

FRONTEND TOOLKIT

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A toolkit to transform IDEAS into intelligent action



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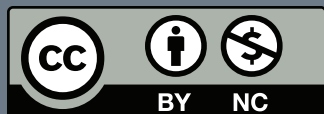
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This FrontEnd Toolkit is about applying Design Thinking to transform new ideas into innovative products, services and businesses with an impact. The front end development of new user and customer-oriented solutions is a key opportunity as well as a significant challenge for organizations and success is built on collaborative approaches.

Foreword

Enhanced connectivity, inexpensive mobile phones, and the rapidly growing use of social media have radically altered the citizen's behavior everywhere. Increased openness and timely access to information also has the potential to reorganize the delivery of public services. Officials can now engage citizens in design and service improvement by harnessing real time data - collected from sensor webs or crowd -sourced from users – and customize content for various constituencies by language, location, and device.

Digitalization is also changing the innovation process from closed and linear to open and iterative providing parallel opportunities for a new breed of coders, start-ups and SMEs. Forward-looking authorities already encourage software developers outside of government to co-create applications in collaboration with citizens and to tap into knowledge generated as well as international networks. Co-creation can reduce solution development costs, generate wider diversity of solutions and help to ensure that user needs and behavior are reflected in the final solution before the launch of service.

This paradigm shift provides an opportunity for even the most resource-constrained public authorities to invest in low-cost development of technology-enabled services. Innovation, however, is a social process shaped by culture, habits, convention and routines as much as by technology or rules, laws and regulations. Often new projects fail to achieve the desired impact, and in many cases scarce resources are not used in an optimal manner. This guidebook claims that how one begins to design a new project, often determines whether an intervention succeeds or not. Mapping of all stakeholders and understanding their vested interests is critical knowledge that helps to identify champions and hidden bottlenecks. Engaging with stakeholders at the early stage of design process helps to take all interests into account and build shared value for all partners.

Administrators want to learn from each other but approaches and methodologies applied in collaborative processes often still reside as a tacit know-how in the heads of a few practitioners. This Front-End toolkit prepared by the World Bank team together with leading experts, highlights the importance of political economy as a critical factor explaining why projects are working or not. Taking into account the roles played by different stakeholders and their interest in planned interventions will have a critical impact on development efforts and their outcomes. Authors of this guide provide a step-by-step guide to overcome risks by engaging beneficiaries with local stakeholders to explore mutual interests and to build shared value in facilitated workshop sessions.

I warmly recommend this guide for every policy-maker, project manager and individual interested in establishing a solid foundation for their project.

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ble for organizing the workshops while Hallie Appelbaum, Diana Del Olmo, Jana El-Horri, Cecilia Paradi-Guilford, and Samhir Vasdev provided technical contribution and documented the experiences. The content and format was peer-reviewed by Carlos Gerardo Sabatino Gonzalez, Justine White and Adarsh Desai all from the World Bank. The guide was prepared under the project KE Learning Platform for Open Innovation in Cities benefiting from thoughtful leadership provided by Sheila Jagannathan, Andrei Tolstopiatenko and Jane Treadwell.

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Partnerships

Peer-to-peer learning is a powerful way to share and to replicate working solutions. Development partners are willing to learn but too often relevant knowledge is kept in the minds of a few spearheading global practitioners. Encouraged by willingness of selected thought leaders to share their expertise, the World Bank team invited a group of international experts to the workshops. Anna Majo (Urban-Lab Barcelona), Esteve Almira (ESADE), Roope Ritvos (Forum Virium Helsinki), Jose Antonio Galaso Cerezo (CityLab Cornellá de Llo-

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PART 1

INTRODUCTION

1.1 About this Toolkit

The World Bank ICT Group and its partner organizations have built this FrontEnd Toolkit to advise project teams to manage the initial development phase of new services, products and businesses with concrete tools and processes. The overall objective is to help policy-makers, project owners, and managers as well as their stakeholders to design and implement projects with real impact.

While there are good ideas everywhere, transforming them into great new practices is demanding, and ensuring that they will work in the real world is a challenge. Often new and innovative projects fail to achieve the desired impact, and in many cases scarce resources are wasted. It is critical to manage well the initial phases of developing a successful product, service or business. How one begins the process of innovation often determines whether an idea evolves into a feasible, viable and desirable concept and an action plan.

We believe that success can be achieved by engaging all relevant beneficiaries from the beginning to explore mutual interests and shared value in, facilitated workshop sessions. Besides building trust and accountability such an approach can generate a wider diversity of solutions and help to ensure that user needs and behaviors are properly accounted in the final solution before the launch of innovation. At the heart of this approach is a collaborative process where methodologies such as design thinking are applied to explore

and to produce implementable concepts and action plans in a limited time period. The Toolkit helps to establish an idea's key value to stakeholders, and supports planning for the creation of high impact projects. It assists in defining complexity, cost, delivery, functionality, and future upgrade potential of a concept and creates new opportunities for partnerships.

This Toolkit is essentially a collaborative workshop built around series of steps done over 1+2 days. During the first day, the participants developed their ideas into concepts and over the next two days refined their concepts into activity plans. The scope of the ideas that can be brought to the workshops is wide. You can test how to turn ideas into practical innovations, address feasibility of cutting edge projects or – like we did – define conditions and a road-map for urban innovation hubs. At every stage the proposals are prototyped and tested and stop-go decisions are made. The aim is weed out ideas that are not viable and select those that have the best chance to create tangible value. Bringing together the knowledge, creativity and experience of a wide range of relevant stakeholders provides a project with a strong base and a better chance to directly respond to user expectations and needs.

Design Thinking

Complementary to analytical thinking, Design Thinking is a creative process based on building up ideas and thinking outside of the box through “what if?” thinking. Often the design thinking process is seen to have seven stages: define, research, ideate, prototype, choose, implement, and learn. Within these seven steps, problems can be framed, the right questions can be asked, more ideas can be created, and the best answers can be chosen. The steps aren’t linear; they can occur simultaneously and can be repeated. This FrontEnd Toolkit uses iterative planning processes that include a series of canvas tools to map the key actors, interconnections, insights and value created.



1.2. Front End Innovation

The aim of this toolkit is to help actors develop meaningful innovations that offer desirable experiences. These experiences should have the potential to permanently change behaviors, provide opportunities for organizations and businesses to succeed, and enable ecosystems to provide value to stakeholders. These meaningful innovations must offer improvements to quality of life in societies. Additionally, resources are required to fuel activities, and the application of resources tends to be limited by social constraints. This Toolkit aims to enable communities to work within conditions of (potentially scarce) resources in order to mature their ideas towards tangible and actionable solutions.

The Front End of innovation is the very first step in the development of new products, services and businesses. It is the phase when initial ideas exist, together with notions of strategy, some business intelligence, and a set of physical, financial and human resources. Very often the Front End starts when organizations, firms, or individuals realize that they need to do something to change an existing situation – but often they do not know what they should do. Correspondingly the Front End ends when a decision has been made to continue planning for implementation in a structured way, or, alternatively, when further development is discontinued.

Picture 1.1.1 New product. Service & business development process

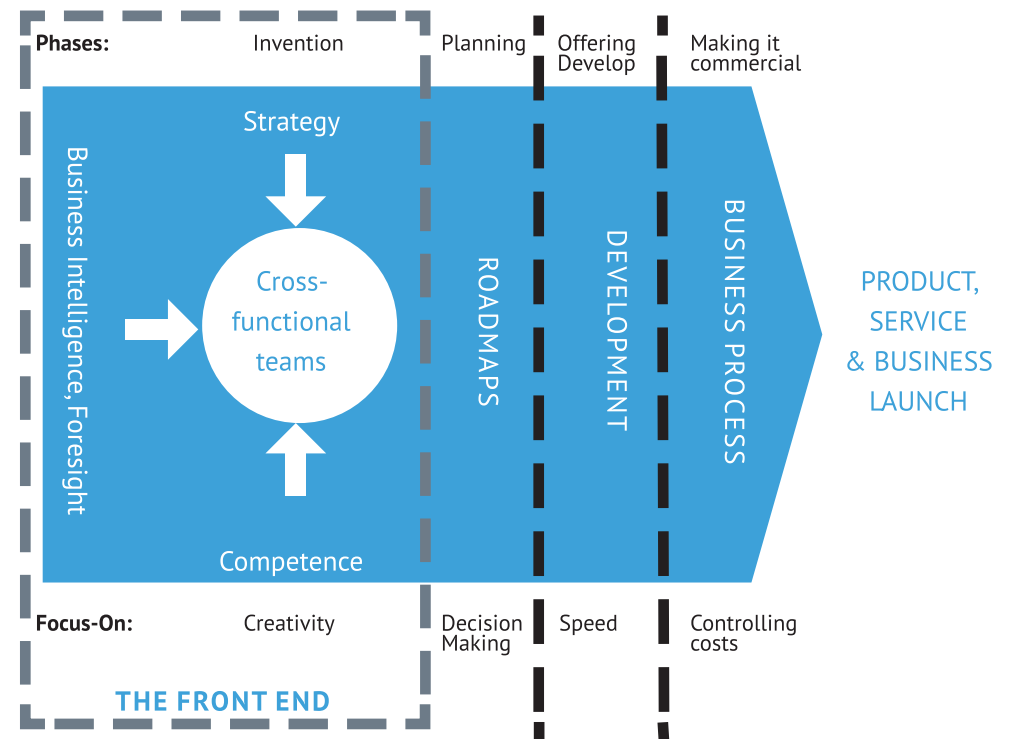


FIG.1.1.1 FRONT END INNOVATION | Source: Innovation Management Institute, Aalto University

The Front End innovation is all about purposefully combining different skills, disciplines, and resources with knowledge related to the local innovation ecosystem to gain insights that inspire and help shape a new, valuable offering. The process of creating this constellation of elements involves understanding emerging opportunities,

client and user mindsets, needs and expectations. It also involves making sense of the competitive environment, the social and individual constraints and enablers that drive the acceptance and uptake of new products, services and business models.

Why is Front End innovation important?

According to research, about 75-90% of final costs for new products (and evidently also services) are determined at the Front End phase of the innovation agenda, process, and outcome. This phase is often the most troublesome to come to grips with. Decisions made at this phase will impact the entire innovation agenda, process and outcome. Knowledge is diffuse, and there may be conflicting interests present within the planning teams.

Within this uncertainty, however, participants enjoy a lack of constraints and greater freedom to apply new ideas to different contexts and pro-

cesses. It is the best phase for taking advantage of a wide knowledge base and of cross-functional participation, and it offers a key opportunity to develop meaningful innovation that has a real impact.

This phase therefore requires a different management approach than other phases of the innovation process. The ambiguous nature of the Front End is the key reason to apply Design Thinking methods to make sense and create viable alternatives. The design thinking elements are delivered through a workshop.

Front End of innovation & offering

When developing new products, services and business models, there is a need to align the offering and the business model with the ecosystem and the available resource base.

The front-end phase has a strategic nature due to key decisions that need to be made on target customers and markets, value creation, pricing points and technologies used. This stage of the development process determines to a great degree the final cost of the products

and services to be delivered.

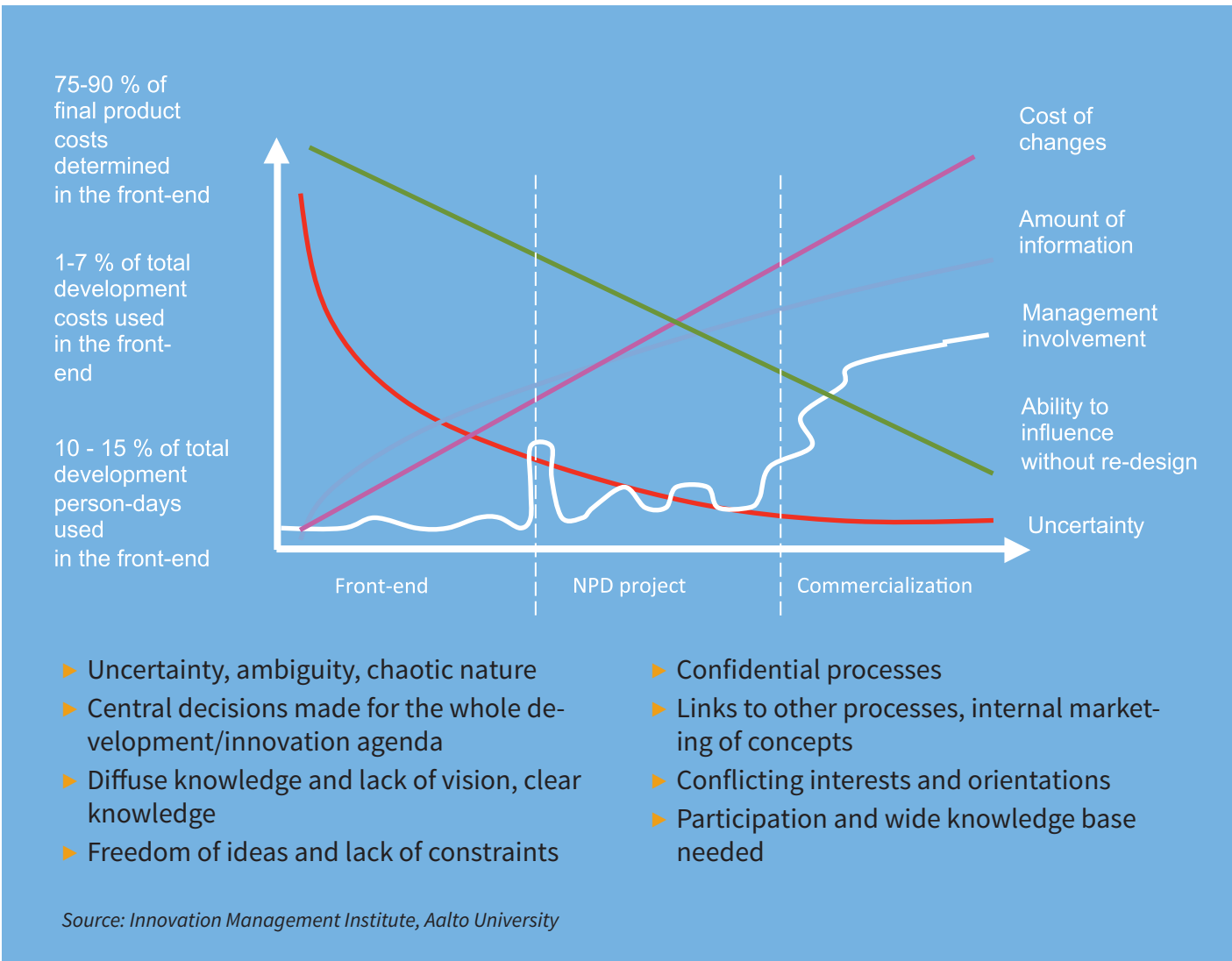
While offering great opportunities to innovate, the front-end is also complex due to high uncertainty, ambiguity and the need to experiment with different alternative solutions. It requires a management culture that is different from the subsequent phases of the products/service/business launch. Very often it is said that front ends do not yet have processes, but one is building a constellation of elements.

In the front-end phase opportunities and ideas are defined and developed into new product and service concepts. At this stage the focus is on creativity and invention, and business intelligence, strategy and competences are central drivers. The critical issue is the setting up of a cross-functional (or multidisciplinary) team, engaged in collaborative practices using Design Thinking tools and methods.

Front-end activities typically include customer, need, value and opportunity identification, idea generation, screening and selection, concept development and testing, technology verification, business analysis, and project planning.

The expected outcome of the front-end is a defined product or service concept, together with a development roadmap and a business model that is aligned with the ecosystem.

Picture 1.1.2 Nature of the Front End Innovation



1.3. How is this Toolkit set up?

This Toolkit will help you organize a hands-on workshop where you can deal with the Front End phase in a collaborative way, together with all the organizations and individuals that will be involved in the initial phases of a product, service or business development. During the workshop, participants collaborate to solve the front-end challenges of their own ideas from real life. Multiple actors are needed to jointly contribute knowledge, experience, and resources to address the issues at hand, and to develop further ideas for solving problem.

This Toolkit is organized into three different sections:

The Introduction presents the Toolkit and cases for those in need of novel approaches to dealing with the early phases of innovation projects;

The Starter Pack, which shares the knowledge and tips for organizing and running a Front End Workshop;

The Workshop Manual, designed to help workshop organizers and participants better understand the flow, topics and background to

the Workshop.

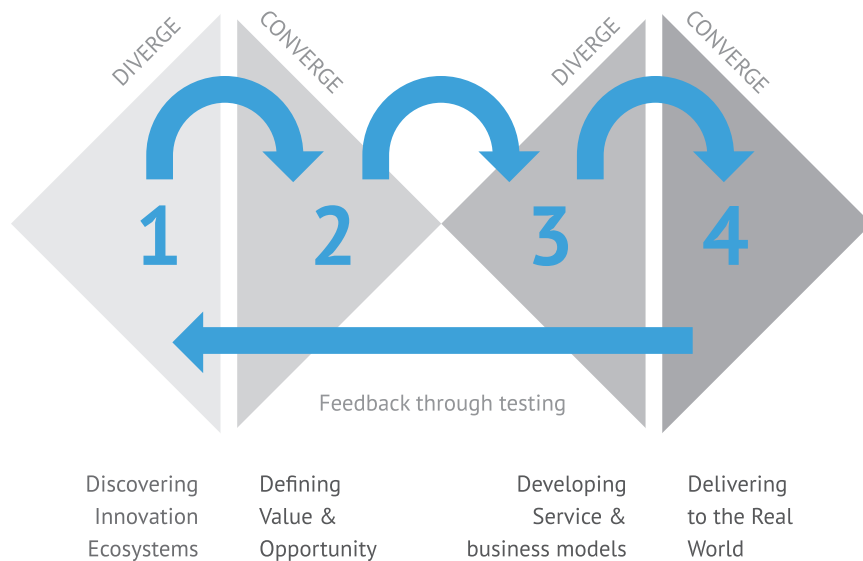
The FrontEnd Workshop is built around two parts that divides the workshop into two sections. During the first day of the workshop, participants evolve their ideas into concepts and explore whether they merit further development or not. During the second and third days, participants develop the concepts into action plans in order to decide whether it is feasible to take the next step into more detailed project planning.

Each one of the Workshop parts includes four steps: Discovering the Ecosystem, Defining the Value Opportunity, Developing Service and Business Models, and Delivering Decisions. These steps are repeated twice over the three days, with varying content and focus, to move from ideas to action.

Through the two parts and four steps, the workshop moves participants' thinking and ideas from the concrete to the abstract and then back again in a series of iterations. This is done by observing

This toolkit & workshop uses a structured 4D (discover, define, develop and deliver) method based on principles of design thinking.

Picture 1.1.3 Workshop process



and learning about the ecosystems at hand, understanding the value creation, defining the business models elements, and thinking about the next steps.

What are the workshop methods?

Design thinking is an analytical and creative process that helps participants think outside the box and create products and services based on innovative ideas. In the early stages of design thinking, there are no judgments about “wrong” and “right” ideas. This helps eliminate the fear of failure and encourages maximum input and participation in the ideation and prototype phases.

The design thinking process is often understood to have seven stages: define, research, ideate, prototype, choose, implement, and learn. Applying these seven steps, participants are able to clearly frame problems, ask the right questions to address them, create ideas, and choose the best solutions.

The steps need not be linear; they can occur simultaneously and can even be repeated over and over.

To bring ideas to life, activities are needed. Activities are the engines that bring products, services and business models together. This is why the workshop structure, method and approach is built on the idea of learning by doing, where participants build up their solutions in dense teamwork situations, build prototypes and test them.





PART 2

STARTER

PACK

2.1
WORKSHOP
STARTER
PACK

The aim of the Starter Pack is to make explicit the steps that need to be taken and the tasks that need to be completed so that the toolkit workshop can have the best possible impact. It is often said that preparation is half of the result, and the key lesson learnt from all of the workshops delivered to date is that the choice of the participants, facilitators, and venue define the quality and scope of the results.

Introduction

Organizing a Front End Workshop will enable you to connect with members of the local community concerned with the same problems and willing to take action to solve them. This workshop is an opportunity to develop product, service and business ideas into concepts and action plans through collaboration with the people around you.

This Starter Pack will guide you through the process of organizing a Front End Workshop. We will first present the Workshop structure, followed by guidelines for running the Workshop.

From our accumulated experience, we have extracted a set of guidelines, tips and recommendations to support you in this mission.

Reasons to use the Toolkit

Connect with local stakeholders

In the frontend phase of project development, it is important to talk with members of the community about local problems in order to involve them in the quest for innovative solutions. Collaboration with relevant stakeholders is the key to success in this process.

Define common objectives

Often people share similar views, concerns and
Often people share similar views, concerns,

and the will to act, but lack of communication and trust prevents cooperative action. The workshop can be used as a process and a tool for defining common objectives and beginning the collaborative process.

Understand the context

In development projects, context is everything. Better understanding of the local context from a variety of perspectives is important to the design of solutions that address people's needs and can leverage existing initiatives.

Embrace complexity

We are often faced with very complex problems that have no immediately apparent solution. The workshop format can enable you to tease out the complex issues and make sense of them through the collaborative process.

To design innovative, impactful solutions, we can divide complex problems into simpler ones to be addressed through planned activities.

Think sustainability

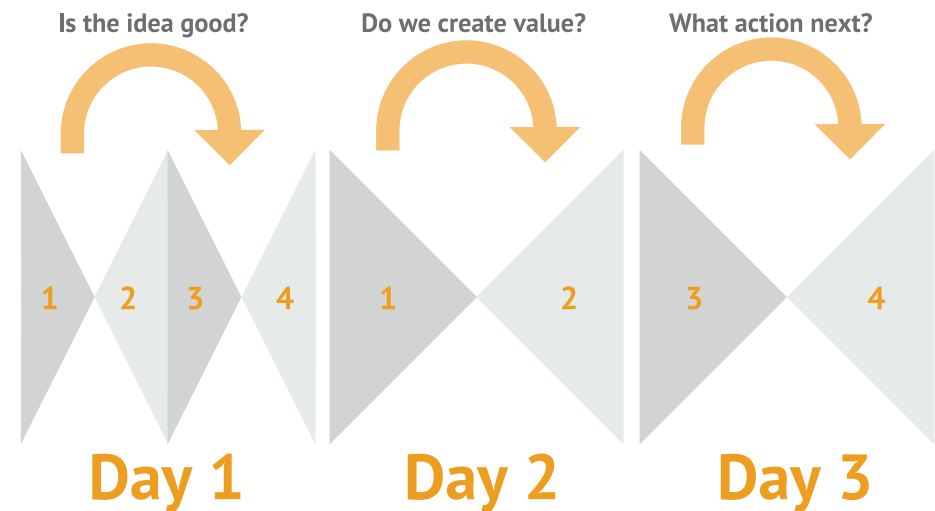
Sustainability is a key factor to the success of businesses, products, and services. The workshop will help you work towards sustainable business models from the moment you start developing your ideas further.

Picture 2.1.1 the structure of the workshop

Day 1: the ideas are taken to the Concept stage

Day 2: the value creation is refined further.

Day 3: an action plan is developed



NB: The content and schedule is detailed day by day in Part 3 Workshop Manual

What is the structure of the workshop?

The workshop is built around two parts: concept ideation and action planning, which divide the workshop into two sections. During the first day of the workshop, participants evolve their ideas into concepts and explore whether they merit further development or not. During the second and third days, participants develop the concepts into action plans in order to decide whether it is feasible to take the next step into more detailed project planning.

Each one of the parts includes four steps: Discovering the Ecosystem, Defining the Value Opportunity, Developing Service and Busi-

ness Models, and Delivering Decisions. These steps are repeated twice over the three days, with varying content and focus, to move from ideas to concepts and then concepts to action.

Through the two parts and four steps the workshop moves participants' thinking and ideas from the concrete to the abstract and then back again in a series of iterations, observing and learning about the ecosystems at hand, to understanding the value creation, to defining the business model's elements and to thinking about the next steps.

Organizing the Workshop

It's now time to start thinking about organizing a Workshop. These sections will help you prepare for and run a successful workshop and plan for follow-up activities.

2.2

PREPARING

THE

WORKSHOP

We've organized a set of checklists and tips to help you prepare for the workshop. These checklists are split into six different categories of activities:

Plan Impact	The first and most important step: establish the workshop's objective and its desired outputs.
Contact Stakeholders	Outlines all necessary activities for contacting local stakeholders and engaging with them in the FrontEnd Workshop.
Contact Speakers	In connection with the World Bank Community of Practice, you will be able to invite speakers who bring relevant knowledge and experience to the workshop. These Speakers may also help facilitate the workshop and inspire participants with real life examples of achieving impact.
Workshop Facilitators	Workshop facilitators are an important component of the FrontEnd Workshop. You will need to select them carefully and work with them closely as you organize the workshop in order to get the most out of each session.
Logistics	Logistics will play a crucial role, from small details such as the preparation of name badges and writing materials, to larger aspects such as venue selection and activity organization.
Communication	To generate awareness about the workshop within the local community, effective communication is key. Consider how to engage with media contacts, social media and press.

Set the scene

Set the workshop objectives

A clear objective for the Workshop is crucial for alignment between stakeholders from the start.

The Workshop objective should be both meaningful and comprehensible to all stakeholders. The workshop objective responds to the questions:

- ✓ What do we want to achieve through this training?
- ✓ What change do we want to see after the training?

Set the workshop outputs

It is important to establish what outputs you aim to achieve with the Workshop, and ensure they are well aligned with FrontEnd methodology outputs.

Define the outputs and share both outputs and workshop objectives with participants.

Set the dates

Set a date before moving on to other workshop preparation activities. Before you set the date, make sure to validate the date with the main stakeholders to be involved. This should be done well in advance to ensure all are able to attend.

✓	Workshop Checklist
✓	Have you set the workshop objectives?
✓	Are the workshop objectives clear and meaningful?
✓	Have you set the workshop outputs?
✓	Are the workshop outputs aligned with the FrontEnd outputs?
✓	Have you set the date?
✓	Have you validated the date with your key stakeholders?

Logistics

Well-organized logistics are important for a workshop to run smoothly, so that all participants can be focused on discussing the topics in a supportive atmosphere.

Venue selection

The venue will affect how well your workshop activities go. You should look for a venue where people can feel at ease and where you can run the activities without too many constraints. The main points to take in consideration are:

Space: Confirm that the room has enough space for all participants. Check to see if there is space on the walls to hang the workshop canvases.

Movable tables: The venue should be flexible enough to accommodate several groups of people. Tables should be movable, allowing people to form different groups. You may need to rearrange tables if organizing a role-playing exercise.

Chairs: Does the room have enough chairs?

Lighting: Appropriate light is needed. Select a room with direct daylight.

Temperature: Are you able to control the temperature of the room? Is there air conditioning or fans? Can you open the windows?

Catering needs: Is there a venue for coffee breaks and meals near the room?

Supporting staff: Some should be available during the workshop. Audio-visual equipment problems can be easily solved by an experienced AV tech.

Electricity and audio-visual equipment: Check to see if the room has sufficient electric plugs, video projectors and speakers.

Internet connection: Is there Internet connection available?

✓ Room Selection Checklist	
✓	Have you selected the venue?
✓	Is there is enough space?
✓	Are there enough chairs?
✓	Can you re-arrange the tables if needed?
✓	Is there appropriate lighting?
✓	Are there accommodations for catering near to the room?
✓	Can you control room temperature?
✓	Is there a video projector and electricity to run it?
✓	Is there an internet connection?
✓	Does the venue require any specific transport arrangements?
✓	Is it possible for staff to support you during duration of the workshop in case of AV problems or other unforeseen needs?

Arrange for catering

Water and coffee should be available during the entire duration of the workshop.

During morning and afternoon breaks, arrange for something to eat.

If your budget permits, consider providing lunch. This is good opportunity for participants to talk with workshop speakers and with each other.

Be sure to establish a plan for all meals ahead of time.

✓ Catering Checklist	
✓	Have you hired a catering company? Workshop duration? Supporting staff can help solve audio visual equipment problems and provide help if speakers and for the les arHave
✓	Have you established a plan for meals?
✓	Have you agreed to possible adjustments to the agenda during the workshop?

Prepare Workshop Materials

✓ Workshop Materials Checklist	
✓	Have you arranged for all the necessary materials? Workshop duration? Supporting staff can help solve audio visual equipment problems and provide help if speakers and for the les arHave
✓	Have you prepared the Workshop Pack?
✓	Are there enough copies for all participants?
✓	Have you printed out all workshop canvases?

The required materials for the Workshop are minimal, and should be acquired in advance:

- ✓ Video projector
- ✓ One Flipchart for each participant group
- ✓ Flipchart paper
- ✓ Blue tack
- ✓ Note paper
- ✓ Pens
- ✓ Lots of sticky notes
- ✓ Name tags
- ✓ Markers
- ✓ Water

It's a good idea to prepare a Workshop Pack for each of the participants that contains the following:

- ✓ Pen
- ✓ Note paper

- ✓ Up-to-date agenda
- ✓ Speaker biographies

Prepare some extra Workshop Packs for non-registered participants who might arrive without notice.

Contact Stakeholders

Stakeholder analysis of invitees

It is important to identify the relevant individuals to invite in order to ensure you have a representative set of stakeholders. Keep in mind it's not only formal organizations that are active within communities. Ask friends and previously identified stakeholders to refer unaffiliated individuals who are involved in innovative and relevant projects.

Should you work in innovation, for example, you could consider inviting members of developer communities, organizers of developer events, entrepreneurship mentors, accelerators, incubators, members of co-working spaces and the fab or maker spaces that are becoming increasingly important within urban innovation ecosystems.

Your stakeholder lists should contain a mixed set of the different groups that are involved with the topics to be discussed. To achieve diversity, consider inviting people of different ages, genders, political views, and social and cultural perspectives. From formal organizations, it is always useful to have representatives from public authorities, companies, startups, academia, and NGOs.

✓ Contact Stakeholders Checklist	
✓	Have you done a stakeholder analysis?
✓	Did you ask your stakeholder to recommend other potential invitees for the workshop?
✓	Is your workshop group sufficiently diverse? Do you have a good balance of ages, genders, professions and types of organizations?
✓	Have you distributed the workshop agenda to participants?
✓	Have you distributed the workshop pack to participants?

Tips...

✓ **Validate workshop dates**

[Ensure that your main stakeholders are available for the selected date]

✓ **Do stakeholder analysis**

[Your initial contacts can help you get in touch with other potential invitees working in the same area. Talk with your main stakeholders about how to make the composition of your workshop group more diverse]

✓ **Appropriate number of participants**

[In order to ensure that the workshop is a manageable size, we recommend that you limit the workshop to 30 to 40 participants, though both larger and smaller groups are possible]

✓ **Send reminder a week before**

[Always send a reminder to participants a week before the workshop date, along with the agenda and location information]

✓ **Ask for a participant profiles**

[When participants register for the workshop, ask for details (for example, about their work or experience) that could be useful to workshop organizers]

Invite stakeholders – Start the conversation

By inviting stakeholders to your workshop, you are starting a conversation.

By the time you send the first invitation, you should already have a good idea of the workshop objectives, outcomes, dates, registration deadlines, location, and duration.

Stakeholders can provide you with relevant information for your workshop. In your communication, you have the opportunity to ask about challenges related to the topics of your discussion.

Speakers

Role of the Speakers

Speakers act as sources of knowledge, inspiration, and practical guidance for participants. Through their participation, you give local stakeholders the chance to interact with real practitioners that have surpassed many challenges and gathered lessons learned from their path.

Speakers normally collaborate in the groups, supporting the role of the facilitator in each group, by pro-actively contributing to the discussion.

Community of Practice

The World Bank's Community of Practice for Open Innovation can support you in finding the right speakers for your event.

The World Bank has a wide network of partners that are interested and committed in sharing their knowledge and experience with you.

Prepare instructions

One of the most relevant aspects in the relationship between Workshop organizers and invited speakers is to have a good brief where you clarify your expectations towards their participation in the event.

Instructions should present the context of the event, the purpose and objectives of the workshop, and if possible, the profiles of participants in the Workshop. More concretely, you'll need to clarify what you expect from the invited Speakers, their role and the Workshop agenda.

Preparatory meetings

It is important to have one-on-one virtual meetings with all invited speakers to prepare for the Workshop.

During these meetings, you can go through the instructions and make sure there is alignment and a common understanding towards all the topics that are related to the Workshop.

List of topics for the preparatory meeting:

- ✓ Explanation of context
- ✓ Contextualization of the workshop
- ✓ Workshop objectives and required outputs
- ✓ Workshop methodology
- ✓ Participant profiles
- ✓ Role of speakers
- ✓ Request profile

Finally, participants will like to know who are the Speakers that are coming to the event, what is their expertise and experience. Request all speakers a brief bio and a photo so that you can publish them in your communication materials.

✓ Speakers Checklist	
✓	Have you contacted the Community of Practice to get in touch with possible speakers?
✓	Have you selected the speakers?
✓	Have you prepared instructions for the speakers?
✓	Have you briefed speakers about the workshop?
✓	Have you booked any necessary hotels or flights for your speakers?
✓	Have you organized a conference call for speakers and facilitators to discuss the workshop beforehand?

Facilitators

The FrontEnd Workshop heavily relies on the successful facilitation of the sessions. Having a team of facilitators that is familiar with the workshop objectives, the context and the methodology is vital to do so.

Role of the Facilitators

Facilitators play a crucial role in the FrontEnd Workshop. You rely on them to have a good ambiance, to get the best out of people's mind in a comfortable environment, to have the Workshop as a kick-off milestone of something big you want to build with your stakeholders' community.

Preparatory Meetings

Like the Speakers, Facilitators will need to have a set of preparatory meetings where you clarify aspects related to Workshop organization, methodology, outputs and even the flow of the activities.

Before the Workshop, it is important that you discuss with your facilitators' team the following aspects:

List of topics for the preparatory meeting

- ✓ Context and Objectives
 - ▶ Explanation of context
 - ▶ Contextualization of the workshop
 - ▶ Workshop objectives and required outputs
- ✓ Methodology and Agenda
 - ▶ Workshop methodology
 - ▶ Time management
 - ▶ Agenda
- ✓ Participant Profiles

- ▶ Participant profiles
- ▶ Speaker profiles
- ✓ Logistics
 - ▶ Workshop materials
 - ▶ Room organization and arrangements
 - ▶ Constraints in the Agenda due to logistics (meals, coffee breaks...)

Select the Facilitators

At this stage, you should have answers to the following questions:

- ✓ Who will lead the training?
- ✓ Do you need one person or several?
- ✓ Do they have the background information and skills required?

✓ Contact Facilitators Checklist	
✓	Have you contacted the Community of Practice to get in touch with possible speakers?
✓	Have you selected the speakers?
✓	Have you prepared instructions for the speakers?
✓	Have you briefed speakers about the workshop?
✓	Have you booked any necessary hotels or flights for your speakers?
✓	Have you organized a conference call for speakers and facilitators to discuss the workshop beforehand?

Communications

Communicating the workshop properly to the community is important for spreading awareness of your activities and expanding the list of potential participants for your activities.

Arrange for photography and video coverage

Make an arrangement with a photographer. Consider using a local member of staff rather than an official photographer to minimize costs.

Any media materials produced from the Workshop will be useful going forward with your projects.

Remember to document all workshop results and take photos of all canvases. If possible, take videos of stakeholder discussions to review when you summarize them in the workshop report.

Prepare Workshop Communication Materials

There are different communication materials you will need to prepare for the workshop.

A Welcome Pack for participants with:

- ✓ Welcoming words about the Workshop
 - ▶ Background and Context
 - ▶ Workshop objectives
 - ▶ Workshop outputs
- ✓ Agenda
- ✓ Profiles of Speakers
- ✓ Up-to-date logistical information
 - ▶ Maps for getting to the venue

- ✓ Contact details for venues / hosts

This Welcome Pack will need to be sent to participants in advance.

✓ Communication Checklist	
✓	Have you hired the photographer?
✓	Have you planned to take photos of all canvases, and videos of all workshop discussions?
✓	Have you prepared the Welcome Pack?
✓	Have you prepared a workshop website?
✓	Have you created a social networks group?
✓	Have you established your Twitter hash-tag?
✓	Have you prepared the press release?
✓	Have you shared the press release with key stakeholders?
✓	Have you sent it to the press?



Prepare workshop website

You will need to share all workshop presentations and probably most videos and photos from the workshop with participants.

Before the workshop, it is a good idea to set up a website where people can register, check the updated agenda, and speaker profiles. Prepare a simple website for that.

Create social networks presence

People will collaborate both during and after the workshop. A good way of staying looped in is through the creation of a social network group, such as LinkedIn or Facebook.

Prepare a Twitter tag to raise awareness about the workshop and workshop activities.

Invite media

If you are aiming at publicizing your event, the best way is to invite the media.

Prepare draft press releases and share them with participants, with your own media contacts or the contacts of other organizers.

Consider arranging speaker and participant interviews. This is especially relevant if you are inviting political representatives.

Run the workshop

7 tips for a successful workshop facilitation

1. Strive for stakeholder diversity.

An ideal workshop to as diverse as possible, bringing people with different experiences into the discussion. It is through this discussion that the idea generation capabilities of your group will be enriched.

FrontEnd Innovation is about considering what you cannot see for yourself. Stakeholder diversity is crucial for the success of your workshop.

2. Collaboration comes after trust.

When participants meet for the first time, it is normal that at first they may not feel comfortable sharing their views. Do not be surprised if someone adheres to a formal perspective (such as the agenda of their organization, or even that of their status within a hierarchy).

You may need to break the ice to create a trusting environment where people feel comfortable voicing their opinions, and are open to problem solving in different ways.

3. Listen first, collaborate after.

Give people space to voice their opinions and share the activities they're involved in. In this initial 'listening' phase you will receive input that will help you to manage your group to produce more meaningful results.

4. Set the scene and be clear about your objectives.

From the start, you need to be clear about the workshop's objectives in order to create a collaborative environment where people work to solve common problems, or achieve common goals.

5. Try to achieve concrete commitments.

You don't want a workshop with lots of discussion but little follow-up action. Aim for concrete commitments for the agreed-upon next steps; these could be small but relevant actions that sparks collaboration among stakeholders and supports the innovation ecosystem you want to grow around your initiative.

6. Learn and adapt.

There are no rules set in stone for what tools and techniques you must use or how to use them.

Each group will be different, each facilitator is different, and the context for your initiative will always also be different.

Take some time during breaks for discussion with your team, and adapt the workshop agenda and structure as needed to achieve the best results.

7. Have fun!

Follow up

Evaluation survey

We can only improve what we can measure. To help established metrics for the workshop experience, we've prepared an evaluation survey for requesting feedback from participants about Workshop Structure, Organization, Speakers and Logistics.

You may choose to share the Evaluation Survey during the last workshop session, or send out the survey to participants the week following.

Share Participant Contacts

We have found that FrontEnd Workshop participants may work in very similar areas within the same city or even within the same organization, but often meet each other for the first time at the workshop.

It is important to distribute participant contacts amongst all participants in order to support the growth of the Innovation Ecosystem.

Prepare the Workshop Report

The Workshop Report is an important output that will enhance the probability of concrete follow-up actions by participants on agreed-upon next steps.

The Workshop Report shares the results of the collaborative work amongst participants and contains a brief description of the workshop activities.

We have adopted the following structure for the report:

- ✓ Background and context
- ✓ Workshop Structure
- ✓ Workshop Results
- ✓ Recommendations

Background and context: Presents the local context as well as its main objectives and desired outputs. This section may also contain a short introduction that gives background on the need for a co-design workshop.

Workshop Structure: Presents the workshop agenda, the organization of each session, and participant profiles.

Workshop Results: Summarizes workshop results. Presents the outputs of each session through the canvases and discussion summaries. This section clearly highlights the concrete outputs that the workshop sought to produce.

Recommendations: These could be in the form of lessons learned for future workshops or could summarize main points and objectives achieved through the workshop's discussions.

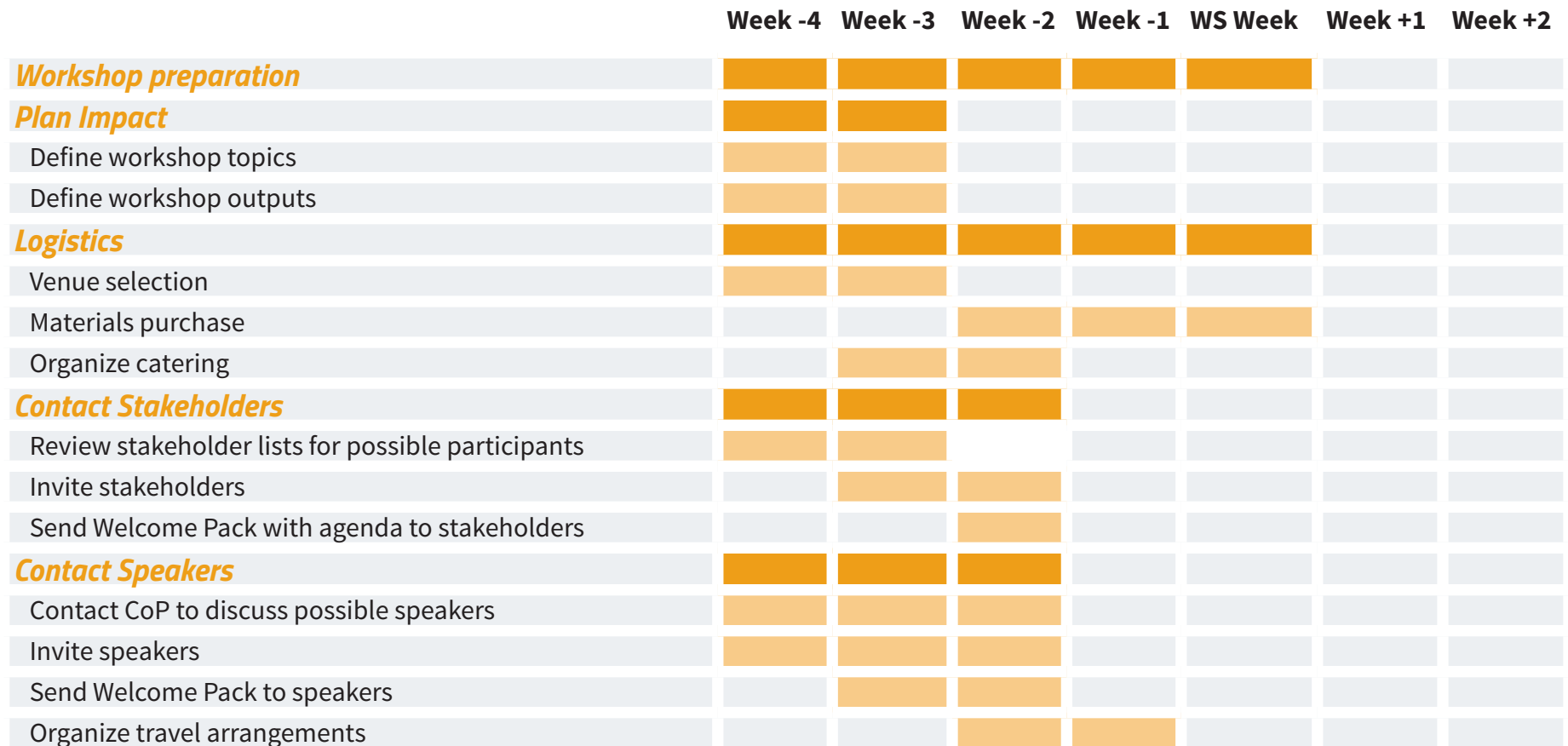
Send results to participants

Collaboration is vital and you can only occur where there is trust. After you have written the report, it is important that it be shared with the workshop participants. Circulate it for comments and discussion for a period prior to releasing the final version.

Gantt Chart

We outline the activity schedule in the Gantt Chart below. It provides a time-based view of the FrontEnd Workshop activities.

This chart represents the minimum amount of time needed to organize a workshop, however, depending on your organization's procedures, you may choose to start the preparation process earlier.



Gantt Chart

	Week -4	Week -3	Week -2	Week -1	WS Week	Week +1	Week +2
Hold audio conferences to brief speakers							
Contact Facilitators							
Define required competencies							
Hire facilitators							
Brief facilitators							
Hold audio conferences between organizers, facilitators and speakers							
Communications							
Hire photography and video coverage							
Prepare Workshop Communication Materials							
Prepare workshop website							
Create social networks presence							
Invite media							
Workshop Week							
Pre-event venue visit							
Confirm all materials are ready							
Confirm attendance of registered participants							
Share photos and quotes on-line							
Workshop results							
Send survey to participants							
Share participant contacts							
Prepare workshop report							
Validate workshop report with stakeholders							

2.3

WORKSHOP

CANVASES

In this section we have the canvases that are used over the three days in the workshop. You will need to print the workshop canvases to at least A1 size, at least one copy of each canvas for each participant group. We advise you to print at least one extra canvas in case you want to split a group in two or do an additional exercise.

FIG. 2.2.1 THE ALIGNMENT CANVAS

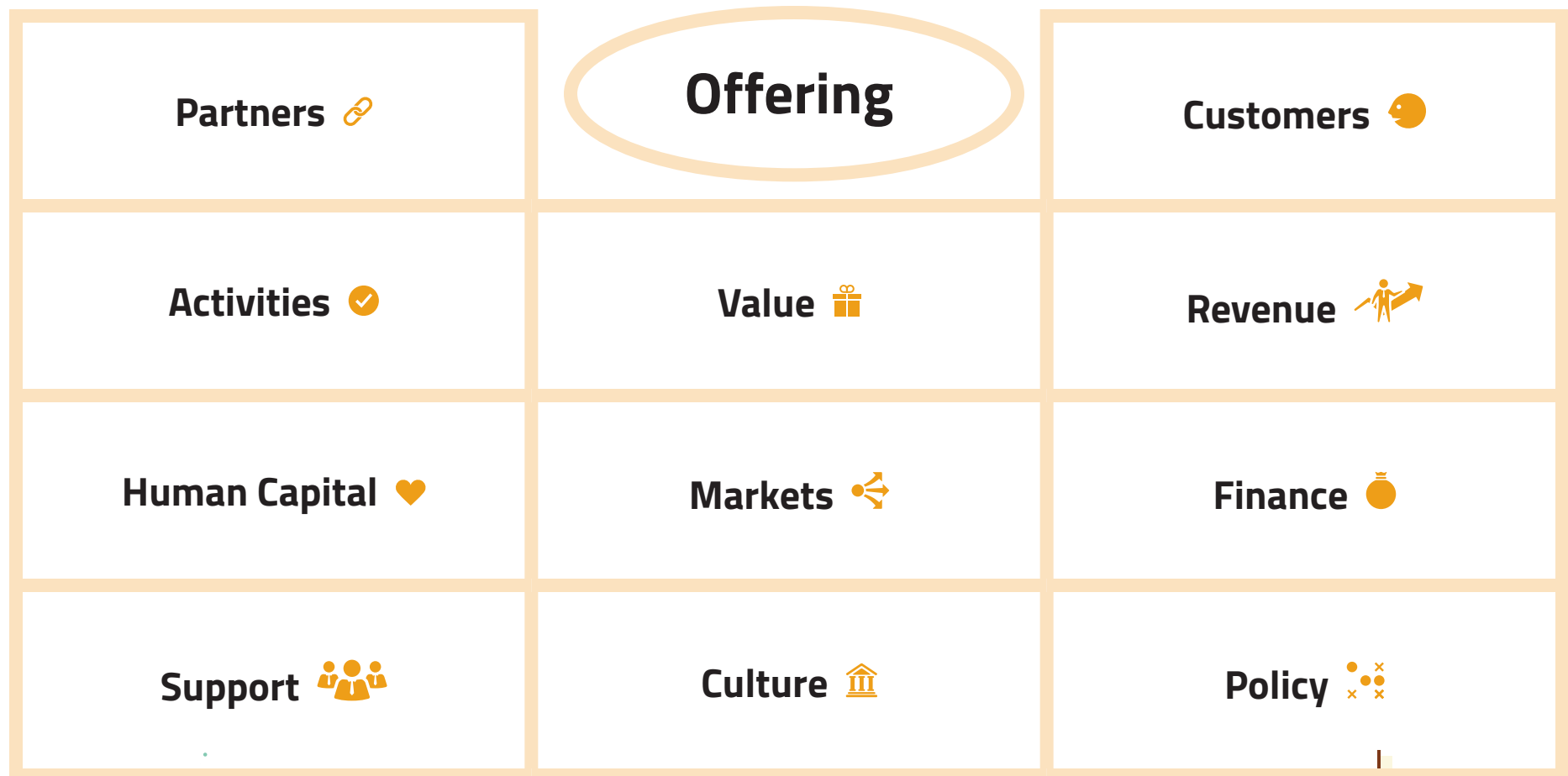


FIG. 2.2.2 THE ECOSYSTEM CANVAS

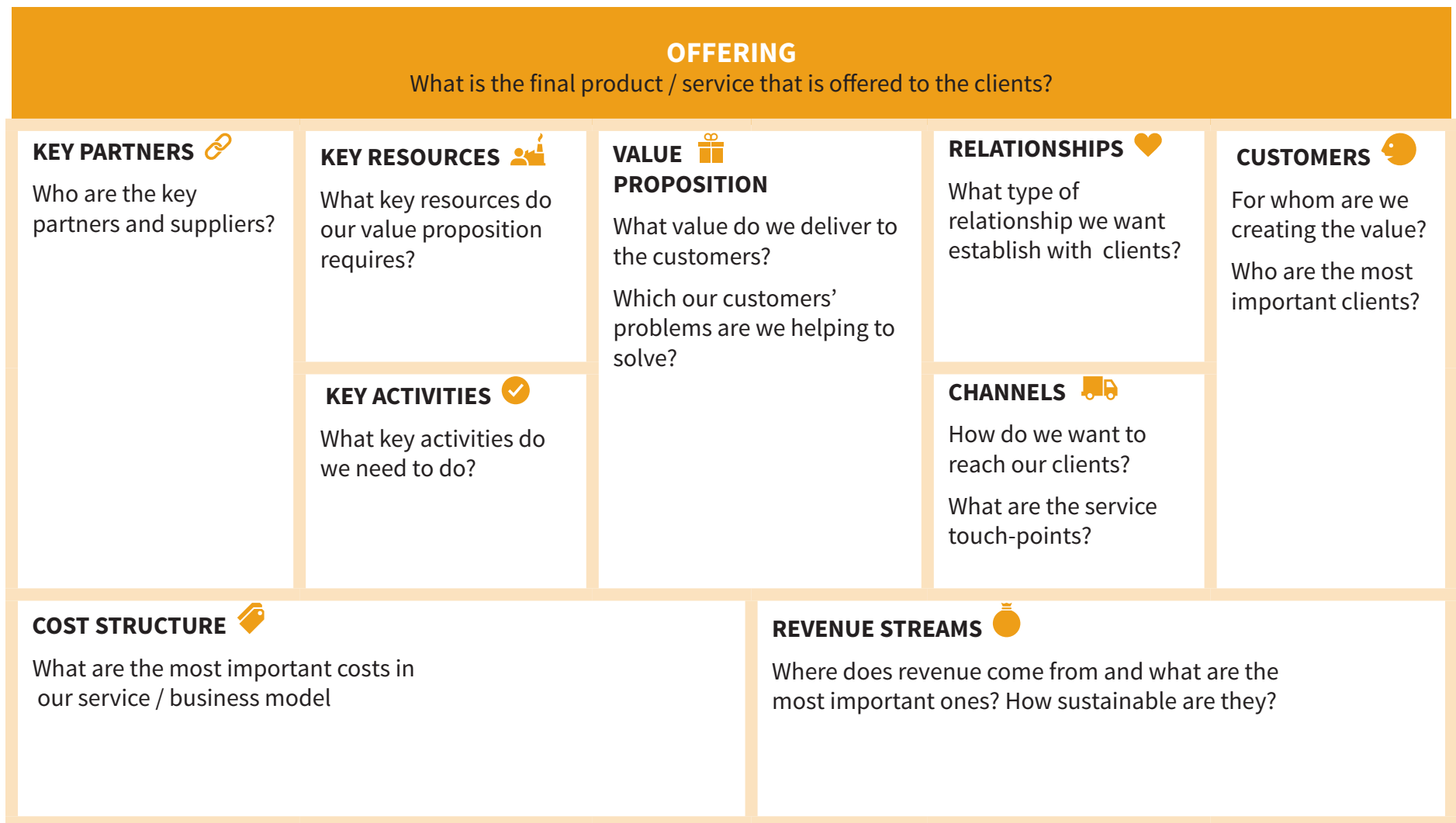


FIG. 2.2.3 THE VALUE CANVAS

	ECONOMY	PSYCHOLOGY	SOCIOLOGY	ECOLOGY
SOCIETY	Wealth	Wellbeing	Meaningful life	Livability of environment
SOCIETY	Stability	Shared Drivers	Reciprocity in networks	Sustainability
ORGANIZATION	Profit	Core values	Social responsibility	Eco-effectiveness
USER	Value for money	Happiness	Belonging	Eco-footprint

Source: den Ouden 2011

FIG. 2.2.4 THE SERVICE & BUSINESS MODEL CANVAS



Source: BusinessModelGeneration.com

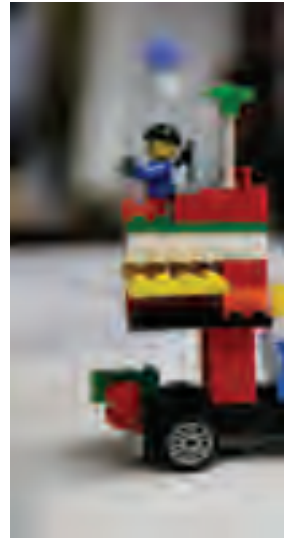
FIG. 2.2.5 THE NEXT STEPS CANVAS

Key-Activities	When?			Who Does And Verify It Has Been Accomplished?
	2015	2016	2017	

*This canvas will help you organize the activities needed to implement your idea.
What are the key activities that are needed?
When do we need to implement them?
How can we verify that each step has been accomplished?*

CASE STUDIES

Over the last two years, we have used this method to develop innovation activities in Chile, Finland, Lebanon, Spain and Egypt, among other locations. In Beirut, Lebanon, the aim was to establish a set of principles and the development of an action plan for a Mobile Innovation Hub. In Gran Concepción, Chile, the objective was to establish the collaborative foundation for a local sustainable Urban Innovation Hub. In Cairo, Egypt, the aim was to re-design a technology park to include an innovation hub. Below we will provide short case studies of what was done in Beirut, Gran Concepción and Cairo.



Case 1: Mobile Innovation Hub, Beirut, Lebanon

Context and purpose

The Ministry of Telecommunication of Lebanon is currently implementing a World Bank-funded project that aims to promote a Mobile Internet Ecosystem at the national level. In this project, the World Bank is introducing a new approach to the development of ICT skills and entrepreneurship, to be implemented by the Lebanese Ministry of Telecommunications.

The Mobile Internet Ecosystem project will implement open technological and crowdsourcing mechanisms in order to spur innovation and entrepreneurship, and to boost skill and talent creation in support of economic growth in Lebanon. The project will focus initially on the mobile Internet ecosystem (mobile apps), and will involve innovation stakeholders (e.g., universities, industry clusters, startups, microenterprises, incubators, angel investors, venture capitalists, and government). It will provide collaboration mechanisms to enhance the effects of open innovation and crowdsourcing.

As part of the Mobile Internet Ecosystem project, the World Bank organized a workshop with Lebanese innovation stakeholders for the purpose of co-designing MiHub, the Mobile Innovation Hub.

Objectives

The workshop had three main objectives:

- ✓ To build consensus among stakeholders for the model and activities of the proposed MiHub, and to prepare for its establishment.
- ✓ To co-create and define actions to strengthen the Mobile Internet Ecosystem, and to jointly define MiHub's role and organization.
- ✓ To brainstorm a year of MiHub innovation activities in support of job growth and competitiveness.

Challenge

The workshop's main challenge was to create a MiHub concept that would support technology startups and entrepreneurs in the creation of tangible value in terms of jobs and growth. This meant that the concept was required to create value at all levels of the Mobile Internet Ecosystem.



Outputs

The team established three important outputs for the activity:

- ✓ The principles of a sustainable business model for MiHub
- ✓ An institutional arrangement for MiHub
- ✓ A set of ten activities to be undertaken during the first year

Results

The result of this exercise was the creation of a business model that combined all three of the components developed during the workshop's activities. Under the business model developed, MiHub will have two value proposition streams:

- ✓ To increase Lebanon's competitiveness through transformation of ideas into tangible value
- ✓ To generate awareness of 21st century skills in schools, fostering opportunities for children to create a better future.

MiHub activities were designed to foster the creation of more and

better ideas, allow for testing of ideas, and accelerate the creation of new businesses. MiHub aims to promote a culture of collaboration among local stakeholders through the promotion of shared work. Another important output of the workshop was a concept for the Mobile Innovation Hub comprised of three main components:

- ✓ A Dissemination component to create general awareness within Lebanese society regarding the importance of entrepreneurship and of the opportunities created by ICT and the Internet.
- ✓ A second component, called Idea Factory, focused on the empowerment of the local entrepreneurship and innovation communities through the promotion of events that foster the creation of new business ideas.
- ✓ A third and final component, called The Lab, which will allow entrepreneurs but also future entrepreneurs, startups and companies to prototype business and innovation ideas.

At the end of the workshop, participants agreed on a set of actions for initiating the creation of MiHub.

Case 2: Urban Innovation Hub, Concepcion, Chile

Context and purpose

A partnership between the World Bank and the Ministry of Transport and Communications of Chile has implemented a project in Gran Concepción that aims to apply innovation methodologies to find technological solutions to problems in municipal services, and in turn to serve as the pilot for a Smart City model in Chile.

Smart City Gran Concepción was structured to use mobile applications co-designed by local and municipal transportation officials to resolve daily technical challenges. Participants aim to collectively develop a vision for the future and a roadmap for mobility in Gran Concepción that involves local and municipal government, citizens, the private sector, and civil society. They will organize a co-creation citizen engagement competition to develop solutions for the city's transport challenges, such as the improvement of travel behavior and a better public transport experience.

Finally, they aim to create an urban innovation hub where citizens and other local actors can work collaboratively to address local problems.

The co-design workshop was organized with the aim of co-creating the urban innovation hub for the Gran Concepción metropolitan area.

Objectives

The objective of the workshop was to co-create ideas for an innovation hub in Gran Concepción that will serve to strengthen, develop, and provide sustainability for the emerging innovation ecosystem in the City.

The Hub will also address challenges in the Gran Concepción metropolitan area through collaborative open innovation processes among the organizations that constitute the local innovation ecosystem.

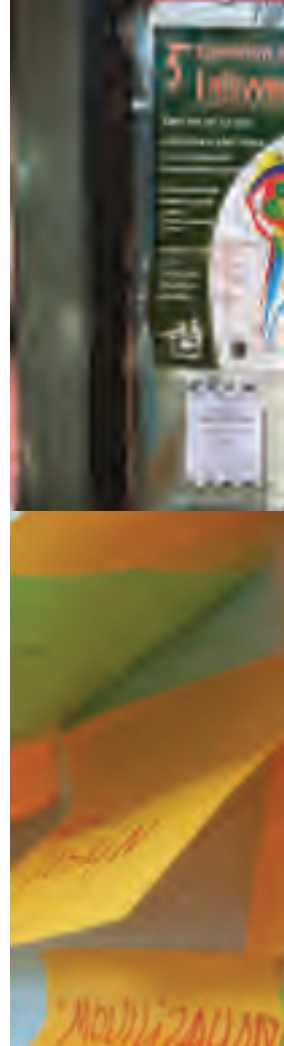
The workshop had three main objectives:

- ✓ To co-create and define amongst participants the main principles for the innovation hub.
- ✓ To establish the composition, roles and method of governance for the innovation hub.
- ✓ To propose action points for its first year of activities.

Outputs

Three outputs for the activity were established:

- ✓ Principles for a sustainable business model,
- ✓ An institutional arrangement for the innovation hub,
- ✓ A set of ten activities to be undertaken with the hub's first year.





The Challenge

Participants were challenged to create a concept that would generate tangible value for the city of Gran Concepción through the development of innovative solutions to the city's challenges. The design for the Innovation Hub needed to create value for users and clients, for the organization itself, for the local innovation ecosystem, and for society as a whole.

Results

The most important result was a public presentation of the Innovation Hub concept to the community, demonstrating their commitment to achieving concrete results. The workshop and presentation created new collaborative relationships between the city's innovation stakeholders, laying the groundwork for successful upcoming initiatives.

During the workshop, four possible sustainable business models for the Innovation Hub were considered, each with its own institutional arrangement possibilities. Workshop participants also agreed to plan and implement a set of ten activities.

Case 3: Reinventing Tech Park, Cairo, Egypt

Context and purpose

The Government of Egypt through the Information Technology Industry Development Association (ITIDA) is developing the business environment around Information and Communication Technology (ICT) in order to actively capture the benefits of current potential. One method being used is the development of science park structures and the promotion of co-located industrial agglomerations of ICT actors. One such initiative is the Maadi Technology Park, located in Cairo. It was initially developed to support global outsourcing businesses, but will be extended to house ICT innovation clusters. The initial section of the park opened in 2010, and major local and global players in the outsourcing industry are located on site.

The World Bank together with ITIDA organized a workshop with Egyptian innovation stakeholders with the purpose of co-designing a development strategy for an Innovation Hub and Ecosystem in Maadi Technology Park.

Objectives and Outputs

The main objectives of the workshop were to examine the wider ecosystem within the Maadi Technology Park and to develop a proposal for the Innovation Hub initiative (output). The Innovation Hub initiative would complement existing Technology Park activities and become a space where innovation throughout Cairo could be fostered through activities

and functions that leverage a network of stakeholders, including government, private sector, academia, and the ever-growing community of local entrepreneurs and innovators.

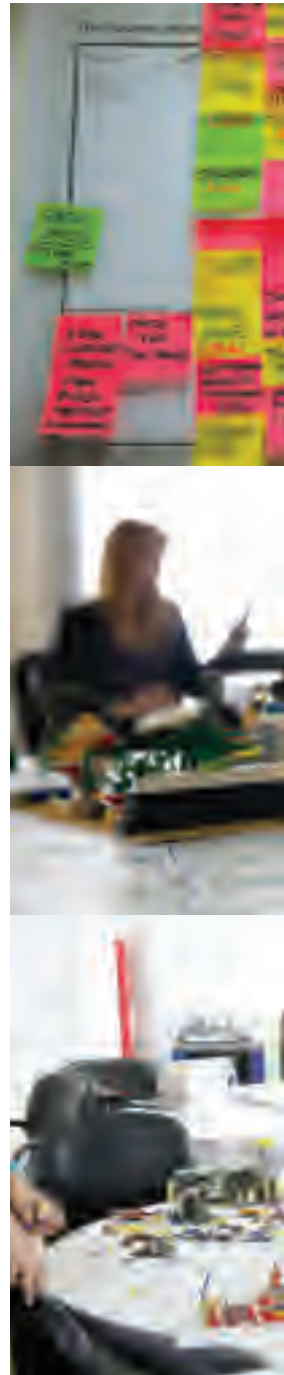
Challenge

The challenge at Maadi Technology Park was how to transform the current real estate and business-driven Technology Park into an innovation hub that adds value through product, service and business development. This required the introduction of new types of activities and consideration of which products, services, and business models the park wished to support. It also meant that Maadi Technology Park needed to rethink its own business model and offerings for future clients.

The challenges lay in the areas of building infrastructure, services offered, and community support.

Results

The work done in Cairo yielded in preliminary understanding and agreement amongst participants in six different areas each contributing to the success of the hub and ecosystem around it. Community-building in the Ecosystem, Fostering Collaboration in the Ecosystem, Spaces for Curated and Emerging Activities, Support Services for the Hub and Ecosystem, Promoting the Hub and Ecosystem, Governance of Hubs and Ecosystems.







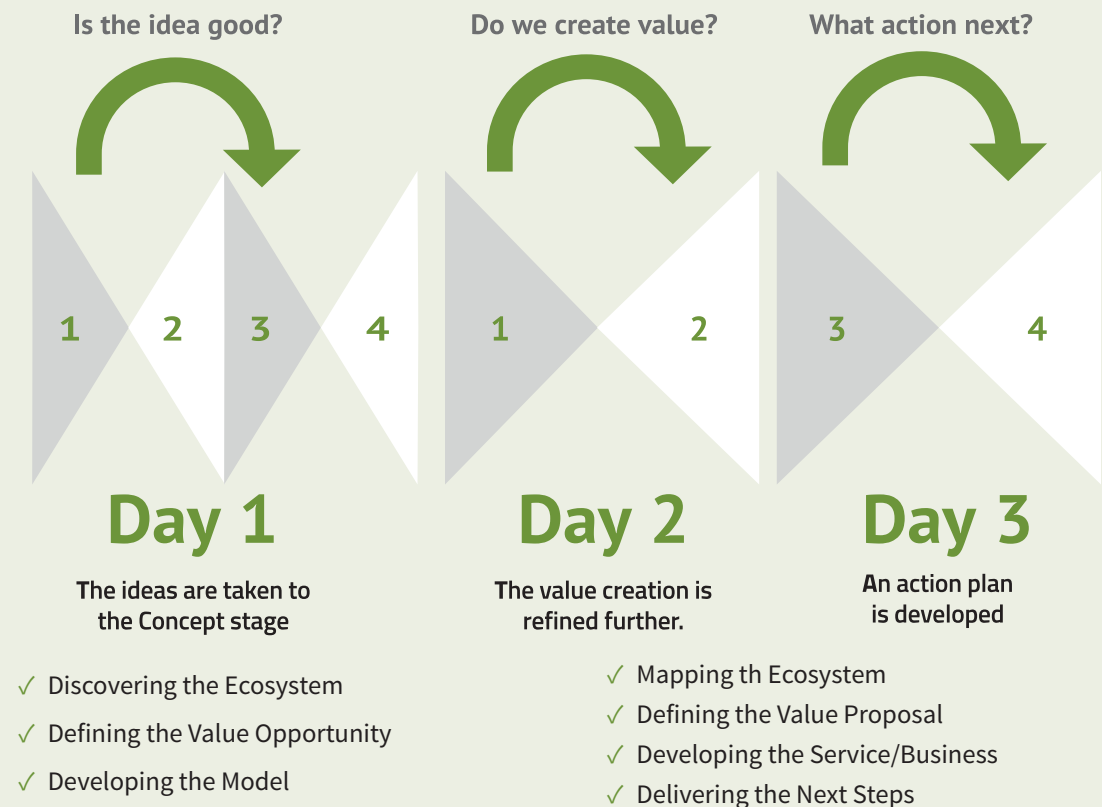
PART 3
WORKSHOP
MANUAL

3.1
WORKSHOP
DAYS &
STEPS

This section gives the reader the background for the practical steps that need to be taken to deliver the workshop. The first section shows the steps to be taken in each workshop day. The first day takes the ideas to concepts, the second day moves from concepts into value proposals, and the third day develops the value proposals into an action plan.

The Workshop Steps

8 Sessions in 3 days



DAY 1

IDEA TO CONCEPT

The 1st day is used to explore whether presented ideas have potential to create tangible value. The workshop introduces 4D (discover, define, develop, deliver) development methodology as a tool for application to front-end development of new products, services, and business models. Participants apply the methodology to ideas under consideration and decide by the end of the 1st day whether to move on to the next stages of project planning, to discard any unworkable ideas, or to continue with revision.

The 1st day of the workshop is divided into six steps:

1. **Introduction** - Pitch the idea(s), team up and decide which ideas merit further development.
2. **Discover Ecosystem** - Using the 6x ecosystem model, identify issues & actors affecting the novelty of an idea (+/- for impact).
3. **Define Value Opportunity** – Using the Benefit List, define value opportunity to be created for users, businesses, ecosystem & society.
4. **Develop Business/Service Idea** – Identify Business Model elements using Customers, Partners, Activities, and Revenue.
5. **Deliver Concept** – Demonstrate how the idea works and test it

with an audience using low-resolution prototyping.

6. **Wrap-Up** – Determine if the concept is suitable, and decide whether to continue on to next stages, or to revise concepts further.

Day 1 Fact Sheet

<i>Title</i>	IDEA TO CONCEPT
<i>Objective</i>	Decide to continue with the IDEA development work, revise it, or discontinue the process
<i>Canvases Used</i>	Alignment canvas
<i>Deliverable</i>	Document the process through the use of the single Alignment Canvas and photo documentation of the process and prototypes

TASK



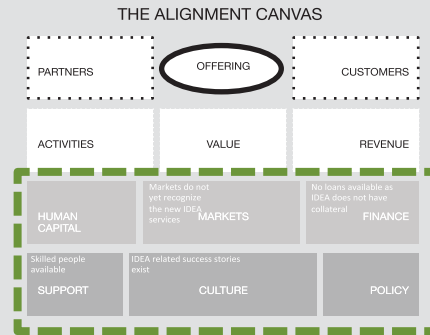
Discovering the Ecosystem

Task: fill the Ecosystem part of the Alignment Canvas

- Using the ecosystem model, identify issues & actors affecting the novelty of the idea in each area below.
- Use RED post-its for things that are against the (new) IDEA
- Use GREEN post-its for things which support the (new) IDEA (see examples below)

Step 1. Discovering the Innovation Ecosystem

- The ecosystem creates the enabling /inhibiting base for the service/business models
- The alignment canvas is used to link the ecosystem to the offering through the business model.
- A key issue in the rapid assessment of an idea is how the actors in the ecosystem enable or inhibit the new?



TASK



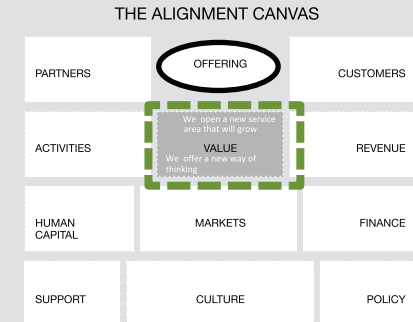
Defining Value Opportunity

Task: fill the Value part of the Alignment Canvas

- Using the canvas, identify how value that created and to whom.
- Use YELLOW post-its to indicate value created
- (see examples below)

Step 2. Defining the Value Opportunity

- Value is the central component of any business/service/product development process.
- What is meaningful in terms of value created and how does that lead to innovation?
- Value is always created on multiple levels, and we need to think about the user(s), the organization/company, the ecosystem, and societal levels of value creation all at the same time.



TASK



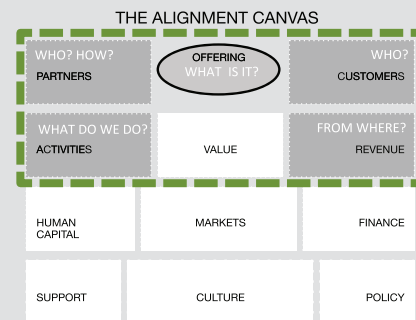
Developing the Model

Task: fill the Business Model part of the Alignment Canvas

- Using the canvas, identify who the customers and partners are. What activities are to be done and how the revenue is generated. Use post-its

Step 3. Developing the Model

- The offering and value proposal is why a customer chooses the firm/ organization instead of another
- It solves the customer's problem, or satisfies a need
- It is the benefit that that a service / company offers to the customer
- For this we have to know who the customer is?
- And we need to know our partners
- The activities we do generate the revenues that sustains us
- No activity = no business



TASK



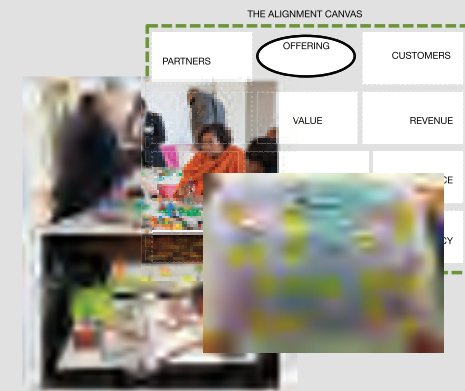
Delivering the Decision

Task: Verify the feasibility, viability and desirability of the concept through prototyping and testing. Decide to continue development, revise, or discontinue

- Create initially a low-resolution experimental prototype
- Test the prototype with peer groups
- Decide on continuation

Step 4. Delivering the Decision

- Through the canvas work and the prototypes an testing we transfer the IDEA into a concept
- The Concept should be assessed for:
 - Technical Feasibility: Can we do it?
 - Economic Viability: Is it worthwhile doing?
 - Human Desirability: Is it desirable to do this?



DAY 2

CONCEPT TO VALUE PROPOSAL

The workshop's 2nd day aims to identify the value that an idea can create and on what levels it creates value, triangulating between understanding of the ecosystem and value potential of the original idea. The objective is to assess an idea's potential to create tangible value and to decide whether to continue onto the next stage of project planning or to revise the idea further.

Day 2 of the workshop is divided into four steps:

1. **Introduction** - Review the work done in the previous sessions and introduce the content of the day.
2. **Mapping the Ecosystem** - Examine strengths, weaknesses, opportunities and threats for each of the six elements.
3. **Define Value** - Using the Benefit List, update an idea's value definition. Cross-reference the Benefit List, and develop the value definition for users, business, ecosystems and society as a whole. Transform the identified value into a value proposition for the business / service idea.
4. **Wrap-Up** – See if the value is clear and tangible, and decide to revise the idea or to continue on to project development.

Day 2 Fact Sheet

<i>Title</i>	CONCEPT TO VALUE PROPOSAL
<i>Objective</i>	Decide whether to continue with the IDEA or revise it through understanding the value potential.
<i>Activities</i>	Mapping the ecosystem Defining value proposition
<i>Canvases Used</i>	Ecosystem Canvas Value Canvas
<i>Deliverable</i>	Document ecosystem analysis and value thinking through the Ecosystem and Value canvases.

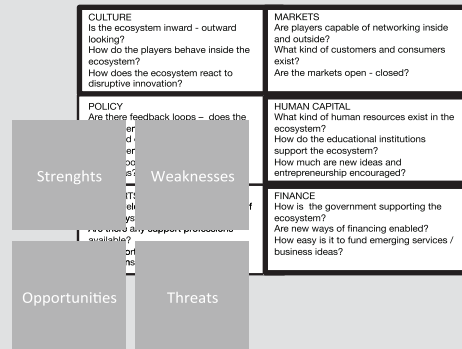
TASK



Mapping the Ecosystem

Task: Do a SWOT analysis on each ecosystem component from the IDEA perspective

- Using the ecosystem canvas model, identify issues & actors affecting the idea in each area below.
- Do a SWOT analysis for each one of the elements in the Ecosystem Map
- Use RED post-its for things that are against the (new) IDEA
- Use GREEN post-its for things which support the (new) IDEA (see examples below)



Step 1. Mapping the Innovation Ecosystem

- The second ecosystem analysis examines the strengths, weaknesses, opportunities and threats for each of the six elements
- The analysis will add to the perception of the attitudes towards the new that was developed in the first round

TASK



Defining the Value Proposal

Task: fill the Value Canvas

- Using the canvas, review and validate / identify what value is created by the IDEA and to whom. Build on the value thinking from Day 1.
- Use YELLOW post-its to indicate value created
- Formulate the Value Proposal in a single short sentence (or if there are multiple ones, then a set of sentences) that explicitly indicate what value is created and to whom.

Step 2. Defining the Value Proposal

- There is a need to think about the user(s), the organization/company, the ecosystem, and societal levels of value creation all at the same time.
- The Value Proposal should address these levels all at once.

Value to whom	Economy	Psychology	Sociology	Ecology
Society	Wealth	Wellbeing	Meaningful life	Livability of environment
Ecosystem	Stability	Shared Drivers	Reciprocity in networks	Sustainability
Organization	Profit	Core values	Social responsibility	Eco-effectiveness
User	Value for money	Happiness	Belonging	Eco-footprint

Source: den Ouden, 2011

DAY 3

VALUE PROPOSAL TO ACTION

Workshop Day 3 is used to decide whether to continue/revise/discontinue the idea's development through an examination of the business models and activities needed for implementation.

During Day 3, the group will determine if an overall idea is viable, what the different steps of development would be, what the idea's potential is, and how to apply the development method to the transformation of ideas into business or service proposals.

Day 3 is divided into four steps:

1. **Introduction** - Review work done in the previous sessions and introduce the content of the day.
2. **Develop Business/Service Model** - Using the Business Model Canvas, identify Customers, Value Proposition, Channels and Relationships. Further identify Partners, Resources and Activities, Revenue and Costs.
3. **Deliver Next Steps** - Using low/medium resolution prototyping, demonstrate how the iterated idea works and test it with

an audience. Using the Next Steps Canvas, map out the key activities, steps to be taken, time lines and responsible parties.

4. **Wrap-Up** - Determine if the activity plan is feasible, and decide whether to move on to the Planning Phase or to continue with revision.

Day 3 Fact Sheet

<i>Title</i>	VALUE PROPOSAL TO ACTION
<i>Objective</i>	Decide to either continue IDEA planning or revise/discontinue...
<i>Activities</i>	<ul style="list-style-type: none"> • Develop Business Model • Role-playing exercises and Lego exercises • Agree on Next Steps
<i>Canvases Used</i>	<ul style="list-style-type: none"> • Business Model Canvas • Next Step Canvas
<i>Outcomes</i>	Document the Business Model development and the next steps through the Business Model and Next Steps canvases.

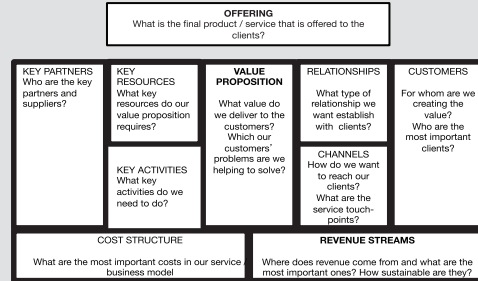
TASK



Developing the Service & Business

Task: fill in the Business Model Canvas

- Building on the previous Alignment Canvas build up the understanding of the Service / Business Model
- Fill the Service / Business Model canvas, paying special attention to the proposed tangible offering



Step 3. Developing the Service & Business

- Building on the previous work, verify who the customer is expected to be
- Examine how to manage the relationship and delivery
- Develop the value proposal and the describe the tangible offering
- Review the partners, resources needed
- Create the revenue logic and understand the key cost elements
- Lay out the key activities to be done to produce the offering

TASK



Delivering the Next Steps

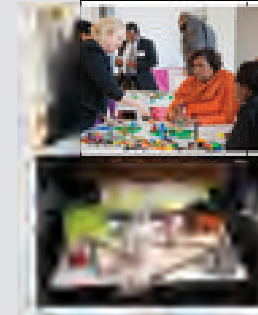
Task: Verify the feasibility, viability and desirability of the the concept through prototyping and testing. Develop the Next Steps. Decide whether to continue into planning phase, revise or discontinue.

- Create initially a medium-resolution experimental prototype
- Test the prototype with peer groups
- Decide on continuation
- Chart the Next (activity) Steps

Step 4. Delivering the Next Steps

- Through the canvas work and the prototypes and testing we transfer developd the concept into a Next (Action) Steps
- The updated Concept and the Next Steps should be assessed (again) for:
- Technical Feasibility: Can we do it?
- Economic Viability: Is it worthwhile doing?
- Human Desirability: Is it desirable to do this?

KEY ACTIVITIES	WHEN?			HOW TO VERIFY IT HAS BEEN ACCOMPLISHED?
	2014	2015	2016	

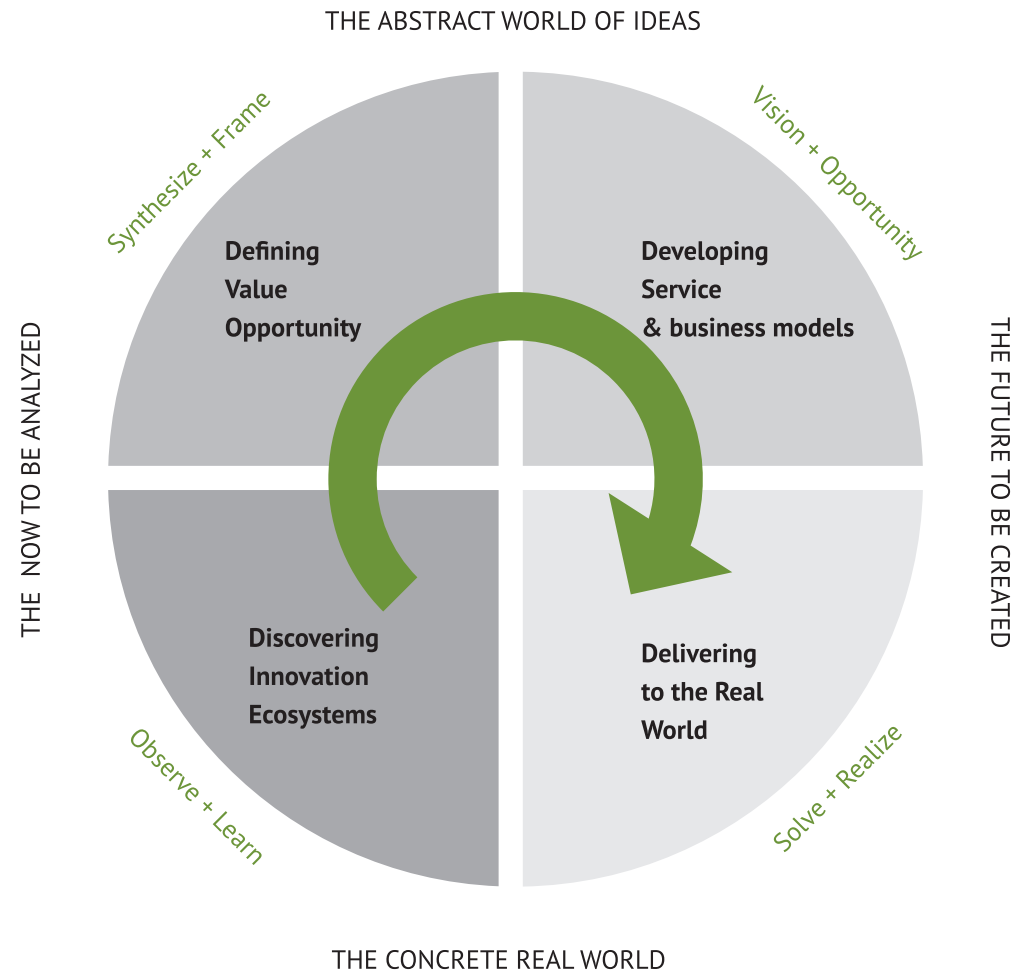


3.2 BACKGROUND

The subsequent sections form the theoretical backbone of the method developed. This background reading is organized as follows:

- ✓ Discovering Innovation Ecosystems provides an overall view on the identification and modeling of innovation ecosystems,
- ✓ Defining Value Opportunity offers an overall view on identifying opportunities,
- ✓ Developing Service and Business aims to provide insights to the initial phase of the business modeling and lastly,
- ✓ Delivering for the Real World provides an overall view of and prototyping and testing of the concepts.

FIG. 3.2.1 METHOD



Source: adopted and modified Koria 2015 from the Gruber et al. 2015

Discovering Innovation Ecosystems

Before starting, it is necessary to recap the definition of innovation. In any definition, there are three main elements: the new, the useful and the success. The new can be new to the world or new to the circumstance. Innovation is always based on need. Success can imply commercial success but also widely diffused new organizational configurations or reconfigured assets. The key idea is that new ideas need to diffuse widely and that may happen through administrative practices or through commercial success, and of course, many other ways, too. Technology plays an important role, and social acceptance needs to underpin all innovations.

In their book, *Design in Business* (2002), Margaret Bruce and John Bessant take an integrated approach to design, creativity, and business, assuming they are core business processes as opposed to peripheral or specialist activities. They define innovation as the successful application of new ideas in practice in the form of new or improved products, services, or processes. Creativity, on the other hand, is the ability to combine ideas into new ways to solve problems and exploit opportunities. Their key message is to say that design is the purposeful application of creativity throughout the process of innovation.

User and Innovation ecosystems

Starting from the early Von Hippel's work (Von Hippel 1988) on lead users in the 80's, innovations can be derived from the interaction between users and New Product / New Service Development (NPD/NSD) and business developers. The deep interaction itself creates

insights that cannot be achieved through any other market, product, or service research. When opportunities for public domain thinking and crowdsourcing are used, bottom-up insights can be achieved even more comprehensively. Firms have recognized this, but established organizations often have a difficult time to reconfigure their ways of working to cater for the user views. It is often the start-ups that take the lead in this, although it has been observed that they, too, are susceptible to "seeing only their own navel" and ignoring users.

When users are dropped into the picture, the triple helix moves into a different configuration (sometimes called the quadruple helix), where multiple way collaboration becomes the way in which innovation is enabled. While the innovation systems tends to be a top-down structure, engaging users illustrates the basic tendency to move away from top-down innovation systems into bottom-up AND top-down innovation ecosystems. In terms of new product, service and business development the key issue is the fact that users may not have the common tools needed for collaboration with the rest of the components. This is where the other parties must facilitate the engagement of the users. This is a major challenge.

The changing nature of business

The conventional industry and dominant model of today's business world (television, Encyclopedia Britannica, education systems, industry, services) is sometimes called "pipe business", where firms create products & services and then push them out and sell them. In this case the value is created upstream and consumed downstream,

and the business flow is linear, often one way. One could say that the users interact with the software that is created, and our product is valuable by itself. This way of thinking has a lot to do with separate products and services.

The new kid on the block, business & technology platforms have created a massive shift of business caused by the internet (e.g. YouTube, Wikipedia, Airbnb). These “platform businesses” are very close to product and service systems (PSSs), where users create and consume value. The business models are very different from pipes, as the PSSs need to be built up with both producers and consumers in mind. The idea is that users interact with each other, using software the business has created. The product has no value unless users use it.

The key difference between pipe and platform business is linked to the monetization strategies, which are distinct.

With pipe business, monetization is straightforward. One calculates the costs of running a unit through a pipe all the way to the end consumer and ensures that: $\text{Price} = \text{Cost} + \text{Desired Margin}$. The consumers are charged the value that is created. With platforms, the monetization is not straightforward. Producers and consumers transact (e.g. Airbnb, SitterCity, Etsy): one or both sides pay the platform a transaction fee. Producers create content to engage consumers (e.g. YouTube), and the platform may monetize consumer attention (through advertising). In some cases, platforms may license intellectual property usage. On platforms, at least one side is usually subsidized to participate on the platform. Producers may even be incentivized to participate. The key question is to figure out who creates value and who one charges for it.

FIG. 3.2.2 INNOVATION ECOSYSTEMS

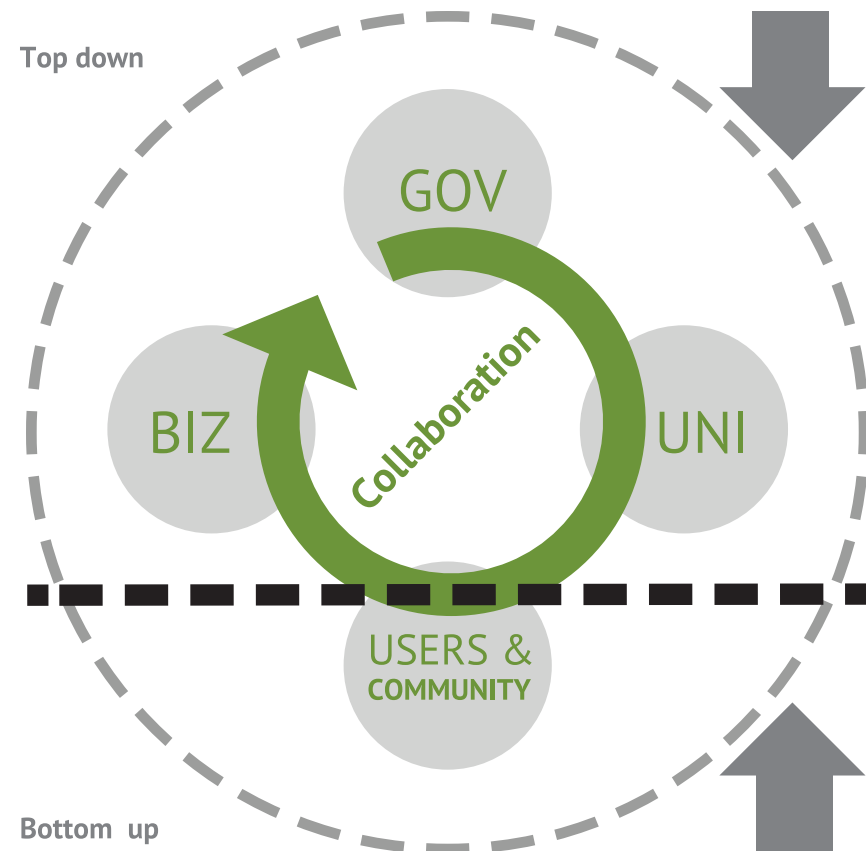
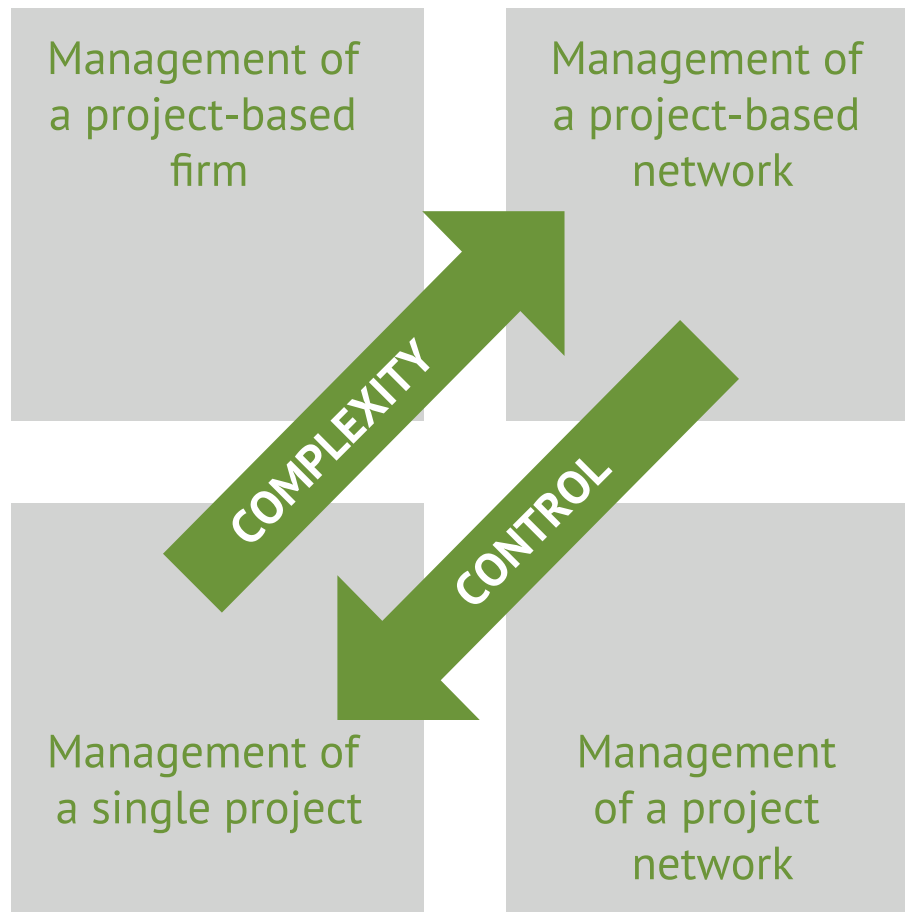


FIG. 3.2.3 BUSINESS NETWORKS



Source: Artto et al. 2005

Business networks (like the project based networks illustrated) are both complex and offer little opportunity for direct control. This

fosters alliances, joint ventures where knowledge and resources are shared to a high degree. The projectification of society and business also drives this tendency. When one moves from a single business development project into an ecosystem with many firms and many projects, there are few direct control tools available. Mostly one can create added value and opportunities through the promotion of the collaborative opportunities, through which the actors learn how to work with each other.

Ecosystem models

Ecosystem models originate from the natural sciences, and have many similarities with biological ecosystems. They are dynamic in nature and made up of interconnected organisms that operate in a shared environment. They evolve, grow and contract, and can be destroyed if the environment suffers drastic changes. Iansiti and Levien (2004) note that the analogy needs careful consideration: In business ecosystems, actors are intelligent and able to plan and understand the dynamics of the system.

The goal of business ecosystems is to deliver innovations (i.e. expansive growth), whereas natural ecosystems are only aiming at survival. They also focus on three critical success factors: productivity (transformation, efficiency), robustness (ability to survive, resilience) and niche creation (ability to create opportunities). They identify four different roles for actors: keystone organizations that act as enablers for the system; niche players that make up the mass of the actors; and hub landlords (extracting as much value from the ecosystem as possible) or hub dominators (that integrate vertically or horizontally in the system).

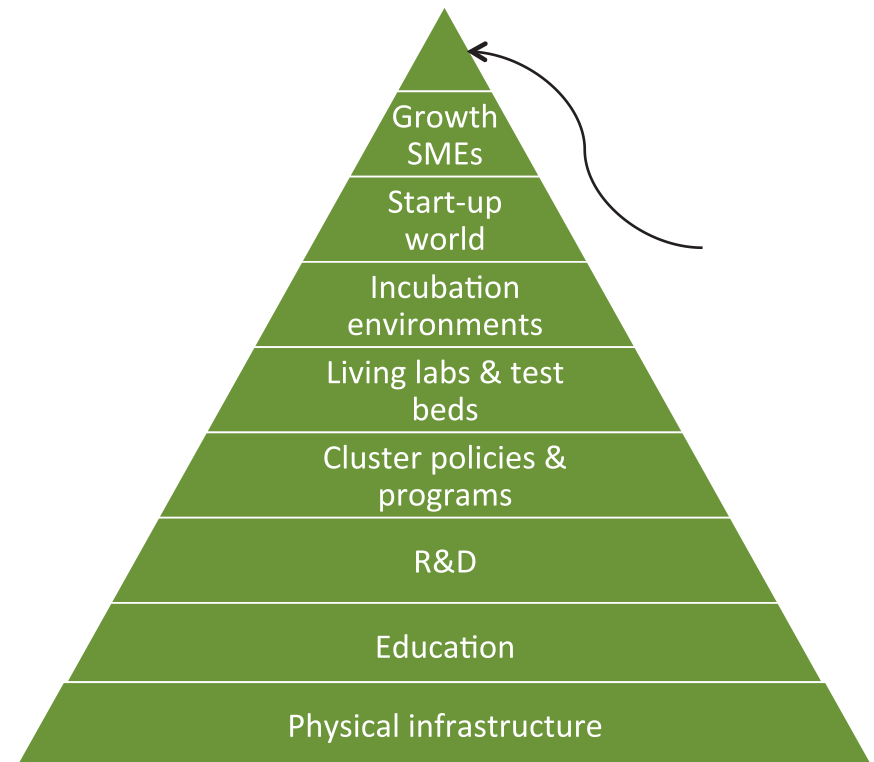
Innovation ecosystems exist on multiple levels. On the regional level, the systemic view taken into account the roles of the public sector, public private partnerships, and purely private initiatives. Each has a role to play, and the multiple levels are highly interdependent.

The concept of the business ecosystems is a fairly recent idea, and Moore introduced the idea in 1993 as an economic community of interacting suppliers, competitors, customers, producers and other stakeholders (Moore 1993). Later on in 1998 he added financial parties, trade associations, standardization bodies, labor unions, governmental and quasi-governmental institutions into the equation. He emphasized the decentralized nature of decision-making and self-organizing. He also thought that there were leadership companies who influence the evolution of ecosystems. Moore also introduced the idea of stages in business models: pioneering, expansion, authority and renewal. The ecosystem renews itself, unless it dies in the renewal stage.

Based on the works of Isenberg (2010) the model shown has been adopted as the basic visual approach to understand ecosystems. The model has an external perspective, whereas Moore's model is more internal. There are six main domains: enabling policy and leadership, availability of appropriate finance, conducive culture, range of institutional and infrastructural supports, quality of human capital and characteristic of markets. These domains are divided further into 12 categories, which represent key components of a healthy ecosystem.

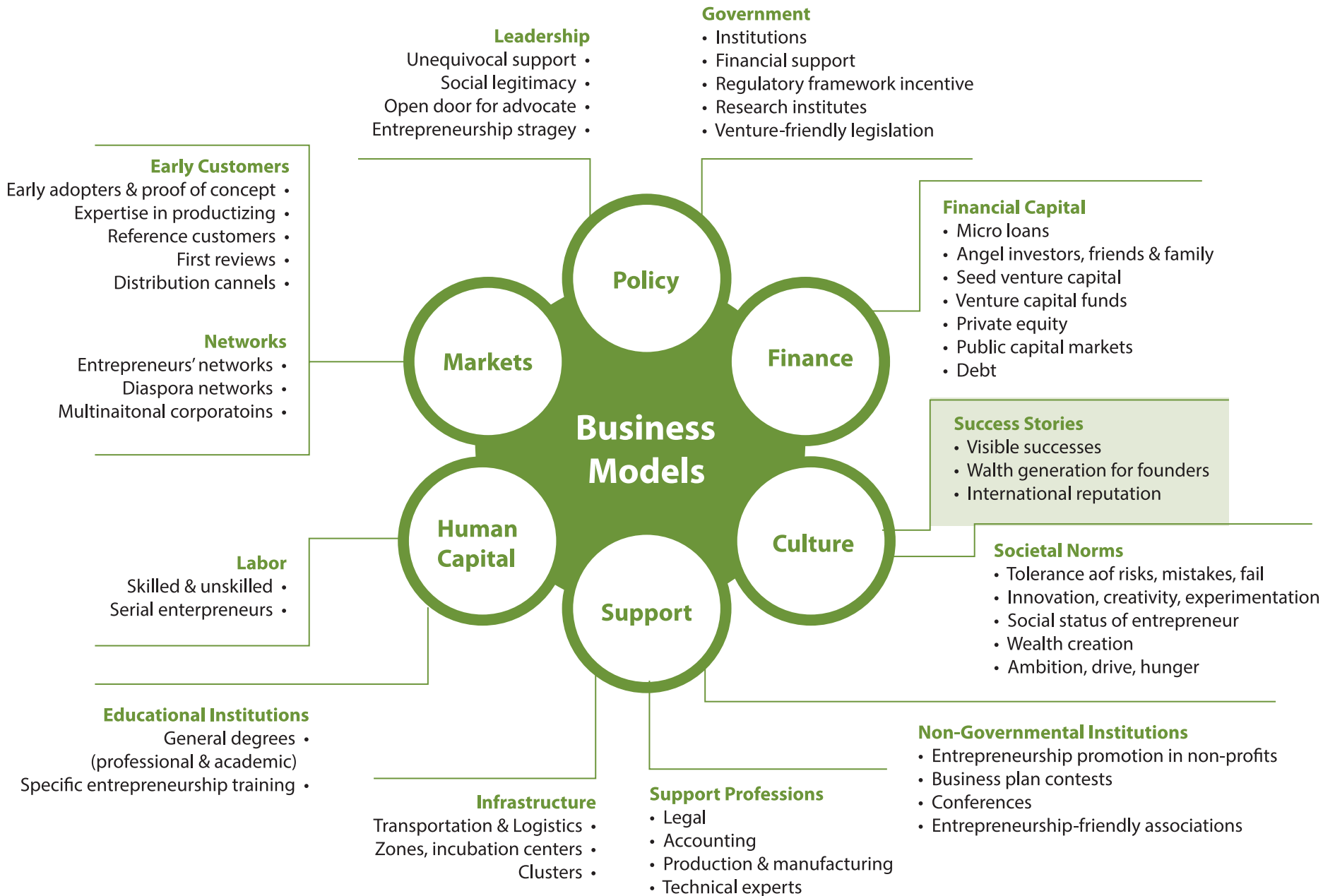
When operating in ecosystems, businesses must decide if they are a keystone or niche “player” and then formulate strategies appropriate to that role and build up the foundations of sustainable performance in a business ecosystem (Iansiti & Levien, 2004).

FIG. 3.2.4 REGIONAL ECOSYSTEMS



Source: Hubconcepts, 2011

Fig. 3.2.5. Entrepreneurial and innovation Ecosystems



Keystone companies (e.g. Microsoft, Wal-Mart, Dell, and eBay) create high-value, sharable assets; leverage direct customer connections; create and manage physical and information hubs; support uniform information standards; create, package, and share state-of-the-art tools and building blocks for innovation; establish and maintain performance standards; build or acquire financial assets for operating leverage; reduce uncertainty by centralizing and coordinating communication, and reduce complexity by providing powerful platforms.

They share value within their respective ecosystems with the other players. Businesses that wish to become keystone players can resort to two strategies: the can strive to act as “hub landlords”, extracting as much value as possible from an ecosystem without integration; or they can try to become “hub dominators” (e.g. Apple) and control an ecosystem. Most organizations will operate as niche players with differentiated specialized capabilities, being dependent on other actors; a good niche strategy requires analyzing the ecosystem and mapping out the stakeholders and their characteristics. All organizations need to take an active role in nourishing that ecosystem and support integration, innovation, and adaptation within their ecosystem.

Roles in Innovation Hubs

When looking at the complexity of the actors in the ecosystem, the partnership issues often emerge as a key challenge. The aims could be summed up in terms of optimization and economies of scale, where typically companies do not wish to own or do all activities by themselves. The try to reduce costs through outsourcing and sharing infrastructure. The reduction of risk and uncertainty through partnerships is important in competitive environments. Firms also acquire new resources and are able to undertake new activities, through extending capabilities through the resources of partners,

open innovation, licensing, accessing customers. Ideally, these partnerships help to create scalable business models and to enhance the robustness/resilience of the business.

Many governments try to build up ecosystems, but they cannot do it on their own. Copying models is also very difficult, as ecosystems tend to be very much time and place specific. The key issues lie with promoting collaboration across the ecosystem. The system is essentially both top-down and bottom-up. Thus a key challenge is to create integration between the two.

If we think that local actors have the best local knowledge, we have (at least) three main roles that need to be taken if ecosystems are to be viable: integrating (bring parties together to collaborate); translating between the parties is essential, as the knowledge and understanding is highly asymmetric. And finally, expanding the capabilities of the local actors to operate with the top-down parties is an essential element in making global business grow from local drives.

Key issues to consider when building up innovation ecosystems

Studies have found common elements in the systemic build-up of innovation ecosystems (adapted Korja from Honkapirtti 2014):

- ✓ There is a need to find the champions: Identify the community leaders and activists receptive to collaboration and entrepreneurship.
- ✓ And also to find the Success Stories: In an ecosystem existing success stories have a great impact as roles models.
- ✓ One must allow access: Invite the community members to enter, to attend events and workshops, exchange knowledge and to scout for opportunities together.

- ✓ There is a need to listen & have dialogue: Aim to understand the interactions and real problems of the community through active listening.
- ✓ Long-term gain is often built up from a series of small wins: Understand ‘our limitations and capacities’ and start with small, well-defined projects and prototyping, developing the collaboration step-by-step.
- ✓ Attention must be given to relevance & respect: If starting new initiatives together, address the problems that are most pressing issues from the community’s point of view.
- ✓ There is a need to co-design and co-develop: Develop solutions to the defined problems together.
- ✓ And to manage the expectations: Highlight and voice to all parties that the risk is high, and failure can happen, but learning will happen, too.
- ✓ Furthermore, it is necessary to develop skills and capabilities: Of-

fer entrepreneurship support and orientation for the local inhabitants and community interested in becoming entrepreneurs.

- ✓ And finally to commit long term: A long-term orientation is needed to gain trust and to realistically expect changes and impact to take place. Relationship building and project preparations can take a long time.

Stakeholders in ecosystems

As the last key issue in ecosystems, stakeholder analysis becomes a very important task; knowing who is in the system is not enough, we also need to understand their position of power to influence our activities and whether they are interested in doing so. The power, legitimacy and urgency analysis gives a good indication of what issues and who has to address out of the multiple demands that are made towards a starting entrepreneur.

Defining the value opportunity

Towards intangible value

In the world of tomorrow intelligent technologies are seen to create the key opportunities and that most of this immaterial value is found in the networks of actors. There is clear drive from tangible products and pipeline business towards intelligent platform solutions. This creates direct demands on how innovation enablers, hubs and like structures are to be built up and managed.

The drive to integrate products and services also drives up the intangible value of companies. In the network business much of the value lies in the connections that one is able to control and manage to one’s benefit. The value chain becomes a value network. The downside of the value network as compared to the value chain is that the creation of value is no longer so clear, and value may be created in many ways over the same connections. Sometimes it is also very difficult to understand how the value is actually created.

Fig. 3.2.6. New Mindset

		Industrial Economy (1950-)	Experience Economy (1980-)	Knowledge Economy (unfolding)	Transformation Economy (future)
People mindset	Captivating idea	Product ownership	Experience	Self actualization	Meaningful being
	View	<i>Local</i>	<i>Global</i>	<i>Contextual</i>	<i>Systemic</i>
	Quest	<i>Modernizing life</i>	<i>Explore lifestyle identities</i>	<i>Individual empowerment</i>	<i>Address collective issues</i>
	Effect	<i>Productivity + family life</i>	<i>Work hard play hard</i>	<i>Develop your potential</i>	<i>Meaningful contribution</i>
	Skills	<i>Specialization</i>	<i>Experimentation</i>	<i>Creativity</i>	<i>Transformative thinking</i>
	Approach	<i>Follow cultural codes</i>	<i>Break social taboos</i>	<i>Pursue aspirations</i>	<i>Empathy & cooperation</i>
Business mindset	Economic drivers	Mass production	Marketing & Branding	Knowledge platforms	Value networks
	Focus	<i>Product function</i>	<i>Brand experience</i>	<i>Enabling creativity</i>	<i>Enhancing meaning</i>
	Qualities	<i>Products</i>	<i>Product-Service mix</i>	<i>Enabling Open-tools</i>	<i>Inclusive value networks</i>
	Value proposition	<i>Commodities</i>	<i>Targeted Experiences</i>	<i>Enable self-development</i>	<i>Ethical value exchange</i>
	Approach	<i>Persuade purchase</i>	<i>Promote Brand Lifestyle</i>	<i>Enable Participation</i>	<i>Leverage Cooperation</i>
	Goal	<i>Profit</i>	<i>Growth</i>	<i>Development</i>	<i>Transformation</i>

Source: den Ouden, E. 2011. *Innovation Design: Creating Value for People, Organizations and Society*. Berlin: Springer

There may be power shifts between the parties, e.g. going from being competitors to becoming collaborators and vice versa. And the intangible value of the companies increases due to the diminishing role of tangible products in this systemic approach. This increase is especially notable in publicly quoted companies, but also the start-up world is seeing very high premiums that are being paid for great ideas, sometimes without any tangible products at all.

Multiple economies and value

We live in a world that is becoming more and more connected, globalized and where ideas travel easily far. What does not travel so easily are the operating contexts that affect the everyday of business making. We can all identify the agricultural, industrial, experience and knowledge economies around us. A key idea is that all of these economies exist at the same time in each place. The balance between the elements will vary from place to place and thus the innovation policies, services and support mechanisms should also reflect the local conditions. The transformative economy, or the economy of meaning, is where users are central to value creation and innovation.

The recent thinking (source de Ouden, 2011) pinpoints towards a trend where the captivating idea is based on meaning. This is the next step from the self-actualization (through e.g. brands) that the experience and knowledge economies bring forth. These trends are clearly visible at present in the industrialized countries. It is still somewhat open how they translate to emerging economies, but experience shows that stages tend to be replicated. The business mindset is based on business networks, where cooperation is leveraged.

Creating value

It should also be noted that value cannot be created in isolation. Value is not an absolute, but something that is mainly constructed socially in the interaction between people. Thus we need to have a multiple actors that create value and many that benefit from it. The collaborations are also needed to make sense of the value creation overall. We do not share the same values (nor should we), but we do need to make sense of the common set of understandings that we have on value. And the main objective is to create ideas that really are valuable in terms of solving problems of users, businesses, the ecosystem and society at large, preferable in win-win-win-win situation.

Value to user is at the very core of each business proposition. There are different value drivers for users, organizations/businesses, the ecosystem and society at large. Also value can mean economic, as well as social, psychological or ecological values. The key observation is that until now, it has been difficult to place sometimes very contradicting values into a joint framework. When we move to think about the meaningful value propositions that are needed, again the levels of the value framework are a handy way of distinguishing between the ideas. It should be noted that pleasurable experiences seem to be the only way in which human behavior is changed on a permanent basis.

Den Ouden (2011) proposed a value “framework-of-thought” when analyzing the value that one is intending on creating in new business proposals. The idea is to ask oneself: how, where and to whom am I proposing to create value, and what is the nature of that value? The insight of the framework is to create a multiple level approach to value. As we note, the business profit is only one of the many boxes. It is evident that not all of the values will receive an equal weight in the process, but the argument is that each one should be consid-

ered, when we are heading towards an economy where the meaning of things is of importance. When we are thinking about value that we intend to create it is useful to think about the meaningful innovations that we aim for.

Source of value

A key piece in the puzzle is derived from the sources of value. Value propositions are the very core of the business model. As seen from below, from the business modeling perspective, value can be created in many different ways, and in all parts of the canvas. Joining together the elements of Drucker’s 7 opportunity areas (see below) and the list below, one can achieve a “checklist” of the potential sources of opportunity, business and innovation. Value in business models can be created through creating new solutions, or satisfying an entirely novel set of needs through new offering, often technology related, or improving the performance of existing products or services.

Tailoring products and services to the needs of customers (mass customization, customer co-creation) or simply helping the customer get things done in their own business or activity are important value adding mechanisms, as is differentiating products and services through designing them in different, distinctive ways, to create distinction and status through branding products and services.

Offering similar/superior value at the same or lower price than the competition, while helping customers to reduce their costs or risks, and making products and services available to new groups, together with providing convenience/usability (i.e. making things easier to use) are also important ways to create tangible value through business models. (Source: www.businessmodelgeneration.com)

Fig.3.2.7 Value Framework

Value to whom	Economy	Psychology	Sociology	Ecology
Society	Wealth	Wellbeing	Meaningful life	Livability of environment
Ecosystem	Stability	Shared Drivers	Reciprocity in networks	Sustainability
Organization	Profit	Core values	Social responsibility	Eco-effectiveness
User	Value for money	Happiness	Belonging	Eco-footprint

Source: den Ouden, E. 2011. *Innovation Design: Creating Value for People, Organizations and Society*. Berlin: Springer

Sources of innovation

When examining innovations, it is also important to try to understand where does they come from? What are the wider elements that help to create value and thus innovations; and where do good ideas come from? In this context we examine the seven sources of innovation from Peter Drucker’s (1985) perspective.

In the first place, innovation can happen due to the unexpected happening, such as the accidental discovery of artificial sweeteners or antibiotics. Sometimes incongruities or conflicts between opposing functions, requirements or values may be the start of an innovation, as in the case of developing small cares with big interiors.

Process needs drive the emergence of innovation, as in the example of standardization of components, which allows for low-skilled people to assemble sophisticated goods. Industry markets and market structure may offer opportunities for new types of services, as in the case of outsourced maintenance of the IT infrastructures.

Demographics are a major source of innovation, creating opportunities for new types of products and services as life styles, tastes and needs change over time. As another example, changes in perception act as a source of innovation, as in the case of medical studies that revealed that being overweight is a major health risk factor, resulting in lighter foods. In the last instance, new knowledge has produced many opportunities for new products and services. As an example, micro-electronics and new programming tools have driven innovation over the last decades.

Functional and circumstantial sources of innovation

There are also functional sources of innovation. Corporate functions and functionally oriented parties create opportunities and pathways to innovation through internal value chains and /or spillovers from competitors, or through linking up with external value chains of suppliers, customers, and complementary innovators.

At the same time the work done at universities, government research institutions and private laboratories, together with competing organizations and related industries serve as functional sources of innovation. Innovation can originate also from other nations or regions and finally, end-users of products and services can act as significant sources of innovation.

In many ways, there are similar to the elements that exist in the Isenberg innovation ecosystem model, and one could say that inno-

vation can originate from any of the various actors and the collaboration and interaction that take place between them. The key issue is that it is difficult to understand the impact and potential coming from so many sources.

Circumstances also affect innovation, as planned firm activities, both short and long term can produce innovations, as well as unexpected occurrences, or so-called “Black Swans”, such as man-made (banking crises) or natural (tsunami) disasters. There is also change happening over time, as creative destruction (slow or rapid) forces whole industries to rethink their ways of doing things. In these cases, it is often very difficult to tell when innovations take place. Hindsight and connecting the dots by looking backward are the only really exact things in this. That being said, foresight tools can help to make sense of the often very ambiguous circumstance.

Creating opportunities

One of the challenges is to bring the ideas of tomorrow to the today of things in such a way that consumers, users, stakeholders can understand them. This is the key reason why we need to test and experiment with the concepts, proposals, products and services very early on, to make sure that they are understandable and thus adoptable. There are also aims to educate the clients in many cases.

In examining business ideas and proposals, it is often useful to change focus. One way is to use distinct sets of tools that have been developed in “parallel” universes of business. It is useful to analyze the offering that has been developed through three concurrent perspectives: the technical feasibility, the economic viability, and thirdly the desirability of the proposal to the user. In both cases one would aim to have a potential innovation that sits firmly in the centre of both universes.

Once you get into the analysis of the “design innovation” (note the link to design thinking here), one is especially concerned with the human values of the proposal. This links up directly with the social acceptability (and desirability, evidently) that innovation must have to be diffused widely. The interaction may be the key issues, or human values, or organizational behavior (or all three), but in all cases there must exist a concern for the end users of the PSS. Especially services are extremely difficult to develop without an intimate knowledge of how people do things. Often the easiest way is to ask them. In many cases the technical and business sides of the equation are simpler to figure out than the human factors.

Management and Design Thinking

In their book, *Design in Business* (2002), Margaret Bruce and John Bessant take an integrated approach to design, assuming it is a core business process as opposed to a peripheral or specialist activity. They define Innovation as the successful application of new ideas in practice in the form of new or improved products, services or processes. Creativity, on the other hand, is the ability to combine ideas into new ways to solve problems and exploit opportunities. Their key message is to say that design is the purposeful application of creativity throughout the process of innovation.

In terms of competitiveness, you can only compete essentially on price and/or differentiation. Competing in business through differentiation requires that you are different, and that you offer “special” value to your customers. In other words, your products and services have to be easily distinguishable from the wider mass of others. The proposition is that design is essential in the process. Just think of services: when have you last had bad service? Or when have you used a product that does not work well? Well-designed products

and services delight customers and add value to business. But to do this you need to have business think a bit wider on how you do things.

And this is where “Design Thinking” comes in, and you need to re-configure business thinking to include the elements of:

- ✓ Empathy & affect, to imagine world from multiple perspectives and by placing people first;
- ✓ Integrative thinking, to engage in both analytical thinking and the creation of novel alternatives;
- ✓ Optimism, in believing that at least one potential better solution exists;
- ✓ Experimentalism, in exploring in entirely new directions;
- ✓ Collaborative work, in order to make sense of the ever-increasing complexity of products, services and experiences. The time of the lone creative genius has given way to enthusiastic interdisciplinary collaboration between engineers, designers, marketers, architects, anthropologists, psychologists, to name a few.

When thinking about applying Design Thinking, we need to ask ourselves: can we use design to make current processes and offering better (incremental innovation). We also need to think through alternative ways of doing things in “what if”, or future orientation mindset. It is also important to use design as a tool to find a place for radical, new business using design. Collaborative work is at the very centre of Design Thinking, as properly managed teams can unleash creativity in the organization to create new offering). Finally, in order to manage high ambiguity, there is a need to do concurrent experiments and have real time feedback mechanisms.

Note: Design Thinking is typically a management fad. A recontextualization of ideas that have been around for a long time! While it is a fad, this does not make it less important or timely. Out of all of the identified elements that Design Thinking could bring about, collaborative work is the glue that makes things stick together. In other words, mastering / promoting / engaging in collaboration is the very key to successful application of design thinking, also understood in many ways as integrative thinking or multidisciplinary work.

Developing service and business

Business models

The following section is essentially based on Osterwalder (2010). A business model describes the rationale of how an organization creates, delivers and captures value. It is also considered to be a common shared language within the corporation that allows you to describe and develop business models to create new strategic alternatives. In this way the business model can exist as an extension of strategic thinking of the firm, as a way of communicating common aims, and as a tool for imaging where and how value can be created.

The model is built up of the following components:

- ✓ Customer groups, segments
- ✓ Value propositions
- ✓ Channels
- ✓ Customer relationships
- ✓ Revenue streams
- ✓ Key resources
- ✓ Key activities
- ✓ Key partnerships

✓ Cost structure

The core business model is built up from the four components of customers, partners, revenue and value proposition (s). Missing one of these elements implies that business cannot exist. When planning for the model, sometimes we start from customers that we have identified and we think of what we value can offer them. Sometimes we have an offering and we are looking for the customers and sometimes our partnerships enable and help to create new ways of doing things. In both cases the probability is high that one needs to iterate between the main elements in the business model. It is clear that resources, activities, cost structures and the other elements are also critical and the model needs to be seen as a holistic one.

Customers

It is necessary to define the different groups of people or organizations that one wishes to reach and serve. Grouping customers into segments based on common needs, behavior, or other attributes helps to satisfy customers better. Conscious decisions must be made which groups to serve and which to ignore.

There are many opportunities to innovate in customer groups /

segmentation, through identifying new needs, behavior and other attributes. Customer groups make up separate segments if:

- ✓ The offer is distinct
- ✓ Distribution channels are distinct
- ✓ They require different types of relationships
- ✓ They represent different profitabilities
- ✓ And are willing to pay different aspects of the offer.

That being said, mass markets do not distinguish between segments or groups, relationship is with large groups with similar needs and problems. Niche markets cater to specialized segments, and relationships address the specific needs, ignoring all else, often as suppliers-buyers; and segmented markets cater to a series of slightly different needs and problems, with different value propositions. In turn, diversified segments exist when an organization serves very different customers at the same time and multi-sided platforms serve a single customer in different ways and at different stages. The important thing is to make a conscious decision where one wishes to operate.

Partnerships

Typically, ecosystems involve and engage multiple types of hybrid

(public private, small and large, for-profit and not-for-profit enterprises, in multiple types of relationships that can be competitive and collaborative at once. Different types of partnerships may include:

- ✓ Strategic alliances between non-competitors
- ✓ Cooperation: alliances between competitors
- ✓ Joint ventures to develop new businesses
- ✓ Buyer-supplier relationships.

When looking at the complexity of the actors in the ecosystem, the partnership issues often present a key challenge. The aims that organizations have to operate in ecosystems could be summed up in terms of optimization and economies of scale, where typically companies do not wish to own or do all by themselves. They reduce costs through outsourcing and sharing infrastructure. The reduction of risk and uncertainty through partnerships is important in competitive environments.

Firms also acquire new resources and are able to undertake new activities through extending capabilities, through the resources of partners, open innovation, licensing, and accessing customers. Ideally, these partnerships help to create scalable business models and to enhance the robustness/resilience of the business.



Revenue

Identifying potential revenue streams and pricing strategies are at the very core of business modeling. Conventional wisdom says that customers and cash are the foundations of business, and the model of finding customers and extracting cash from them is a constant process of experimentation. The more business networks are heading towards platform-type of business, the more important it is to experiment with revenue models. Typically, indirect and recurring revenue from multiple sources is becoming the norm in networked business.

We can typically use the following approaches to revenue generation in business models:

- ✓ Asset sales –Selling ownership rights to physical products
- ✓ Usage fees –Selling the use of a particular service
- ✓ Subscription fees –Selling continuous access to use
- ✓ Lending/renting/leasing –Temporarily granting right of use
- ✓ Licensing –Giving permission to use protected IPR
- ✓ Brokerage fees –Intermediations services between parties
- ✓ Advertising –Fees from advertising a product or service
- ✓ Fixed pricing –List pricing –Product feature pricing –Customer segment dependent price –Volume dependent pricing
- ✓ Dynamic pricing –Negotiation –Yield management/dependent – Real time markets set pricing –Auctions

Activities

As the fourth element to consider in business modeling, activities are fundamentally important, as activities are the engines that brings products, services and business models together and create the offering in practice. Without activities there is no offering and thus no business. Activities are dependent on human, financial and physical resources. The use and application of resources is limited by social constraints that thus also limit the activities that are possible.

Delivering to a real world

Product and service prototyping

Prototypes can be used to explore concepts, evaluate them or communicate the concepts to others. Exploration prototypes are quick mockups, while communication prototypes can be both functional and elaborate.

Prototyping is about people. Users (and developers) of future products, services or PSSs are often unable to articulate what they want the proposal to achieve, how this should be achieved, and what it would “look and feel” like. It is difficult to visualize business models from words only, and creating models that “act out” the PSS can be highly informative and able to make visible both the key benefits and the problems. Creating prototypes also enables developers to “play around” with the concepts and learn by doing on many fronts. Research has shown that the construction process of the prototypes is a way of learning, and trying to tease out especially the desirability aspect of the proposal is almost impossible without a prototype.

In the prototyping of the product/service, there is almost always a need to create a physical mock-up of the concept. Generally speaking the rapid analysis of new product/service concepts can be done on the basis of very rough models. Product prototypes can be roughly divided into three categories:

- ✓ Prototypes that show the desirability aspects of the product (i.e. a non-functional mockup that shows the product attributes and how users will relate to it).
- ✓ Prototypes that illustrate the functionality of the product (i.e. the technical feasibility, often through working prototypes).

Fig.3.2.8 Product And Service Prototyping

		Product Prototypes	Service Prototypes
Physical form (design material)	What is prototype?	Tangible	Intangible (sometimes tangible, using traditional prototyping methods)
Delivery of the product/service	How are the products/services delivered?	Consistent	Inconsistent (a bit different each time)
Time on the experience	What is the progression of the product/service/	-	Time-consuming (action and interaction of the end-user affects its understanding)
Validity of the evaluation environment	How similar are the test and implementation contexts?	Very Similar	Not very familiar, if the tests are simulated
Authenticity of behaviors and context	Who is involved in prototyping?	Authentic	Not authentic if using role play. Authentic if is done in real world, real people

Source: Vabre, V. 2015. *Service Prototyping in the "wild": Comparison of location-based & location independent Services*. MSc Thesis, Aalto University

- ✓ Prototypes that demonstrate the economic viability (often demonstrated through pre-production versions).

Prototypes that are useful in service design are linked to ones that can illustrate:

- ✓ The place where the service takes place, including the customer touch-points
- ✓ The flow of the service, or the customer journey
- ✓ The customer experience, or what the customer is expected to experience.

A great variety of tools can be used to prototype services (and PSSs, evidently). In many ways, products inside PSSs can be illustrated as “tokens” or proxies of the real ones. In some cases, any artefact can be used to illustrate how a product fits in the PSS being described, especially in the front-end mock-ups, which aim to illustrate the ideas and concepts, so that development works can be informed.

Prototyping services

Prototypes are often used to research the topic deeply. Some key tools to prototype services in PSSs include:

- ✓ Stakeholder maps: A usually visual representation of those who are involved
- ✓ Service safaris: Going out “to the wild” to see good and bad service experiences
- ✓ Shadowing: Immersing yourself in the lives of customers, front-line staff
- ✓ Customer journey maps: Creates a map of the touchpoints of a customer experience

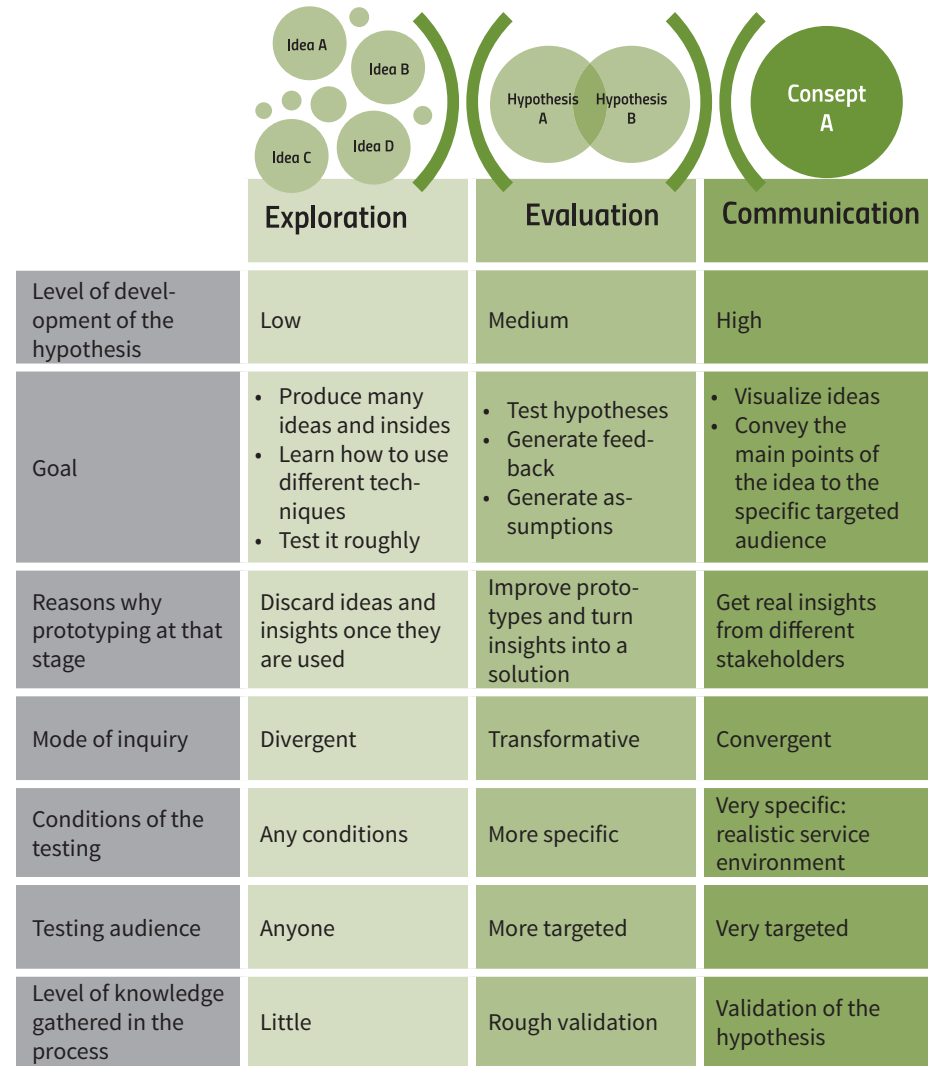
- ✓ Contextual interviews: Conducted in the real world environment and aiming to capture the influence of the real environment
- ✓ The 5 Why’s: A chain of questions to uncover real reasons behind
- ✓ Cultural probes: Information gathering packages with user participation and self documentation
- ✓ Mobile ethnography: Ethnographic research that takes place independently of site
- ✓ A Day In The Life: Walking through the daily activities of a an individual
- ✓ Expectation Maps: Charting what customers expect
- ✓ Personas: Making fictional profiles of users, customers
- ✓ Idea generation: Using structure and inspiration in group brainstorming sessions
- ✓ What IF?: A question posed to tease out outlandish scenarios
- ✓ Design Scenarios: Hypothetical stories with detail to explore an offering

Prototype testing

Similarly, just as there are methods to develop service prototypes, there are methods to test them. It should be noted that sometimes the testing method is only creating a way to demonstrate the prototype to an audience. Testing methods create usually extensive amounts of qualitative data that needs to be analyzed and used to create the next version of the prototype. How this data is captured will depend on each situation, but often it touches on methods which are close to marketing research (filming people doing things, visualizing data, open-ended interviews, observation, ethnography in general).

- ✓ Storyboards: A series of drawings or pictures that visualize a particular sequence of events. This might include common situations where a service is used to be used
- ✓ Desktop Walkthrough: A small scale 3-D model of a service environment. Helps to act out the service situation and to think about the spatial relationships in the service situations
- ✓ Service Staging: The physical acting out of scenarios of service situations by design teams, involving also customers and users
- ✓ Agile Development: Iterative project management methodology used to develop projects as they go along, adapting to situations
- ✓ Co-creation: A key method, can be used in both planning and testing
- ✓ Storytelling: Sharing insights through narratives
- ✓ Service Blueprints: A way to specify and detail every action that takes place in every aspect of the service and in the touchpoints
- ✓ Service Roleplay: Theatrical rehearsal method used to explore, generate and test ideas
- ✓ Customer Lifecycle Maps: Holistic visualizations of a customer's overall relationship with a service provider
- ✓ Business Model Canvas: Tool for describing, analyzing and designing business models.

Fig.3.2.10 Aims Of Prototypes



Source:: Vabre, V. 2015. *Service Prototyping in the "wild": Comparison of location-based & location independent Services*. MSc Thesis, Aalto University

ANNEX 1

ORGANIZATIONS BEHIND THIS TOOLKIT

Over the last four years, several organizations have contributed extensively towards the development of the Toolkit, including the Waag Society from Amsterdam, NUMA from Paris, Forum Virium from Helsinki, and Citilab and 22@Urban Lab from Barcelona, in addition to the academic partners of Aalto University from Finland and ESADE Business School from Spain and NIPA from Korea. We briefly introduce our partners in this section and summarize their key activities.

The World Bank ICT Group



The ICT global practice of the World Bank is helping developing countries harness the potential of ICTs to transform the delivery of public services, drive innovations and pro-

ductivity gains, and improve overall competitiveness by increasing access to broadband Internet. The strategy, and respective business plan of the ICT global practice for the next three years (2016-18), aims at: expanding digital connectivity by enabling the right policy and regulatory frameworks for a competitive ICT environment; strengthening the analog foundations of the digital economy, by building the necessary skills so people can effectively use the Internet; and improving global cooperation to address trans-boundary challenges like cyber crime.

Aalto University



Established in 2010, the Aalto University is a new university with centuries of experience. The Aalto University was created from the merger of three Finnish universities: The

Helsinki School of Economics, Helsinki University of Technology and The University of Art and Design Helsinki. Aalto University School of Science and Technology has been divided into four new schools starting from 1st of January 2011. The six schools of Aalto University are all leading and renowned institutions in their respective fields and in their own right. According to the Aalto University strategy, actions to enforce the plan of sustainable development are under way. Sustainable development is linked both to the University's own actions, and the contents of research and teaching. The Mission

of the University sets down an obligation to enhance sustainable development. According to this Mission, “Aalto University strives to change the world through top-quality interdisciplinary research, pioneering education, surpassing traditional boundaries, and renewal. The Aalto University educates responsible, broadminded experts with a comprehensive understanding of complex subjects to act as society’s visionaries.”

ESADE University



ESADE is one of the world’s most prestigious academic institutions. Its main richness stems from faculty and staff whose reflection, dialogue, projects and initiatives contrib-

ute to excellent training, relevant investigation and research. ESADE has agreements and collaborations with over 100 universities and business schools on five continents and is currently the European business school with the most extensive student exchange network in Latin America. ESADE offers Masters and PhD level courses in Management Studies that draw on the expertise of high profile academics, institutions and research centers/groups, who focus on entrepreneurship, innovation, leadership and governance, management, skills and knowledge, business social responsibility, economic law, branding, etc.

NIPA



NIPA, the National IT Industry Promotion Agency of Korea, devotes itself to reinforcing the competitiveness of the IT industry and contributes to the economic growth through

the efficient support and laying the groundwork for the industrial technology promotion. The major business areas of NIPA include supporting the policy research and development for the IT industry, helping to establish the foundation of the IT industry and cultivate its human resources, vitalizing the distribution market for the development of the IT industry and support marketing, promoting businesses related to the convergence and utilization of IT technology and supporting international exchange, cooperation, and overseas expansion related to the IT industry.

Waag Society, Amsterdam



creative learning lab
waag society

Founded in 1994, Waag Society, one of the oldest and largest independent Media Labs in Europe, is an extensively networked interdisciplinary non-profit media lab research-

ing and developing new technology, art and culture. Its mission is to engage in interdisciplinary work in the fields of Living Lab meth-

odologies, appropriation of technologies, empowerment of citizens, (Digital) Social Innovation, and acceleration and Incubation. The Waag Society has its roots in the Digital City, the first Online Internet community in the Netherlands, which aimed to make the Internet available to the public.

The Waag Society, hosting events in its medieval location, follows the method of Creative Research, which is experimental, interdisciplinary research. End-users have a large influence on final results; in close co-operation with end-users Waag develops technology that enables people to express themselves, connect, reflect and share. Waag projects have won numerous prizes for their visionary perception of the technological needs in society. Some of key Waag activities involve linking arts, science, technology & society, human-centered development, facilitating innovation processes. Within its regional context, the Waag Society brings together developer hubs as the HUB, Open Sate or Appsterdam, Innovation Labs such as Mediamatic.net, accelerators such as rockstart, and startup bootcamps and knowledge institutions. Within the international context, the Waag society has built a huge network of partners and is a member of several networks in the fields of Digital Social Innovation, Living Labs and Fab Labs.

NUMA, Paris



Located in the very center of Paris, NUMA (Numérique + Humain) - is a digital innovation hub association in the “Silicon Valley” of Paris. Formerly known as Silicon Sentier, NUMA’s

success story began with the opening in 2008 of La Cantine, the 1st co-working space in France. Le Camping, the 1st start-up accelerator in France followed in 2011. Renamed in 2014,

NUMA aims to help to grow business ideas with cutting edge tech startups providing methodology and mentorship to individuals, communities, start-ups and large companies. NUMA brings together under one umbrella community events, start-up acceleration, and innovation programs for corporations. These activities are carried out by NUMA Sprint, a 4 month-long residential program to accelerate business ideas; NUMA Engage, which supports the creation of content, formats and logistics for community events; NUMA shift, a 1-4 month long personalized program for large enterprises, and NUMA Explore, an open innovation sandbox of 3-6 months.

NUMA works is in close connection with local communities of developers, other incubators and accelerators, and Paris’ local startup and entrepreneurship scenes. NUMA has the support of the city of Paris, the surrounding Ile-de-France region, as well as private-sec-

tor players like energy giant EDF, French bank BNP Paribas, Orange, Google and the American office furniture makers Steelcase. That being said, NUMA has reduced its dependence on public funding, and currently more than half of its budget comes from private sponsors or revenue from projects and services. Its private initiatives, like the LeCamping accelerator, take 3% equity in startups accelerated at NUMA. Consultancy projects (Airbus is one of the clients) and real estate projects are other revenue pathways.

Urban Lab, Barcelona



In 2008, the city of Barcelona created the Barcelona Urban Lab with the goal of turning the city into an urban laboratory. The Urban Lab is part of 22@ Barcelona, a project to con-

vert 200 hectares of industrial land in the city centre into a district that fosters innovation through new collaborations among the public, private and not-for-profit sectors. At its simplest, the Barcelona Urban Lab enables businesses to run pilots and experiments in real urban settings. Pilots must be aligned with the objectives and priorities of Barcelona City Council, demonstrate benefits to the public and have an ability to solve unanswered needs. The Urban Lab focuses on new products and services, not those already in the market, and requires that all costs of testing be covered by the company. The Urban Lab aims to achieve four main objectives: Foster business innovation in 22@ Barcelona Enable companies to test innovative products and services so that if they prove their value

they can subsequently be commercialized Grow the pipeline of innovative products and services that can be procured by the city Create new products and services that improve urban life for the citizens of Barcelona. All of the Urban Lab's projects are on streets and in open spaces, and most involve the use of sensors. The Urban Lab sees itself as a gateway for companies to approach the City Council about running pilots or experiments that can improve the city. Companies with ideas for a pilot submit a proposal to the Urban Lab Board, which is comprised of staff from 22@ Barcelona and representatives from City Hall.

Forum Virium, Helsinki

**FORUM
VIRIUM
HELSINKI**

Founded in 2006, Forum Virium Helsinki (FV) is a non-profit enterprise owned by the City of Helsinki and is part of the City of Helsinki Group. It has a

focus on research and development of digital services that utilize user-driven innovation methods and public/private collaboration. The aim is to create new digital service innovation in cooperation with companies, public sector organizations and citizens, focusing on smart cities, open data and wellbeing services.

FV plays a key role in implementing Helsinki's Smart and Open City strategy. The main goal of FV is to develop the essential building blocks for the smart and open cities of the future. Innovation initiatives such as Smart Kalasatama, Helsinki Region Infoshare, Open Ahjo, Helsinki Loves Developers, Apps4Finland, CitySDK, and Code for Europe are examples of initiatives advancing Helsinki's Smart City Strategy.

The FV innovation projects focus on Smart City Strategies, new forms of media, growth company services and innovation communities (Living labs), working on topics such as open developers and SME engagement, innovation challenges, events, meet-ups, pilots and testbeds, open data & APIs, links to start-up network, and citizen involvement in city government.

The organization is connected to a large network of Nordic SME companies thanks to its Growth Program, which has helped it to add 30-50 companies around the world each year since 2006. Forum Virium Helsinki has been a partner in numerous successful European projects in the past, as a member of EIT ICT Labs and a founding member of the 300-member-strong European Network of Living Labs (ENoLL), Open and Agile Cities.

The revenue model of FV is based on project funds, which support its research structure. As part of the City of Helsinki Group, it receives basic funding from the City of Helsinki. Additionally, it receives membership fees from its partners.

Citilab, Barcelona



Citilab is located in Barcelona, Spain and was established in 1997. It was formally constituted in 2008 by the creation of the Fundació para el Fomento de la Sociedad del Cono-

cimiento, driven by Cornellà de Llobregat's city council. Citilab is based largely on the model of Living Lab, public-private entity where citizens, businesses, public agencies and research centers are all

involved in the innovation process.

Nowadays, Citilab is a center for social and digital innovation that exploits and spreads the digital impact on creative thinking, design and innovation emerging from digital culture. The project started with the idea that digital technologies, specifically Internet, are a way of innovation much more focused on citizens. Citilab was created to be a place to learn to use technology, but also a meeting point between the physical and the virtual world, to exchange innovative ideas and experiences related to new social networks and technologies.

Citilab has been promoting activities as a center for civic innovation, spreading the Knowledge Society using basically the design thinking and user-centered creation as methods of work. Citilab's uniqueness is that it incorporates the experiences of years of activity of civic networks in Catalonia in Living labs. Unlike conventional laboratories and research centers, Living Labs allow the creation and validation of technologies, products, services and business models in real, everyday environments and contexts.

CitiLab is a consortium composed of the Ayuntamiento de Cornellà de Llobregat, Generalitat de Catalunya, Diputació de Barcelona, WTC Almeda ParK, SANO, Fundació Catalana per a la Recerca i la Innovació, UPC, Siemens, Lluís Bayó Ortonoves and Antonio Morales Albarracín. Apart from these partners, Citilab has a strong connection with local stakeholders and European partners from the Open and Social Innovation Communities. The Citilab works with a budget which comes 50% from local government and 50% from projects and services and employs 40 professionals.

ANNEX 2

KEY CONCEPTS & REFERENCES

This section clarifies the main concepts used in this toolkit and provides a list of references where you can find relevant information about the topics. It also provides a list of other Design Thinking toolkits that are currently available.

Key concepts

Innovation

The successful application of new ideas in practice in the form of new or improved products, services or processes (Bruce & Bessant 2002). The concept implies the introduction of something novel (to the world or to the circumstance), useful (based on needs) and successful. Innovation needs to be socially accepted.

Innovation hubs

Local innovation hubs are here defined as platform services that are spaces and sets of activities for the facilitation and coordination and the generation, development and sustaining of active local innovation ecosystems. Many of these hubs involve activities and functions consisting of co-working spaces, maker labs, FabLabs, living labs and urban living labs.

Innovation system

A “triple-helix” system formed by government, universities or other knowledge creators and the private sector, enabling innovation on a national level. Innovation systems are often considered to be top-down systems.

Innovation ecosystem

A complex system that engages government, universities and private sector as well as users, clients, customers, non-governmental organizations and other grassroots actors. Innovation ecosystems are considered to be more bottom-up than traditional innovation systems. The essence of innovation ecosystems lies in collaboration between all actors of the system.

Business ecosystem

An economic community supported by foundation of interacting organizations and individuals. (www.businessmodelgeneration.com).

Business model

A description of business logic, the way a company operates, generates revenues, and creates value for its stakeholders. It helps to map out the matters related to the company’s core business.

Business model canvas (Osterwalder)

A visual model and exercise to understand and create business models. Includes the basic building blocks of the business model (customers, value, infrastructure and financial viability)

Creativity

The ability to combine ideas into new ways to solve problems and exploit opportunities (Bruce & Bessant 2002).

Design is the purposeful application of creativity throughout the process of innovation (Bruce & Bessant 2002).

Design Thinking

Complementary to analytical thinking, design thinking is a creative process based on building up ideas and thinking outside of the box and through “what if?” thinking. There are no judgments early on in design thinking. This eliminates the fear of failure and encourages maximum input and participation in the ideation and prototype phases. Often design thinking process is seen to have seven stages: define, research, ideate, prototype, choose, implement, and learn. Within these seven steps, problems can be framed, the right questions can be asked, more ideas can be created, and the best answers can be chosen. The steps aren’t linear; they can occur simultaneously and can be repeated.

Ecosystem model

A visual model to understand ecosystems. There are six main domains: enabling policy and leadership, availability of appropriate finance, conducive culture, range of institutional and infrastructural supports, quality of human capital and characteristic of markets. These domains are divided into 12 categories, which represent key components of a healthy ecosystem (after Isenberg 2010).

Entrepreneurship ecosystem

The business environment affecting the local/regional entrepreneurship. The ecosystem includes individuals, organizations and institutions.

Front-end innovation.

The pre-development phase of innovation where processes are not yet formalized. The phase is characterized by high uncertainty and ambiguity, but provides often the best opportunities to improve the overall innovation capability.

Niche markets

The subset of the market on which a specific product is focusing. The market niche defines the product features aimed at satisfying specific market needs.

Offering

The products and services a company offers for its customers. The offering creates the value for the client/customer/user.

Pipe business

Firms create products and services, and then push them out and sell them, and value is created upstream and consumed downstream. The conventional industry and dominant model of business until today (television, britannica, education systems, industry, services). Products & services have exchange value.

Platform business

Producers and consumers of services are not related to each other in a linear way, but operate on a joint platform (often through new technologies, e.g. the internet), which allow users / consumers to create value for themselves and other users / consumers (e.g. Wikipedia). Products & services have no value unless users use them.

Product-service systems (PSSs)

An offering of a mix of both products and services. PSSs as systems involve tangibles (the products) and intangibles (the services) in combination for fulfilling specific customer needs (in other words, close to the previous offering) and can provide higher profits than products (or services) alone.

Revenue logic

The mechanism that is used to generate profit from the operations of a company.

Stakeholder

A person, a group or an organization that affects or is affected by an organization's actions. In project-based business, a stakeholder has an interest in a project.

Value

Value can mean economic, social, psychological or ecological value. Different actors in the innovation ecosystem system might perceive the value in different ways. There are different value drivers for users, organizations/businesses, the ecosystem and society as large.

Value framework

Multiple level approach to value aims to help identifying of how, where and to whom is one proposing to create value and what is the nature of that value (den Ouden 2011).

Value proposition

A statement of all the benefits a company promises to deliver for its customer.

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