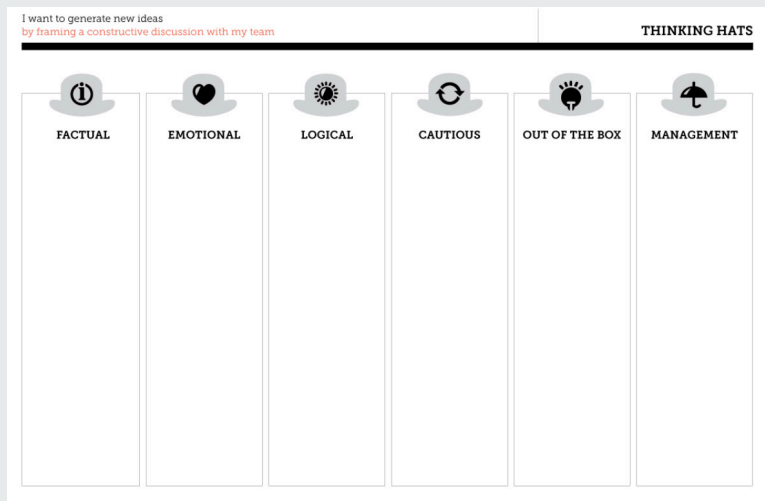


Figure 54: Template for using the tool of Six Thinking Hats (source: ©Nesta licensed under the Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International Licence. <https://diytoolkit.org/tools/thinking-hats/>)

But you could also use other thinking styles, like presented in figure 55, where the hats represent different perspectives based on various mindsets and emotions, such as being optimistic towards someone who is expressing the emotions of the user.

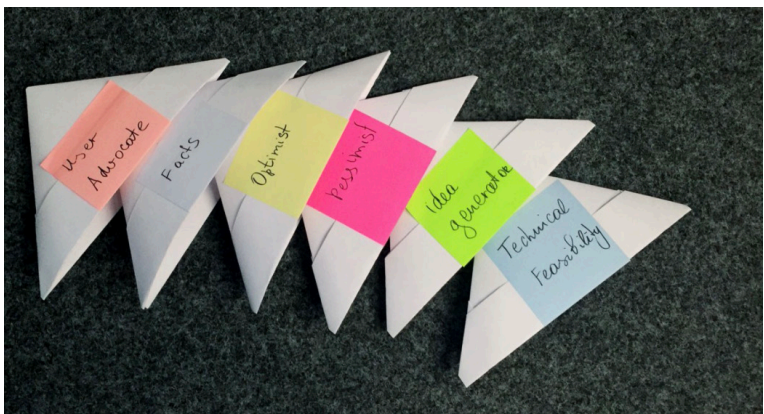


Figure 55: The Six Thinking Hats used in a variation of mindsets (source: <https://blog.prototypr.io/six-thinking-hats-c6285bcd9f3>)



### Why is this tool/method relevant within an urban context?

Working in the urban context also implies you will be working in a multi-disciplinary, multi stakeholder team where discussions can be difficult and get easily stuck.

### In which innovation stages can you use it?

The Six Thinking Hats can be applied across all the stages of an innovation project (Stage 1, 2 and 3 of the DESIGNSCAPES Open Calls).

### Examples of application

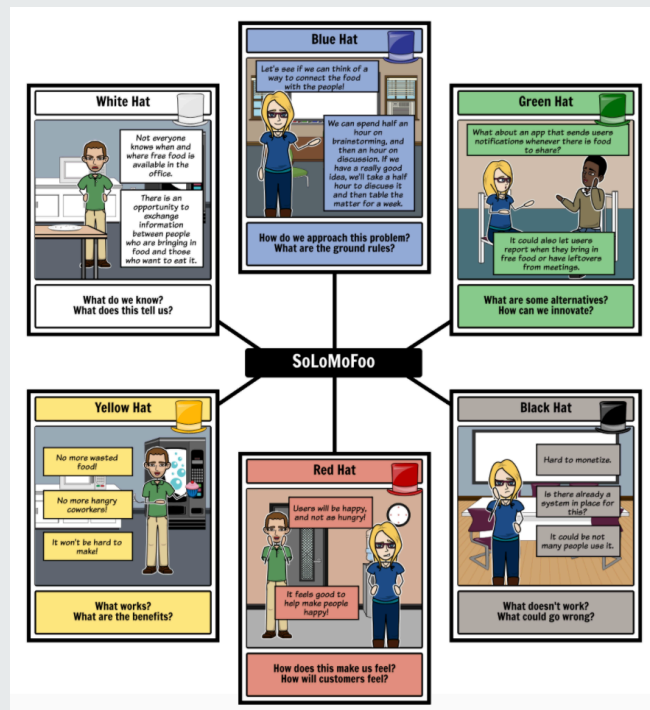


Figure 56: Example of the Six Thinking Hats applied to a Social-Local-Mobile-Food (SoLoMoFoo) project (source: <https://www.storyboardthat.com/nl/storyboards/nathanael-okhuysen/six-thinking-hats-applied--solomofoo>)

### References & resources

- De Bono, E. (1985) Six Thinking Hats. USA: Little, Brown and Company.
- Nesta DIY Toolkit offers extra information on this tool. Retrieved March 31st 2020, from <https://diytoolkit.org/tools/thinking-hats/>



# MIND MAPS

Creating a Mind Map is easy and can create clarity and overview to a problem, by mapping your thoughts around a certain topic. A mind map is a mental model, a visual representation with all the relevant aspects and ideas around a theme or problem.

## Main components for the application of this tool

In its simplest way, the following steps can be followed (alone or in a team) to create a mind map:

- Start by putting a topic, idea or problem at the center of a blank paper
- Next, you will come up with ideas and associations that relate to this topic, idea, theme or problem as they pop up.
- Write down other words, signs, drawings around it. Write them as they come to your mind but remember to always make clear how they are connected to the initial center topic or how they link to one another.

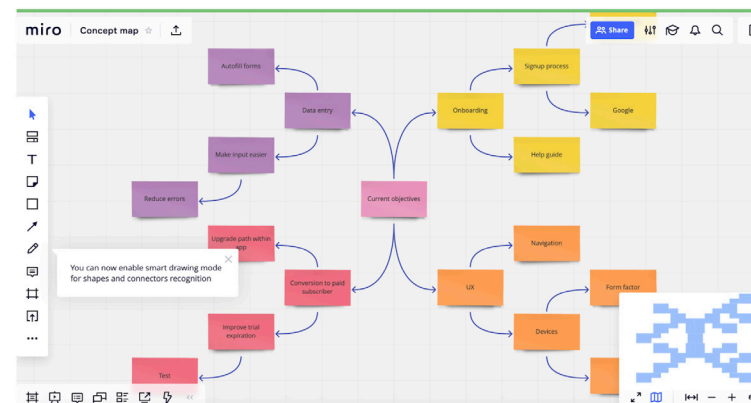


Figure 57: Example of a mind map, made with MIRO software

## Why is this tool/method relevant within an urban context?

The mind map can be relevant within complex urban innovation projects when you need to structure thoughts, a visual overview, while triggering unconstrained thinking which can uncover interesting connections, Mind Maps are good tools to encourage imaginative and free-associative skills and give space for innovation.

## In which innovation stages can you use it?

A Mind Map can be used in different stages of the urban innovation project, but is often used at the beginning of idea generation processes. However, a Mind Map can be applied across all the stages of an innovation project (Stage 1, 2 and 3 of the DESIGNSCAPES Open Calls).

### Examples of application

The last few years, we have seen a lot of new digital tools that support teamwork by offering digital mind mapping services. Some examples are: Mindmeister, Miro Mind Map or Klaxoon.



Figure 58: Mindmeister is an online mind mapping software that allows users to visualize their thinking in the form of diagrams containing words, ideas and tasks. [www.mindmeister.com](http://www.mindmeister.com)

### References & resources

- Moggridge, B. (2007). Designing interactions. MIT Press.

# THE FIVE WHYS

The five whys is an effective tool that aims to tackle the core of the problem (cause-and-effect) by asking the question 'why' five times (in other variations of the tool, you go for six times). This exercise is often used at the beginning of a creative session or when you are conducting an interview and want to understand more in depth the behaviors and habits of people. The technique was developed by Sakichi Toyoda for the Toyota Industries Corporation.

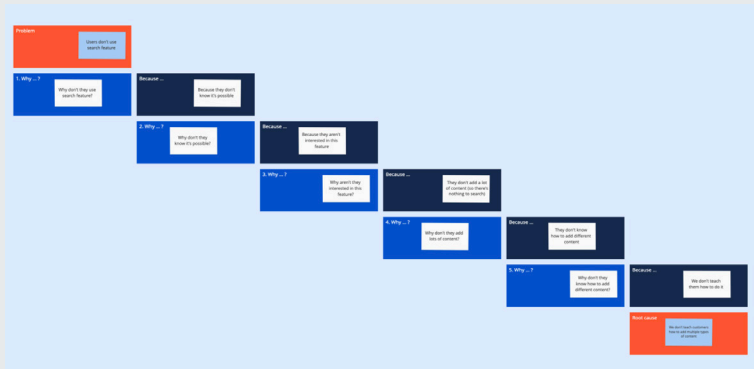


Figure 59: Five whys worksheet (source: <https://miro.com/miroverse/category/workshops/atlassian-team-plays-5-whys-analysis>)

## Main components for the application of this tool

There are three key elements to effective use of the Five Whys, namely:

- Good and complete problem statement
- Honesty in answering the questions
- Determination to get to the bottom of the problem
- By repeating 'why' five times, the nature of the problem as well as its solutions becomes clear.

## Why is this tool/method relevant within an urban context?

This tool can help teams to explore the root causes of complex urban innovation challenges. Especially if the exercise is repeated with various teams – it brings clarity in the problem and helps to align common goals within the project teams.

## In which innovation stages can you use it?

The Five Whys are typically used while carrying out feasibility studies (Stage 1 of the DESIGNSCAPES Open Calls) when the problem needs to be defined. However, this technique can be applied in different moments of the process as well (for example when conducting interviews during user research).

## Examples of application

## 5 whys exercise

Why you ask an emotional based question?

- build relationships - why?
- feel supported - why?
- feel better - why?
- to enjoy life (joy) - why?
- reason to live

**EMOTIONAL** - joy & reason to live

Why you ask a shortcut question?

- because it is faster - why?
- don't enjoy the process - why?
- process is tedious & overwhelming -why?
- complex & unknown process -why?
- entering new domain

**SHORTCUT** - Skip most of the process to the known outcome in a new domain

Why you ask for "legitimacy" questions?

- want to know if it is true/ false - why?
- should I give it or not attention? - why?
- to understand possible consequences - why?
- to understand how it effects me - why?
- to influence course of action

**LEGITIMACY** - to make informed & relevant decision of action

Why you ask super-local questions?

- to get the real - authentic experience - why?
- to value authenticity - why?
- you want to do it "right" - why?
- you want to feel part of the local society - why?
- to acquire exclusive knowledge and feel accepted

**SUPER-LOCAL** - experience exclusive authenticity

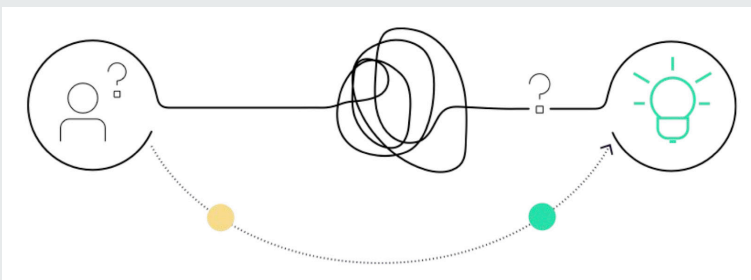


Figure 60+61: Example of the Five Whys used as a tool to develop the concept of Friend Of A Friend - a smart multiplatform service, that leverages students diversity to address their everyday problems at the University. This was a semester project from the Service Systems Design Master (credits to Ioanna Kentri, Josefina Gaete Villegas, Tanner Slade, Dorottya Csákány and Hamish Coventry 2019)

## References &amp; resources

- Hyperisland Toolbox. Retrieved on March 31st, 2020, from <https://toolbox.hyperisland.com/the-5-whys>
- IDEO Human Centered Design toolkit. Retrieved on March 31st, 2020, from
- <https://www.designkit.org/methods/66?ref=publicdesignvault>
- 5 "Whys" Analysis. Retrieved June 15th, 2020, from <https://miro.com/miroverse/profile/atlassian>

# JOBS TO BE DONE (JTBD)

The Jobs-To-Be-Done framework supports thinking into user or customer's needs, by structuring the 'job' that users or customers want to get done into specific process steps. The framework was originally named by Clayton Christensen from the Harvard Business School, JTBD is a framework to formulate insights to understand what people value from a service and therefore create a solution that truly relates to what the customer really wants.

"When [situation], I want to [motivation], so that I {expected outcome]"

JTBD seems quite similar to gathering key insights from users, however it focuses more on the motivational and situational context, which can create an innovative solution.

ONE WAY TO FRAME A JTBD IS WITH THIS TEMPLATE:

**When**

..... (situation),

**I want to**

..... (motivation or forces),

**so I can**

..... (expected outcome).

Figure 62: Example of template on how to use the tool (source: <https://www.thisisservicedesigndoing.com/methods/generating-jobs-to-be-done>)

## Main components for the application of this tool

- Collect and prepare information and research data (for example on a research wall)
- Create as many jobs as possible by writing JTBD cards with your team
- Cluster, sort and prioritize the JTBD
- Combine and link the JTBD insights with the data and possible iterate
- Validate with real users and or employees
- Document and summarize

## Why is this tool/method relevant within an urban context?

In some innovation projects, the priority shifts as the project moves along and this framework helps the team to stay customer focused and keep the user needs and wants as a priority whilst developing the urban innovation process.

### In which innovation stages can you use it?

JTBD are typically used at the beginning of an innovation process after the data collection and research phase, for example during the feasibility studies (Stage 1 of the DESIGNSCAPES Open Calls).

### Examples of application

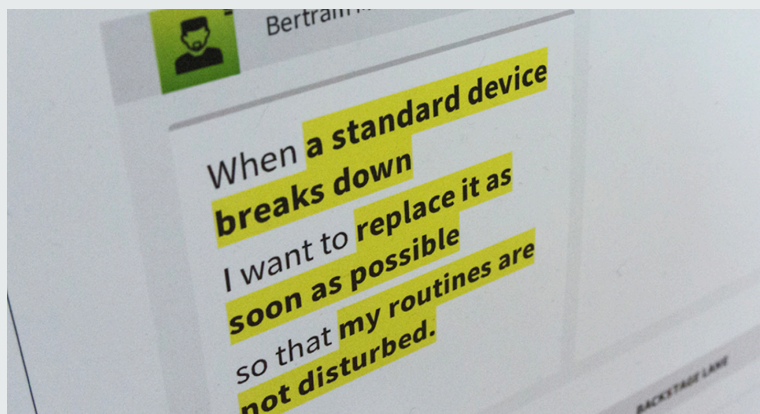


Figure 63: JTBD integrated as a step in creating a journey map. Retrieved March 31st, 2020, from <https://www.thisisservicedesigndoing.com/methods/generating-jobs-to-be-done>

### References & resources

- This Is Service Design Doing. Retrieved March 31st, 2020, from <https://www.thisisservicedesigndoing.com/methods/generating-jobs-to-be-done>
- Clayton, M. C., & Raynor, M. E. (2003). *The Innovator's Solution: Creating and Sustaining Successful Growth*. Harvard Business School Press.

# WISA CANVAS

**This tool is concerned with the specific processes of strategy articulation, i.e. those processes in which strategy is more or less strictly and explicitly formalized. In practice, “strategy articulation” means that the key components of strategy are identified and described. Strategy can be defined as achieving some balance between ends (goals), means (resources and capabilities) and ways in which resources and capabilities are mobilised to acquire greater impact. WISA stands for “wider impact strategy articulation” and refers to the idea that this canvas can support a question-driven process that can be used in a variety of contexts – including not-for-profit applications.**

## Main components for the application of this tool

This is a basic thinking tool and needs just pen and paper and some time to reflect upon the four components of the canvas:

- Ends / Goals: What is the issue/challenge/problem that you would like to address?
- Means: What are the core means (i.e., the financial, material and technical resources you can use and your capabilities to use these resources) that you can mobilize?
- Ways: How do you want to mobilize your resources and capabilities to reach your goals
- Impact: What is unique in your approach (e.g., different from existing competitors)? Why will the market opportunity be big or why will the societal impact be significant?

These questions are displayed in a canvas for various reasons: (a) the canvas limits the number of words that can be used in each section and thus helps sharpen the answers, (b) the format of

the canvas invites the user not only to write text but also to draw small sketches and visualizations, (c) the canvas allows an overall simultaneous overview of the key components of strategy and thus helps to more easily assess whether they are balanced and (d) the canvas allows drawing lines to visually connect texts and other elements across different sections.


WISA Canvas		TEAM	DATE
<small>The WISA (Wider Impact Strategy Articulation) Framework is a question-driven process that can be used to look at a particular issue or challenge and help articulate related and relevant strategy. The framework sees strategy as about achieving some balance between ends (goals), means (resources and capabilities) and ways in which resources and capabilities are mobilized as to acquire greater impact.</small>		NAME OF THE PROJECT	
<b>ENDS / GOALS</b> What is the issue/challenge/problem that you would like to address? Describe it also using some background data (e.g., market figures)	<b>MEANS</b> What are the core means (i.e., the financial, material and technical resources you can use and your capabilities to use these resources) that you can mobilize?		
<b>WAYS</b> How do you want to mobilize your resources and capabilities to reach your goals? Produce a list of coherent actions that you intend to carry out to reach your goals	<b>IMPACT</b> What is unique in your approach (e.g., different from existing competitors)? Why will the market opportunity be big or why will the societal impact be significant?		
<small>2019, Luca Simeone / Strategic Thinking Hub            For a longer description of the WISA Framework visit the website: <a href="http://www.strategicthinkinghub.net">www.strategicthinkinghub.net</a></small>			

Figure 64: The WISA Canvas. The canvas can be downloaded from: <http://www.strategicthinkinghub.net/storage/WISA-Canvas.pdf>

**Why is this tool/method relevant within an urban context?**

The WISA Canvas can be particularly valuable to map the specific resources available within an urban innovation project and to think critically about how to mobilize them to reach the project's goals.

**In which innovation stages can you use it?**

The WISA Canvas can be iteratively applied across all the stages of an innovation project (Stage 1, 2 and 3 of the DESIGNSCAPES Open Calls).

**Examples of application**

The WISA Canvas can be used by individuals or single organizations or serve as a basis for collaborative processes (e.g., strategy co-creation workshops) attended by multiple organizations.

**References & resources**

- Echevarria, A. J. (2017). *Military Strategy: A Very Short Introduction*. Oxford University Press.
- Freedman, L. (2013). *Strategy: A History*. Oxford University Press.
- Rumelt, R. (2011). *Good Strategy, Bad Strategy*. Crown Business.
- Simeone, L. (2020). Characterizing strategic design processes in relation to definitions of strategy from military, business and management studies. *The Design Journal*, <https://doi.org/10.1080/14606925.2020.1758472>
- The WISA Framework, <http://www.strategicthinkinghub.net/the-wisa-framework/>



# SWOT ANALYSIS

The SWOT analysis is a strategic planning tool elaborated in the 70s within the field of corporate strategy and that, since then, has been increasingly used in innovation and entrepreneurial projects. The SWOT analysis (Strengths and Weaknesses of an organization in light of the Opportunities and Threats in the environment) can be used to analyse macro-environment in relation to the resources and capabilities of an organization. The SWOT analysis is generally presented as a core method for those competitive and situational analyses that precede later phases of concept and design development. Surely, part of the fascination with the SWOT analysis is that it seems to offer an actionable and easy-to-implement process to analyze resources and capabilities of an organization.

## Main components for the application of this tool

This is a basic thinking tool and needs just pen and paper and some time to reflect upon the key components of the framework:

- Strengths and Weaknesses of an organization: this has to do with mapping the resources of an organization (both tangible and intangible) and the capabilities to use these resources and identifying potential and shortcomings
- Opportunities and Threats: this has to do with the external environment (e.g., contextual conditions, competition, industry dynamics, etc).

# SWOT ANALYSIS



Figure 65: A SWOT analysis template, with its four elements in a 2×2 matrix, courtesy of Xhienne / CC BY-SA (<https://creativecommons.org/licenses/by-sa/2.5>)

**Why is this tool/method relevant within an urban context?**

The SWOT analysis can provide an initial overview of how an organization can operate within the specific contextual conditions of an urban environment, but it can also offer a compass for later phases of implementation, when actions have to be constantly adjusted along the way as every urban context is unique and multidimensional.

**In which innovation stages can you use it?**

The SWOT analysis is typically used at the initial stages of an innovation project (Stage 1 of the DESIGNSCAPES Open Calls) but various strategists suggest using it also at later stages to monitor and tune the strategic direction of projects.

**Examples of application**

The books cited in the references provide a good number of examples. You can also find a lot of resources online (e.g. <https://www.toolshero.com/strategy/swot-analysis/>).

**References & resources**

- Andrews, K. (1971). *The Concept of Corporate Strategy*. R.D. Irwin.
- Holston, D. (2011). *The strategic designer*. How Books.
- Johnson, G., Whittington, R., Scholes, K., Angwin, D., & Regnér, P. (2017). *Fundamentals of Strategy* (4th edition). Pearson Education.

# VALUE PROPOSITION CANVAS

The Value Proposition Canvas is a tool developed by Alexander Osterwalder - one of the original proposers of the Business Model Canvas. In a way, the Value Proposition Canvas provides an integrative perspective, in which a more granular analysis of the customer profile is paired with the value proposition offered by an organization. Nowadays, the Value Proposition Canvas is a quite popular tool, widely used by startup communities, innovators and, in general, within the design field.

## Main components for the application of this tool

Proposed as a canvas, the tool invites the users in looking into how two building blocks (value proposition and customer segment) can match. The components of the canvases are:

- Customer Segment / Customer Job(s): what the customer is trying to perform or achieve
- Customer Segment / Gains: the benefits that the customer might need or expect in relation to what they want to perform or achieve
- Customer Segment / Pains: the problems that the customer might currently experience in relation to what they want to perform or achieve
- Value Proposition / Products & Services: the products and services offered by the organization
- Value Proposition / Gain Creators: how the product or service

- provided by the organization can create customer gains
- Value Proposition / Pain Relievers: how the product or service provided by the organization can alleviate customer pains

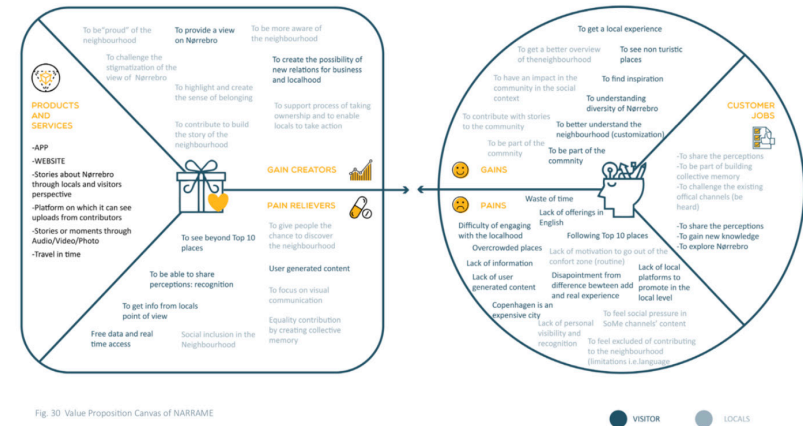


Fig. 30 Value Proposition Canvas of NARRAME

Figure 66: The figure Shows the Value Proposition Canvas as used in a project called NARRAME: A SERVICE ABOUT COLLECTIVE MEMORY - A semester project from the Service Systems Design Master (credits to Drude Emilie Holm Ehn, Giulia D’Ettolo, Maria Paszkowska, Nikolaj Baida, Tania Cearreta-Innocenti, 2017). The original canvas can be downloaded from: <https://www.strategyzer.com/canvas/value-proposition-canvas>

## Why is this tool/method relevant within an urban context?

The tool can support organisations in achieving a more granular view of their customers and, as such, increase their capacity to offer suitable value propositions. The tool can be iteratively used to map different categories of customers and stakeholders and, as such, to tune product and service offerings, so as to be more appealing to potentially diverse stakeholders and contexts of intervention.

**In which innovation stages can you use it?**

The Value Proposition Canvas is generally used in the initial phases of an innovation project (Stage 1 of the DESIGNSCAPES Open Calls) but it can be used also at later stages to complement work on business modeling.

**Examples of application**

A good starting point is to look into the freely accessible webinars offered by Strategyzer (the company that created the Value Proposition Canvas): <https://www.youtube.com/watch?v=r0mtUQnny94>

**References & resources**

- Osterwalder, A., Pigneur, Y., Bernarda, G., Smith, A., & Papadacos, T. (2014). Value Proposition Design: How to Create Products and Services Customers Want. Wiley.

# IDEA EVALUATION MATRIX

Working in teams or in contexts with multiple stakeholders may imply that multiple concepts are developed, which are hard to select, because:

- they address different relevant values for the project team and therefore imply multiple criteria for evaluation
- the components of the design team give each evaluation criteria a different weight and therefore evaluate each concept in a different way

The idea evaluation matrix is a tool that allows a team to analyse the most relevant criteria of selection for a number of concurrent solutions and to evaluate each solution on the basis of such factors.

## Main components for the application of this tool

The idea evaluation matrix is a quite obvious tool consisting of a simple table in which the solutions are listed (first column) together with the evaluation criteria (first row). Each team member will evaluate how the various solutions address each criteria by giving a score (e.g. from 0 to 3). The last column will list the sum of the scores. If on the one hand, the result of the evaluation matrix cannot be considered in any way as an objective evaluation, on the other, the sum of the evaluation highlights the difference between the concepts. Moreover, the need for the team to define the evaluation criteria is often an opportunity to focus on such criteria and decide their relevance. Some criteria

may prove to be more relevant than others, and therefore a score multiplier that highlights what is more relevant to consider in the evaluation could be added.

Criteria	Weights	%	Planit	MapMe	Local Eye
Avoid the tourist traps	6	0.17	1	0.25	1.75
Find options based on the interests	7	0.19	1.5	0	1.5
Options for different weather conditions	3	0.08	1.5	0.5	0.5
Finding local places / activities	8	0.22	0.75	0.75	1.5
Involvement of locals	5	0.14	0.25	0.25	2.5
Options for different price range	1	0.03	1	1	1
Ability to use it offline	4	0.11	0.5	2	0.5
Review/Rating option	2	0.06	1.5	0	1.5
<b>Total sum:</b>	36	1.00	0.9	0.5	1.5

Figure 67: The figure shows how different columns (last three columns) score in regard to some evaluation criterias. The first two columns also consider the relevance (weight and percentage on the total score) of each criteria in the total evaluation. (source Somos et al. 2017)

## Why is this tool/method relevant within an urban context?

The idea evaluation matrix is relevant for its mediation function among the different components of a design team, and possibly between different stakeholders involved in an idea generation and selection exercise.

## In which innovation stages can you use it?

The idea evaluation matrix is often used to evaluate concepts in the early phases of the design project, but it can also be useful in when prototyping and selecting solutions in a later stage.

### Examples of application

The simplicity of this tool is probably the reason why it is not easy to find documented uses of it. The tool has also been used in product design and development, as illustrated in Ulrich and Eppinger (2012).

### References and resources

- Ulrich, K. T., & Eppinger, S. D. (2012). Product Design and Development (5 ed.): McGraw-Hill.
- Somos, F., Cordero Jensen, M. C., Rozanska, M., Saboktakin, P., & Tairq, R. (2017). Tourism. Retrieved from Process report, Master of Service Systems Design, Aalborg University 2. Semeste

# USE CASES

**Use cases is a tool borrowed from software and system engineers to elicit requirements for a new software or app. They consist of a very detailed description of an interaction between a customer and a service, through the description of the sequence of actions during the interaction. From such description, designers can list requirements and attributes of the interaction. In design practice, use cases are often related to other tools such as user journeys (because of the narrative description of the interaction) and to blueprint (for the description of the internal interaction that each action implies).**

Use case title	[a title describing the interaction]
Actors	[preferably give a name to the actors, e.g. "John", "Mary"]
Flow of events	[detailed description of the action]
Pre-Condition	[e.g. "John has is registered to the service"]
Post-Condition	[e.g. "Mary has a receipt of the transaction"]

Figure 68: Use cases table

## Main components for the application of this tool

A use cases can be a simple text-based description, reporting the actors, the flow of events, the conditions for the action to happen, i.e. what must be done before or must have happened before the action, and post condition, i.e. what are the conditions or the evidence that are produced by the interaction.

In service design, use cases are sometimes used to highlight the perspective of an actor in the system (a citizen, the user of a service, a service provider) and are therefore related to the description of a persona (see tool: "persona").

Use cases can also be transposed in graphic representations. System science introduced a very basic description of the interaction, which only focuses on the interaction between users and the software. When applied to service design the interaction needs to be better specified, indicating other characteristics of the interaction, such as time, movement, visible and invisible, perceivable or not perceivable actors.

## Why is it relevant within an urban context?

Being a very detailed description of an interaction, a use case allows the designer to understand the most specific requirements for a new service, which would not otherwise be visible in a general description of the organization of the service. Moreover, use cases can help negotiating interactions within the stakeholders, therefore it can be used as a collaboration tool when working with a community. The textual nature of the use case makes this tool easy to use also for those who do not have special graphic capabilities.

## In which innovation stages can you use it?

Use cases are typically used in the phase of definition of a new initiative or service, therefore they can be helpful in the early prototyping phases (Stage 1 and Stage 2 of the DESIGNSCAPES Open Calls).



## Examples of application

Use cases are typically used in service design to understand phases of the interaction and negotiate the interaction among different stakeholders.

The Life 2.0 project used use cases to figure out the possible interaction between elderly people in a research project to increase the opportunities for elderly people's independent life.

### ANNE SETS UP AN ACTIVITY

<b>Brief Description:</b>	Ann wants to go to see a movie and would like others to join
<b>Preconditions:</b>	Anne is a registered member in the system She has a profile on the Website there is a website the website allows for notifications/messages A standard form exist for Anne to specify the activity If there is an automatic filter there is no need for administrator check
<b>Environment:</b>	Home

Basic Flow:		
Line	System Actor Action	System Response
1	Anne wants to set up an activity to go to the movie /send a notification (email) to system administrator She is sending an email to the system administrator (anne write on Ipad)	A notification is sent to the administrator
2.	The administrator checks the event and send some a notification back to Anne (SEE MODULE ON ADMINISTRATING ACTIVITIES)	A mail is sent back to Anne linking to a form with standard questions (Which Movie? When? Deadline for joining?)
2	Anne fills in the form with the additional information	Anne proposal is published on the screen at the training centre and on the website
3	Other people join the activity (SEE MODULE ON JOINING THE ACTIVITY)	At the deadline a notification is sent to Anne for her to check who is joining
<b>Post Condition:</b>	A list of participant to the activity is gathered	

Figure 69: A use case from the Life 2.0 project, representing how an elderly people can set up an activity on a common platform. Source: Life 2.0 project.

Care Information Scotland was a service redesign project initiated by NHS24 and the Scottish Government Health and Social Care Integration Directorate (client), in collaboration with the design studio Snook. The project aimed at redesigning the online triage calls, patient treatments and referral to the most appropriate treatment. The interaction between the designers and the client included two phases, a first exploratory phase and a second phase of service co-design. In this case, personas, referred to different kinds of carers, have been used to develop a number of use cases and blueprints. The use cases suggested different forms of interaction through an interactive website (Sangiorgi et al. 2015).

## References & resources

- Sangiorgi, D., A. Prendiville, J. Jung and E. Yu (2015). Design for Service Innovation and Development. Lancaster, UK, Lancaster University, University of the Arts London.

# DESIGN ORIENTING SCENARIOS

Scenario planning refers to an activity of imagining possible futures, on the basis of the analysis of systemic components, including stakeholders, trends or uncertainties. Scenarios can be a way to generate visions about the future that can orient present action. Scenario planning is not a simple projection of the present into the future, but rather a critical activity of selection among different possible futures, in order to define preferable directions for the present actions. They are led by motivations (where we want to go) and include practical indications about the next steps to do towards the preferred indications. They are called “design orienting” because they provide a framework for the design and realisation of new initiatives in the present (Manzini et al. 2009). Design Orienting Scenarios are used in complex situations, which would require a design action that takes into account a large number of variables.

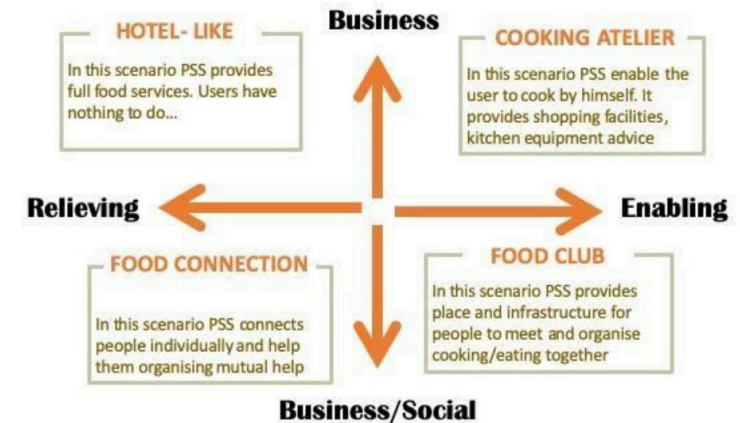


Figure 70: Use of a design orienting scenario to explore sustainable food consumption and distribution systems (Adapted from Manzini et al 2009)

## Main components for the application of this tool

According to Manzini (2015) the architecture of design orienting scenarios is based on three components:

- **A vision:** is the most specific component of a scenario. It answers the basic question: “What would the world be like if ... ?,” and it is articulated in a narrative (a story or a sketch that illustrate a possible future);
- **A motivation** justifies its existence and confers its meaning. It answers the question: “Why is this scenario meaningful?” by explaining intentions, premises, contextual conditions and criteria for action; and
- **A strategy** that describes the steps to be done to implement the vision. It answers the fundamental question: “How can we make it happen?”

The construction of the vision is based on the interaction between an inductive process, aiming at defining possible solutions that

reconfigure the current situation and a deductive process that explores critical factors (motivations), which would characterise desirable futures, describing such factors as polarities (Manzini et al 2009). In a workshop session, the two processes could be run by two groups working in parallel.

Polarities show possible variations along single dimensions (e.g. individual versus collective action, enabling vs disabling solutions). The intersection of relevant dimensions can increase the complexity of the exploration and suggest different future scenarios.

The strategic component is based on the description of the scenarios. This description can use narrative techniques, such as: journeys or storyboards; actors or system maps, describing the actors involved; blueprints, that analyse critical functionalities; and motivation matrix, that considers the motivations supporting interaction and cooperation among the actors.

### **Why is it relevant within an urban context?**

Urban contexts are the result of a complex interaction among different and heterogeneous factors. Including individual, social phenomena, economic facts, and technological influences. Design Orienting Scenarios can provide a direction for the present action and therefore be used as a powerful negotiation tool among the stakeholders in an urban context.

### **In which innovation stages can you use it?**

Design orienting scenarios are used in the early phases of the concept development process (Stage 1 of the Designscapes Open Call), when it is important to build shared and multi-factor visions of a desirable future and develop concepts that are consistent with such visions. However, during the matchmaking process it appeared that it has been used across the entire process.

### **Example application**

Design orienting scenarios have been introduced at the beginning of this century in the debate about sustainability. They have been used in projects aimed at finding new business and social solutions aimed at improving the environmental and social quality of everyday life in the urban context. Its applications are in housing (Green, & Vergragt (2002), food and sustainable living systems (Sushouse Project, Sustainable Everyday project).

### **References and Resources**

- Manzini, E. (2015). *Design, when Everybody Designs* (R. Coad, Trans.). Cambridge, Massachusetts, London, England: MIT Press.
- Manzini, E., Jegou, F., & Meroni, A. (2009). *Design Oriented Scenarios. Generating New Shared Version of Sustainable Product Service Systems*. In M. Crul, J. C. Diehl, & C. Ryan (Eds.), *Design for Sustainability (D4S): A Step-By-Step Approach*. Delft: United Nations Environment Program (UNEP)
- Green, K., & Vergragt, P. (2002). *Towards sustainable households: a methodology for developing sustainable technological and social innovations*. *Futures*, 34(5), 381-400

# HOW MIGHT WE? (HMW)

How might we (HMW) questions are questions that reframe negative pain points or problems into positive and forward-thinking statements and define specific problems to solve (Stickdorn et al., 2018). How Might We? (HMW) is a tool or technique to come up with new opportunities. The aim is to reframe the (design) challenge into triggering a “How Might We ... format.” An HMW format aims to set up an insight into an innovation briefing and supports innovative thinking and suggests opportunities for design.



Figure 71: HMW question format used in a workshop by Design Council on a challenge to transform aging in the UK (2019). Retrieved March 31st, 2020, from <https://www.designcouncil.org.uk/resources/guide/transform-ageing-programme-pack-2019>

## Main components for the application of this tool

HMW is a basic tool that can be used once you have gathered insights. The steps:

- Prioritise which insights are most interesting to continue with
- Use "How might we...?" as a tool to get a good starting point for your design and innovation project
- Ideally you want to have multiple HMW statements in order to generate a variety of ideas and opportunities

## Why is it relevant within an urban context?

Urban innovation projects often involve communities and citizens that do not have a design background. This tool creates an inclusive culture for participation and supports creative thinking during a co-creative workshop or brainstorm with a variety of people and stakeholders.

## In which innovation stages can you use it?

‘How Might We’ is mostly used at the start of an innovation process before a creative brainstorm session. So, it would be typically applied during the feasibility studies (Stage 1 and stage 2 of the DESIGNSCAPES Open Calls).



Figure 71: Example of the use of the HMW Questions technique in a semester project of Service Systems Design, 2019 (Credits to Nanna Dam Johansen, Troy Leiningner, Rike Neuhoﬀ, Mia Laybourn Steiness and Hadas Zohar)

*“...Maybe it's good to think of HMW as a tool that thanks to its syntactic structure helps you set up design challenges that are people-centered and inspired by insights...”*

*- Designscapes Participant*

**References & resources**

- Stickdorn, M., Hormess, M. E., Lawrence, A., & Schneider, J. (2018). This Is Service Design Doing: Applying Service Design Thinking in the Real World (1 edition). Sebastopol, CA: O’Reilly Media.
- This Is Service Design Doing. Retrieved March 31st, 2020, from <https://www.thisisservicedesigndoing.com/methods/how-might-we-questions-from-insights-and-user-stories>
- IDEO Human Centered Design toolkit. Retrieved March 31st, 2020, from <https://www.designkit.org/methods/3>



# CARD SORTING

Card sorting is a method to help facilitate co-creation of a service. Card sorting can be used, for example, in sessions in which “participants organize topics into categories that make sense to them and they may also help [the researcher] label these groups.” (“Usability.gov - Card Sorting,” 2013). A deck of cards, each with a word or an image, can help spark a deeper conversation with your user, by asking them to rank them in order of preference and understand how they categorize information.

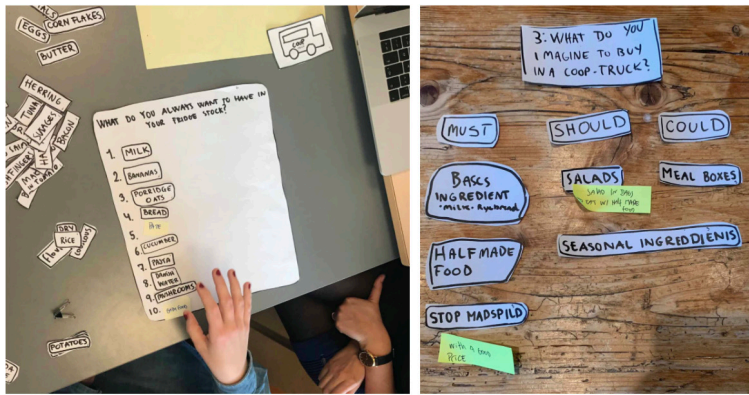


Figure 72: Use of a card sorting technique in a semester project for COOP from Service Systems Design, 2018 (credits to Kristina Ulset, Marcelina Kopecka , Troy Leininger , Ines Pedro , Cathrine Kulsbjerg Løgager)

## Main components for the application of this tool

To conduct a card sort, you can use actual cards, pieces of paper, or one of several online card-sorting software tools if you want to apply this method remotely. The easiest way is to put a deck of cards, each with a word or single image, in someone’s hands and then asking them to rank them in order of preference. After the session and after each participant sorted the cards, one can take all the findings and document this. This method can be done in variations:

Open — in an open card sorting session, the participant or user is free to categorize the cards like they see fit. They can create their own labels for the groups they created. Open card sorting sessions are more explorative

Closed - in a closed card sorting session, the labels are given to the participants together with the cards. A closed card sort has the purpose to prototype and test rather than research and explore

## Why is it relevant within an urban context?

Card sorting is an easy, well established and quick way to get better insight in the intuitive categorization process of users. It is an effective co-creation tool that makes it easy to engage with communities and involve their feedback in the urban innovation design process.

## In which innovation stages can you use it?

Card sorting can be used to validate the concept or to co-create it with the user group that is part of the testing of the concept. However, it can also be used to help design the specifics of the innovation idea. So it would be typically applied during the prototype studies (Stage 2 of the DESIGNSCAPES Open Calls).

*“... I use card sorting a lot, but I customize the cards, so I can research exactly what I want...” - Designscapes participant*

## Examples of application

As described in IDEO's Design Kit, "there are a couple variations on this method that work nicely: Instead of asking the person you're designing for to rank the cards in order of preference, ask her to arrange them as she sees fit. The results might surprise you. Another tweak is to pose different scenarios. Ask the person you're designing for how she would sort the cards if she had more money, if she were old, if she lived in a big city."



Figure 73: Card sorting has been used as a support for building communities in collaborative housing in Italy ...Each card reported an aspect of everyday life in the community, thus triggering a conversation on how to manage each specific aspect. (source Ferri 2016)

## References & resources

- Ferri, G. (2016). Starting up Communities. Un Design-Kit per l'Abitare Collaborativo. Retrieved from Milano: [http://download.pearson.it/archivio/materiali/3011\\_1482398324.pdf](http://download.pearson.it/archivio/materiali/3011_1482398324.pdf)
- IDEO Design Kit - Card Sorting. Retrieved March 31st, 2020, from [https://www.designkit.org/methods/24Usability.gov - Card Sorting](https://www.designkit.org/methods/24Usability.gov-Card%20Sorting). (2013, October 9). Retrieved March 31st, 2020, from <https://www.usability.gov/how-to-and-tools/methods/card-sorting.html>



# THE ECODESIGN STRATEGY WHEEL

The Ecodesign Strategy Wheel (Brezet and van Hemel, 1997), inspired from the Lifecycle Design Strategies Wheel (LiDS-Wheel), is a tool that allows an overview of the potential for environmental improvement through eight eco - design strategies to make sure that the impact of your design on the environment is limited.

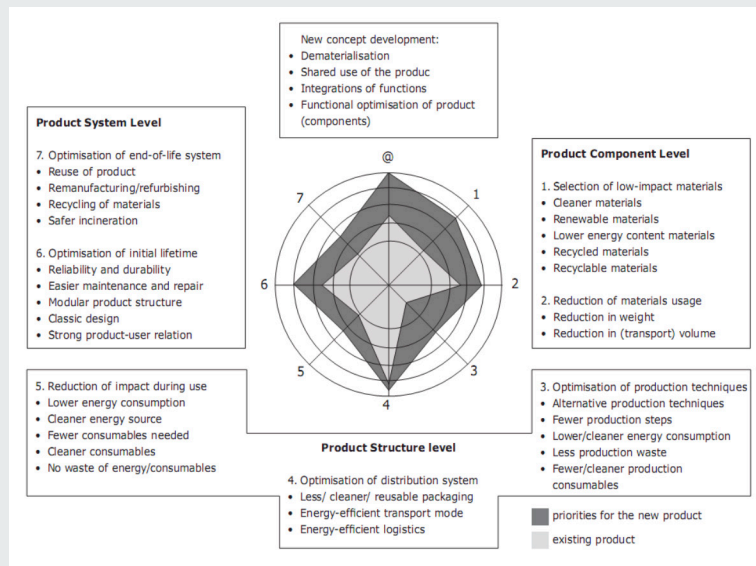


Figure 74: The EcoDesign Strategy Wheel (after Brezet and van Hemel, 1995)

## Main components for the application of this tool:

The Ecodesign Strategy Wheel distinguishes eight strategies to support designers and others to imagine new opportunities. The first strategy relates to the innovation of a product or service and the other seven strategies follow the life cycle of a product.

- New concept development
- Selection of low-impact materials
- Reduction of materials usage
- Optimization of production techniques
- Optimization of distribution system
- Reduction of impact during use
- Optimization of initial lifetime
- Optimization of end-of-life system

The EcoDesign Strategy wheel helps to systematically gain better understanding in the material choices, manufacturing and distribution, users and their behavioral patterns, length of life cycle and end of life. Each of the strategies suggests a checklist of questions that support the analysis of a product's impact on the environment". It is important to be aware that where some of the strategies may reinforce each other, others could negatively impact one another.

## Why is it relevant within an urban context?

Whereas sustainability and climate change were once "something on the side", today they are at the forefront of global conversation. Climate change will impact everything and with more and more people living in cities, the innovations that are brought into the urban context need to be strategically evaluated to understand how we can make impact and act responsible.

Beside the specific use of this tool for sustainability strategies, the strategy wheel (or other forms of spider-web analysis) could

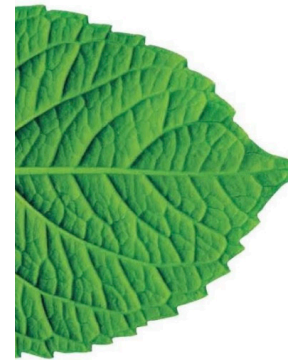
be used as an evaluation tool of initiatives or urban policies that address complex contexts, in which multiple factors need to be considered and compared at the same time

#### In which innovation stages can you use it?

Often used in the beginning of the process, so it would be typically applied during the feasibility and prototype studies (Stage 1 and 2 of the DESIGNSCAPES Open Calls).

#### Examples of application

A good starting point could be to have a look how the tool has been applied and modified by the Okale Group. The Okala Ecodesign Strategy Wheel is a modification of the wheel developed by Brezet and van Hemel. Here there is also an application offered as a tool for designers to conceptualize new product and service concepts. This "brainstorming tool" is a great prompt for early thinking on improving the sustainability of a product or service.



# Okala

## the ecodesign strategy wheel

The Okala Ecodesign Strategy Wheel clusters strategies according to the stages of the life-cycle of the product. Designers can use many of these strategies, or focus on a few. The wheel serves as a powerful brainstorming tool to explore areas of product development or improvement that have not yet been considered. [Enter Here](#)

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Figure 75: Thee Okala Ecodesign Strategy Wheel (Retrieved April 27th, 2020 from: <http://www.okala.net>)

#### References & resources

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