

People Researchers Organisations Using Design

A MODULAR BUSINESS PLAN FOR THE CREATION OF DESIGN INNOVATION HUBS

Produced by Designregio Kortrijk and Lancaster University within
the European project PROUD, supported by INTERREG IVB NWE

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The Modular Business Plan for the Creation of Design Innovation Hubs is created within the project PROUD - People Researchers Organisations Using Design for co-creation and innovation.

The project helps and supports designers to have the right facilities, knowledge and expertise to play a key role in innovating, improving and consolidating people's lives, businesses and public services across Europe. One of these facilities is the design innovation hub. To assist prospective hubs in setting up their business, PROUD created this business plan, which is modular and can be adjusted to a variety of contexts and business propositions.

PROUD is a European project, focussing on the transnational development of methods for co-designing services, products and processes that address unmet needs, made possible by European Regional Development Funding through the INTERREG IVB NWE programme.

This document is made by Designregio Kortrijk in close collaboration with Lancaster University who conducted the study research.

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CHAPTER 1: INTRODUCTION

The European project **PROUD** stands for **P**eople **R**esearchers **O**rganisations **U**sing **D**esign for **c**o-**c**reation **a**nd **i**nno**v**ation. PROUD works with partners across Northwest Europe to bring designers together with public organisations, business, researchers and user communities to experience the value of design whilst working together on innovative solutions for today's real world problems. PROUD is made possible by the INTERREG IVB North-West Europe programme.

PROUD Design innovation Hubs and Co-Design

Within PROUD, facilitating and supporting open design innovation is a key objective. Therefore several project partners have set up innovation hubs, places for public bodies, SME's, designers, researchers and user communities to experience the value of design and co-design whilst working with innovative materials and methods. The results vary from fablabs in Luxembourg, Kortrijk and Lancaster to a network and workshop space in Eindhoven and a Design Experience Lab in Essen. They are inspiring places setting great store by knowledge exchange, network, collaboration and co-creation, and with success.

Modular Business Plan for Design Innovation Hubs

In order to help potential hubs with setting up there business, PROUD partners Designregio Kortrijk and ImaginationLancaster have created a modular business plan to guide other organizations starting up a sustainable design innovation hub. This document presents the in-depth study completed by researchers at ImaginationLancaster, Lancaster University, and the modular business plan which resulted from their research, as well as a chapter on design procurement, including a procurement model, designed by Culminatum Innovation, Helsinki.

As this research will demonstrate, there is no one specific business model that can be applied to all design innovation hubs. For this reason, in this document, different business models for various value propositions are presented; combined with strategies for marketing communicating, network plans and revenue streams. These various business models together form the Modular Business Plan.

As each hub has different internal and external environments, it is important to allocate services according to each hub's current situation, in order to self-sustain in the long term. The modular business plan is very flexible, because hubs might focus on one service, or select two or three of them, in order to produce a new business plan.

Toolkit for designing a business plan

At the end of the document a comprehensive toolkit is added for future hubs to use in order to create their business plan. The toolkit is linked to the more in-depth descriptions in this document, and can be used as a fast reference and as a first idea generation tool for starting-up hubs.

Combining the flexible modular business plan and the visualised guidelines will prove helpful for design innovation hubs to develop their strengths to achieve the hubs' sustainability.

IN-DEPTH RESEARCH INTO INNOVATION HUBS

By Immagination Lancaster (Chen Pei-Ju, Liu Li-Lin, Zhang Junru)

The development of innovation hubs

Batho (2012 p.2) is right when he says that although Innovation Hubs have different demands, potentials and impacts depending on their different industry areas or communities, any successful Innovation Hub should achieve four objectives that are:

- (1) Through building a network for "collaborative knowledge exchange and research activities", innovation hubs can help their stakeholders solve problems that they have defined, increasing the opportunities of co-creation innovation.
- (2) In order to maximize the benefits for those involved, innovation hubs should play a role in accelerating the communication between academia and industries and encourage highly interactive "two way knowledge exchange".
- (3) By offering an environment to enhance the collaboration among people, innovation hubs would be able to support the economic, cultural and sustainable development for our future generations.
- (4) Innovation hubs can not only create communicating channels but also simplify the process of innovation by efficiently adopting existing knowledge, expertise and support from various stakeholders in order to make knowledge transfer spread widely.

Design innovation has become more and more important for economic progress in the recent years. Innovation is a process that brings new ideas into market and design can create difference and add value to the new ideas. However, how to self-sustain is the biggest challenge that most design innovation hubs face.

CHAPTER 2: RESEARCH APPROACH

The research for the modular business plan used a three-step method:

[Step 1]: Desk research on the academic papers, to identify

- (1) What is the design innovation hub
- (2) What is the business model
- (3) How to design a business model
- (4) The current business models of design innovation hubs and the challenges they face

[Step 2]: Desk research on the websites of 30 design innovation hubs, to confirm and have a deeper understanding of the hubs value proposition.

[Step 3]: Field-research on design innovation hubs in Europe

- (1) Observe the environment of these design innovation hubs from their website, in order to know what kind of value they have and capture in a more practical way.

- (2) Interview with the managers of the selected design innovation hubs, focusing on what kind of business models those hubs use, how they generate value and what kind of problems they meet at present.

By using this three-step research method, it can help us understand the situation of the design innovation hubs in depth, identify gaps and opportunities of the existing business model in order to develop a new modular business plan for design innovation hubs to self-sustain.

CHAPTER 3: DESIGN INNOVATION

HUB - FAB LABS

3.1. DESIGN INNOVATION HUBS

PROUD has described the main objective of the design innovation hubs as supporting open design innovation with people or organizations from different sectors, so it should be a place to be used for co-designing, testing and sharing ideas, and making rapid prototypes. To achieve these goals, the design innovation hubs may be a physical space including some of following facilities: Fab Labs, co-design spaces, exhibition space, seminar and educational facilities, incubator space for start-up creative businesses, and retail environment (Cox, 2005; PROUD, 2013). In the recent years, there are some design innovation hubs that have been established around the world to promote innovation by design. Every design innovation hub has its own characteristics and provides various services for different target groups. (1) Venue hire; (2) Host events; (3) Research; (4) Establish network; (5) Making are the five most common offers that design innovation hubs provide.

(1) Venue hire

Venue hire is another function for design innovation hubs, many design innovation hubs rent exhibition space for designers to show their works (The Light House, 2013) and provide office space for creative start-ups (IdcN, 2013; Northern design center, 2013).

(2) Host events

Many design innovation hubs hold events to promote innovation, including co-design activity (Capital D, 2013), speeches or talks (The Light House, 2013; Hong Kong Innovation Center, 2013), design workshops (The Light House, 2013, BUDA::lab Kortrijk), and the innovative training program for companies (Culminatum Innovation, 2013).

(3) Research

The design innovation hubs do research in two ways, one is to do research on the design and innovation related areas, and to sell that data; another way is to do research with clients, and help them develop new products or services (Waag, 2013).

(4) Establish network

There are two main types of network, one is the network to link designers and firms (The innovation centre for RCA graduates and business, 2013; MAD Brussels, 2013), and the other is the network for designers to interact with each other (Capital D, 2013).

(5) Making

Design innovation hubs provide facilities to help people make their idea realistic in a short time, and encourage people to share ideas with others (Fab Lab UK, 2013; Waag, 2013, BUDA::lab Kortrijk, Fablab Luxemburg).

This background research shows that there are different kinds of design innovation hubs related to the diverse services they provide.

3.2. CASE STUDY: FABRICATION LABORATORY

(FAB LAB):

The origin of Fab Lab (2001) emerged from Neil Gershenfeld, director of MIT's Center for Bits and Atoms. He taught in MIT "How To Make (Almost) Anything" and started the development of personal fabrication. They use technology and digital fabrication to provide people their unique needs at small cost. Fab Labs include among others a laser cutters, plotters, milling machines, electronic workbenches, 3D printers, 3D scanners, 3D modeling software,...

Thirteen years later (2014), the international Fab Lab network consists of over 417 Fab Labs in about 70 countries. The Fab Foundation was formed in 2009 to

facilitate and support the growth of the international Fab Lab network. Many Fab Labs are registered on the website of the international Fab Lab community: www.fabfoundation.org. As well BUDA::lab as Fablab Technoport Luxemburg are listed as a Fab Lab on this website.

This website consists different useful information to start and operate a Fab Lab as: what is a Fab Lab, what qualifies as a Fab Lab, the Fab Charter, setting up a Fab Lab (Space, the hard- and software, the people, program, community, the funds,...)

3.2.1 THE FAB CHARTER

The Fab Charter¹ gives a detailed view on the central concepts of Fab Labs:



The Fab Charter

What is a fab lab?

Fab labs are a global network of local labs, enabling invention by providing access to tools for digital fabrication

What's in a fab lab?

Fab labs share an evolving inventory of core capabilities to make (almost) anything, allowing people and projects to be shared

What does the fab lab network provide?

Operational, educational, technical, financial and logistical assistance beyond what's available within one lab.

Who can use a fab lab?

Fab labs are available as a community resource, offering open access for individuals as well as scheduled access for programs

1) Textbox: The Fab Charter; Neil Gershenfeld 2012; <http://fab.cba.mit.edu/about/charter/>

What are your responsibilities?

safety: not hurting people or machines

operations: assisting with cleaning, maintaining, and improving the lab

knowledge: contributing to documentation and instruction

Who owns fab lab inventions?

Designs and processes developed in fab labs can be protected and sold however an inventor chooses, but should remain available for individuals to use and learn from

How can businesses use a fab lab?

Commercial activities can be prototyped and incubated in a fab lab, but they must not conflict with other uses, they should grow beyond rather than within the lab, and they are expected to benefit the inventors, labs, and networks that contribute to their success

3.2.2. DIFFERENT BUSINESS MODELS OF FAB LABS

In fact, there are many different types of Fab Labs, but each Fab Lab has its own business model to self-sustain. Grøthaug (2011) reports similar opinions about the business development of Fab Lab and proposes three business activities to increase revenue : selling products, creative courses about how to design or prototype products; and rental income of machines or space.

Apart from these three methods, **TechShop's** (TechShop, 2013) membership system is another approach to help people prototype their design.

Techshops² are commercial workshops (<http://www.techshop.ws/>). Compared to Fab Labs, they have an extensive set of machines and tools and offer many courses to their visitors. Techshops charge their visitors

a monthly fee of USD 100 and gives them free access to the machines and workshops and to their courses in return.

Fab Lab Iceland reports 4 business models for Fab Labs³:

1. The Enabler business model: launch new Labs or provide maintenance, supply chain or similar services for existing Labs.

2. The Education business model: a global distributed model of education through Fab Lab (with the Fab Academy) where global experts in particular topics can deliver training from local Fab Labs or even from universities/businesses via the Fab Lab video conferencing network. P2P learning among users is also part of this business model.

3. The Incubator business model: provide infrastructure for entrepreneur to turn their Fab Lab creations into sustainable businesses. The incubator provides back-office infrastructure, promotion and marketing, seed capita, the leverage of the Fab Lab network and other venture infrastructure to enable the entrepreneur to focus on her areas of expertise.

4. The Replicated/Network business model: provide a product, service or curriculum that operates by utilizing the infrastructure, staff and expertise of a local Fab Lab. Such opportunities can be replicated, sold by and executed at many (or all) local Labs, with sustainable revenue at each location. The leverage of all Labs in the network simultaneously promoting and delivering the business creates strength and reach for the brand.

Clearly, Fab Lab provides an environment to enhance

collaboration among different groups of people and to give people the joy of learning through creation by themselves. Also, Troxler, Schweikert and Scheidegger (2010) identify the business model for Fab Lab whose core values are to use the production facility to support people's innovation through delivering services such as design thinking, access and training. Therefore, Fab Lab in this case can be extended to a social innovation laboratory, which presents the benefits coming from open space, design thinking, collaborative network and knowledge exchange.

The report "The Fab Lab Life Cycle⁴ - Report of the FAB10 workshops - Barcelona 2014" describes thoroughly each of the Fab Lab life cycle stages:

- Conception: How to start, paperwork, funding and all issues until the lab goes live
- Early childhood: challenges during the first year
- Coming to age: management issues, professional PR and advocacy, service development
- Fostering new businesses: supporting the creation of new products, processes and organizations
- Surviving: Funding, business model, good practices, community building

2) The Fab Lab Life Cycle – Report of the FAB10 workshops - Barcelona 2014 – Pieter van der Hijden & Beno Juarez

3) Business Models for Fab Labs: Open2pdesign.org - <http://www.open2pdesign.org/2011/fabbing/business-models-for-fab-labs/>

4) Pieter van der Hijden & Beno Juarez

3.2.3. BUSINESS MODEL CANVAS OF FAB LABS

The report "The Fab Lab Life Cycle" describes 7 blocks of the Business model Canvas Fablabs⁵ :

Business Model Canvas - Fab Labs

Key Partners	Key activities	Value propositions	Customer segments
Municipality	Service management is the most visible one, because it delivers services to the outside world.	1. Giving access to the machines	<ul style="list-style-type: none"> • Tinkers • Technopreneurs (students, professionals, companies)
Chamber of commerce	Knowledge management, should be included, because it helps the Fab Lab and its visitors to know the state-of-the-art, to reflect on their own experiences, and to make their lessons learned available for other visitors and outsiders.	2. Organizing tours or short activities for one time visitors, like museums do	<ul style="list-style-type: none"> • General public • Schools • Community organizations
Museum	Technical infrastructure management is indispensable as keeping the machines up and running as well as the computers and the software is essential for daily operations.	3. Teaching and facilitating tinkerers; offering a range of courses and workshops on all aspects of design and making, especially in using the Fab Lab facilities; these might be part of formal education as well	<ul style="list-style-type: none"> • Tinkers (from all ages and backgrounds) • Technopreneurs • School groups • Corporate groups • Master classes for professionals • Executive course for managers, policy makers
People/partners who help the Fab Labs and/or their services up and running	General management includes the external representation, public relations, marketing, human resource management, housing, finance etc.	4. Coaching inventors; helping to develop new prototypes and guiding them to the market 5. Participating in research and development projects with other Fab Labs; the Fab Lab network is a global distributed research and development system 6. Consulting to other Fab Labs in how to set-up the lab; consulting to the external world, in fact acting as an engineer consulting firm 7. Producing for the external world, using the machines to produce	<ul style="list-style-type: none"> • Individual technopreneurs (students, professionals, companies) • Project groups of technopreneurs • Main contractor and its client • Fab Labs • Schools • Companies • Government agencies • Wholesale

Key Partners	Cost structure	Revenue stream
Staff - In theory, a Fab Lab complying with the CBA specifications, and operating full-time, would require about 4 staff members at master and/or bachelor level and from different backgrounds. However, in practice, the variance between Fab Labs in number of staff, qualifications and status (paid versus volunteer) is rather large. As no all-round Fab Lab staff training program exists, there will always be a need for learning and training of your staff; this will cost time and money.	The initial costs of a Fab Lab mainly are housing, workspace and installations, machines and tools (including computers), an initial supply of materials / components, office facilities and other costs (e.g. the costs of the project itself). The initial costs of machines and materials may vary from USD 5,000-10,000 for a grassroots Fab Lab, up to USD 50,000 - 100,000 for a Fab Lab complying with CBA specifications (and much more for super Fab Labs at university level).	Free on some days, paid on other days; better than free services is asking some change in kind, like documenting or cleaning. Free, small fee or voluntary gift. Contract with school, vouchers from school, tuition fee
Technical infrastructure - The technical infrastructure of a Fab Lab consists of the machines and tools and an initial supply of materials and components. The following table refers to three different inventories. Many Fab Labs follow the Fab Lab Inventory by Neil Gershenfeld (CBA), and even extend the common base set with dedicated machines corresponding to their "signature", e.g. embroidery machines in one case, a large metal workshop in another.		Based on fixed price proposal, paid by hour, paid by government agencies via distributed vouchers
		Depending on sub-contracts, grants and aid, especially related to development or disaster relief
		Based on fixed price proposal (or in kind); paid by hour
		Wholesale price for products sold

3.2.4. UNIQUE SELLING PROPOSITION OF FAB LABS⁶

What is unique about the Fab Lab? Which characteristics should be protected and developed further? In our view, Fab Labs in general are unique thanks to:

- the **combination of machines**, tools and software
- the **combination of knowledge** on both design and making, both the bits and atoms, both theory and practice, both the old materials, tools and processes and the new ones,
- the **combination of people**, not only the Fab Lab staff, but also the heterogeneity of people and organizations coming together in the Fab Lab, meeting and inspiring each other and collaborating eventually,
- the **culture of learning by making**, innovating, sharing and collaborating,
- the **focus on open and participative design**, digital

manufacturing, open source hardware and software, dedicated user interfaces, the internet of things and advanced uses of ICT,

- the **Fab Lab worldwide network**, its diversity of people from many socio-economic backgrounds, their knowledge and experience and the network as a platform for distributed research, development and productions
- the **track record of creating feasible solutions** for social-economic issues e.g. derived from almost all the Millennium Development Goals 2015 and the proposed sustainable development goals for the years to come.

Examples of Fab Labs are described in Chapter 4: Field Research in 4.2.8 Case study 8 - BUDA::lab and 4.2.11. Case study 11 - Fab Lab Technoport Luxembourg

5) Based on the document: The Fab Lab Life Cycle – Report of the FAB10 workshops - Barcelona 2014 – Pieter van der Hijden & Beno Juarez

6) The Fab Lab Life Cycle – Report of the FAB10 workshops - Barcelona 2014 – Pieter van der Hijden & Beno Juarez

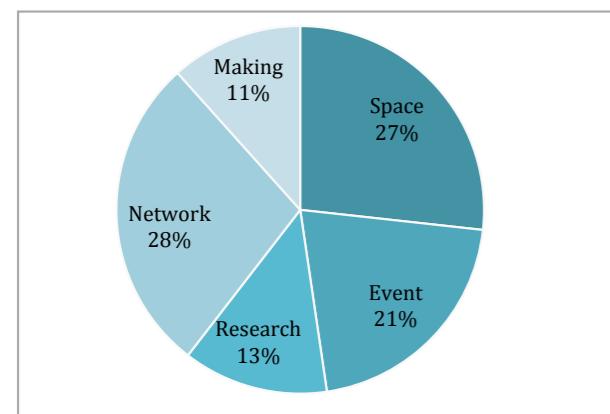
CHAPTER 4: FIELD RESEARCH

4.1. RESEARCH ON 30 DESIGN INNOVATION HUBS

In this research part, over 60 design innovation hubs around the world (over 80% of hubs are based in Europe, the others come from Asia, Africa and America) are searched based on the definition of the design innovation hubs found via the literature review. The researchers aimed to gain more information about the current business models used (e.g. what kinds of value proposition, resource, key customers etc. used by the hubs currently) in order to compare and do further analysis with the result of the literature in [research step 01] desk research, as well as to confirm and further understand the characteristics of these models based on the value propositions. However, since all the data comes from the hubs' homepages or relevant online websites such as newspapers, journals etc. the information is not quite completed; only 30 design innovation hubs were appropriate for analysis via the business model canvas.

An online analysis of 30 design innovation hubs' data of business models shows that: Since the hubs always contain different value propositions in one hub, the sum of the number of the samples (Figure 5.1.1) is not 30 hubs.

Figure 5.1.1. The number of 5 key value propositions among 30 design innovation hubs (Confidence intervals 95%)



Space	Event	Research	Network	Making	Hub samples
23	18	11	24	10	30

Based on the 5 value propositions (offerings) of the design innovation hubs 'network and space' are popular value propositions (offerings) among all the design innovation hubs, 28% of network and 27% of space. On the other hand, just one-third of the hubs focus on providing making and research, 10% and 13%, respectively. The number of 'event' (21%) shows that over half of the hubs would host this kind of activity.

Figure 5.1.2. Different value propositions and the contents

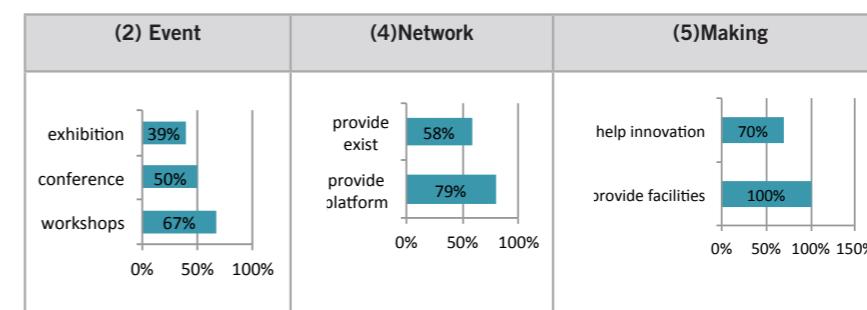
(1)Space	(2)Event	(3)Research	(4)Network	(5)Making
Provide own space	Workshop	Selling research results	Help form connection	Provide facilities
Provide venue hire service	Conference Exhibition	Help research process	Provide platforms	Help skill

Looking at each of the data separately, each value contains different content (Figure. 5.1.2). For instance:

- (1) Space could be separated into two types; the hubs provide their own space for users or they provide relevant venue hire services.
- (2) Event could be held in various ways. In this research we sort it into three contents: workshops, conferences and exhibitions. Activities, such as training or lectures, are just some different approaches of host workshops or conferences.
- (3) Research could be offered in two different ways, just selling the research result or helping target people go through the research process and get the result together.
- (4) Network with the target people, sometimes, just directly gain from the hubs, but some hubs could just provide platforms for P2P connection.
- (5) Making mainly run as Fab Lab, focusing on providing facilities or helping people develop skills. This can provide experts to instruct users on how to use facilities and also to give advice on the design specify.

From the 30 hubs' data, not all the percentages of the proposition could be figured out, such as space and research, since it is hard to know exactly whether they own the space or not; and do they just sell the research result from their website. Other propositions, such as event, network and making, have their percentage result shown in the Figure 5.1.3. It shows that workshops, providing a platform for connection and providing facilities are more common services that the hubs provide.

Figure 5.1.3. Five key value proposition contain different content (Confidence intervals: 95% Standard error: $\pm 2(0.01557) = \pm 0.03144$)



Whereas, the results show the hubs often use more than one of all the 5 value services. For instance, the hubs with two or three value propositions form the majority of the chart in (figure 5.1.4). Even the different contents of each proposition could all be offered in the same hubs (figure 5.1.5).

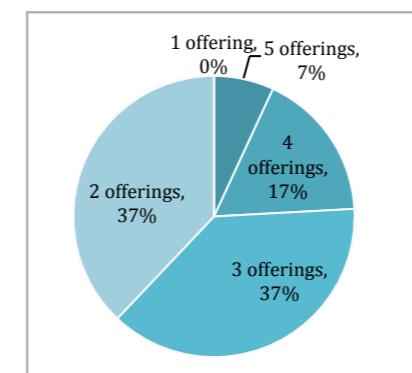


Figure 5.1.4. The percentages of hubs combine different numbers of value proposition (offering) (Confidence intervals: 95% Standard error: $\pm 2(0.01557) = \pm 0.03144$)

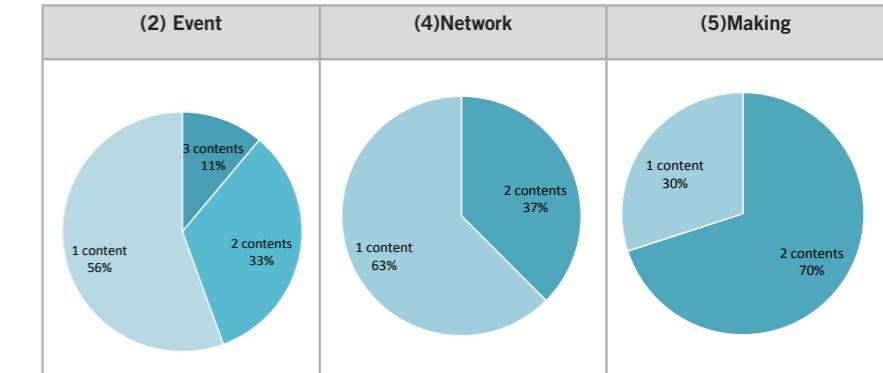


Figure 5.1.5. The percentages of different content combine in the same hubs (Confidence intervals: 95% Standard error: $\pm 2(0.01557) = \pm 0.03144$)

4.2. INTERVIEW CASE STUDY

Based on the [Step1] desk research, literature review and [Step2] online website research of the design innovation hubs, the concept, features and the current situation of the hubs and its business models have been clarified in general. However, the issues, such as how the business models running in the hubs, the resources, stakeholders and revenue streams etc. cannot be known just from the book or website. Thus, the researchers in [Step3], using face-to-face interview to deepen their study on the design innovation hubs in Europe. In order to know in details how the business models work in their hubs and visualized through the business model canvas, as well as try to find the gap and feasible solutions. The researchers summarised the key information below and map their business model.

4.2.1. CASE STUDY 1 —

LITTLE MOUNTAIN

Little Mountain is a 7 years old design innovation hub, located in the Netherlands. Focusing on creating an incubator for start-up entrepreneurs by establishing a network, mixing and within different disciplines, among governments, development companies, universities, and the spaces' landlord.

They believe in "working together" and treat it as the core idea of their business model. Thus the collaboration of the hub is based on "all the participants focusing on one project (goal)" but through a different approach. This could strongly ensure multiple collaborations. For instance, on the start-up entrepreneurs' part, taking part in the project, they could gain workspace (need to pay venue hire), training and network in three years and prepare further steps of their enterprises. On the mature firms part, those young entrepreneurs are good human

resources for them to make the project successful. The project in the hub could also attract government funding and university collaboration. The landlord of the building is also willing to rent a big place out as well. Therefore their key activities are how to create and maintain collaboration through design an attractive project or goal. In the mean time these networks, as well as designed workspace, become an attractive offering or USP to increase and enhance the collaboration. So far, as the manager said, this business model has shown the ability to help business grow. However, it is highly related to the power of lobbying.



Figure 5.2.2.1. The environment of Little Mountain (Source: Little mountain website)

4.2.2. CASE STUDY 2 — STRIJP-S

Strijp-S has 800 square meters of space to renting to different independent professionals in design and technology disciplines. Currently, the fee of the venue hire might be the cheapest one in that area. They began five years ago. At the beginning of the business, they were funded by the local government when the funding stopped after one year they got enough money and became self-sustaining. It could be a shortcut case in this research.

Similar to Little Mountain, they also have an agreement with the landlord, and become a middleman between the tenants and the owner. When the occupancy rate is higher than the agreement, they have to pay extra money to the owner or make the relevant investment. However, in contrast to Little Mountain, they just focus on gather target people to rent, so far. As the manager said,

"the number of people who rent this place is the most important. Others I do not very care." Moreover, they provide multiple choices for the tenants, not only the big spaces with large desks for long-term renting, but also some small table in the middle of the corridor of the whole workspace for temporary use. This component of the business model seems to provide more income opportunities

Although they intend, and have begun to try, to collaborate people in the hubs to working on some particular project, this has not become the main part of their business model. As the manager said, all of the tenants have their own business to do.

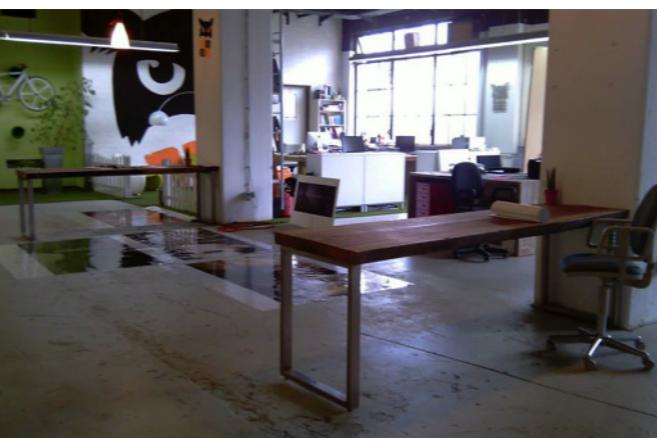


Figure 5.2.3.1. The environment of Strijp-S

4.2.3. CASE STUDY 3 — WAAG SOCIETY

Waag Society is an organization combining three components (art, science and technology) to accelerate social innovation among the public, companies and the communities by developing creative technology. Their aim is to use research as a trigger to explore the possible business opportunities in introducing better services into people's lives and establishing open source environments to create long-term benefits among stakeholders.

They provide various kinds of services for the public and SMEs such as free use of machines at the Fab Lab, knowledge-sharing services about innovation, open data and education, research programs for prototyping,

and business-consulting services. They also provide six categories of research project to look for new service opportunities.

Research results from programs can provide tangible solutions. Also, prototypes can bring further ideas to improve their products. Actually, the research labs require people to spend considerable time on learning through creation, so it is not easy to maintain a long-term relationship with the public. However, having six areas of research can be a differential feature to create cross-disciplinary research environments. The main income may come from projects' financiers, the margin of selling their products and services, or selling research results. Regarding key partnerships, Waag Society requires various partners and financiers in different aspects of industries or organizations. When considering cost, salaries and overhead fees accounted for the largest portion of their spending.

In an interview of Waag Society, a manager said, "we want to establish trust in these facilities, foster a close philosophy driver of research, which means we do not know what comes out, but we know something we can adopt". Thus, this research-based hub has an ability to takes advantage of social innovation to find solutions and search for business opportunities from the external environment. With the construction of infrastructure in terms of IP (Intellectual Property), cost searching agreement, legal consideration and business service, it can create a fair and open sources platform for clients in order to develop a long-term and sustainable economic development.



Figure 5.2.8.1. The connection of research and social innovation (Source: WAAG society website)

4.2.4. CASE STUDY 4 — SNIJLAB

Snijlab is located in Rotterdam, Netherlands, it was opened two years ago, it provides a professional cutting service mainly for artists, product designers and architects. The laser-cutting machine of Snijlab was built by themselves, so they can have a competitive price. Alongside the cutting service, Snijlab also have a design consultancy service to help people make a rough idea into a real product, this service is still under development, so it is not the business model at present.

Snijlab have very a different market share with Fab Lab, Snijlab is a place for production, people can pay to get a fast and professional service from Snijlab, as the manager in Snijlab said), “Fab Lab is very laboratory, you do thing by yourself, you use different machine, and get help from different people. There are some people wouldn’t able or don’t have time to go to Fab Lab, for these people, we provide high quality service” Although Snijlab is a profit organization, they almost don’t spend any money on advertising, they believe in the power of word-of-mouth, so they just experiment with the different possibilities of the technology and material, then develop promotional products to show people what they can do. They also organize workshops, which the participants can attend for free, this is because they want to use workshops to expand their network, and engage with more people.

In the future, Snijlab wants to separate into two independent companies; one is a production company, only providing a cutting service for professional people, in their plan, they wish this company to be running complete online. The other company Snijlab want to have is a design consultancy, which helps clients build bridge between design and manufacture, Snijlab have the knowledge of both, which is very rare in the market at present.



Figure 5.2.5.1. Snijlab built laser cutting machine by themselves and provides professional cutting service

To achieve the above plan, they have one difficult problem in that they do not know how to transfer experts' experience to their employees and maintain standards, so they are still looking for a way to overcome this issue.

4.2.5. CASE STUDY 5 — STADSLAB ROTTERDAM

P.T. is a researcher at the intersection of business administration, society and technology. He has a great knowledge of business models of open-source related areas, and various experience in building and operate Fab Lab. During the interview, he gave us a lot of information about Fab Lab from his own experience. Fab Lab offers small workshops providing facilities for people to making things by themselves and share their ideas with others. Most Fab Labs are open to public, and use different business models to self-sustain, the most common one is to use a membership system to get profit, only members can use the lab's facilities, and people have to pay to become a member. Another common way for Fab Lab to self-sustain is to work with companies, get funding from them, and then become a commercial partner. Beside those two usual models, there is a new emerging model: some Fab Labs ask people to pay in time instead of money; people who work as volunteer in the Fab Lab can use the facilities in the lab for free for the same amount of time they work there, it can help Fab Lab save cost on salary, which is the largest cost of Fab Lab.

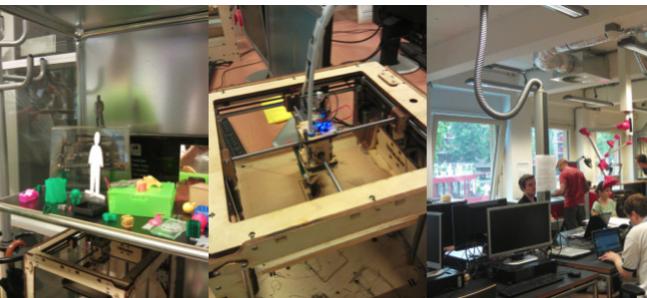


Figure 5.2.6.1. Interview P.T. in the Stadslab, which organized by him

No matter what kind of business model Fab Lab use, the most important factor for Fab Lab to self-sustain is to build a community of users, like P.T. said when talked about the challenge of build new Fab Lab, “*In general, the most difficult and important is to build the community of users. Find machine, money, space is relative easy, but finding the right people who have interest and would like to come to make the interesting project that the most challenge.*” Users can create value, and the community can bring more people to the lab. The easy way to build the user community is to find the people first, then build the Fab Lab for them. Now, the number of Fab Labs doubles every 18 months around the world, but in the future, the form of Fab Labs will very possibly be different, as P.T. said, “There are various roads to be imaged in the future, unlike now people go to a lab to do their stuff. One could be the kind fabricator, that the machine is more advanced and the lab becomes more professional for some people. The other could be that the big industry notices Fab Lab is eating their market, so they start to fight with it (Fab Lab).” It is very hard to predict which kind of Fab Lab will be successful or will fail in the future; the best way to study the possibilities of Fab Lab is really to build one.

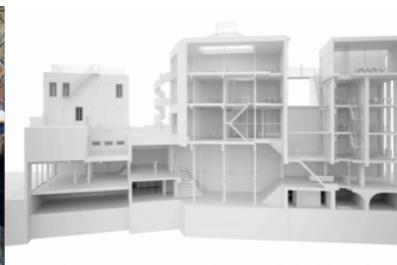


Figure 5.2.7.1. The promotion of local designers (Source: MAD Brussels website)

4.2.6. CASE STUDY 6 — MAD BRUSSELS

MAD Brussels is a non-profit organization funded by the government created in 2010 exploring exploitation in the fields of design. The aim of this hub is to help local fashion designers present their works on national and international stages, stimulating the development of fashion design in Brussels.

There are three offerings this hub provides for designers, which include providing funding, organizing events to promote designers abroad, and finding jobs. Therefore, their direct customers are designers, while indirect customers are the companies or manufacturers in design fields. Providing knowledge in terms of marketing and business development and helping designers to achieve their goals are the main service this hub can create. The main channels through which they choose to deliver services are face-to-face consulting service, events and exhibitions. As a manager in MAD Brussels said, they think hosting events is the best way to help their native designers. As this hub is based in the government, it can not only get funding, but can also take advantage of some government resources such as the latest databases, information and existing networks to promote Brussels fashion design. Also, providing 10 hours of free professional coaching services focusing on fashion, design and finance is another feature that supports designers directly. Although it is totally funded by the government, there will be a rental income for self-sustaining once the new building is available in 2017. However, the government, creative and manufacturing centres and Fab Lab are their key partners when they provide services.



Therefore, MAD Brussels can be an event-oriented hub because well-organized events can attract more people to exchange their knowledge. Launches different subject events, conferences and workshops can help to promote the hub's reputation and Brussels design internationally.

4.2.7. CASE STUDY 7 — SEATS2MEET

Seats2meet (S2M) was set up in 2007. It offers a free co-working environment instead of a traditional organization in order to foster the collaboration of networks among the public. Their aims are to create a physical space and a virtual platform for users to increase the opportunities of interaction; combining various features such as education, service, social innovation and a unique business model into this hub. This combination of different components results in a boundless and cooperative place for learning, working and exchanging creative ideas. With this connectivity among people, different characteristics of clusters can be developed and this network-oriented hub would be able to contribute sustainable benefits for stakeholders. As a manager in Seats2meet explained, “because people who are coming here, the ranges are very broad or their knowledge, you have a lot new influences in it, new ideas coming from this networks”.

This hub provides free Wi-Fi workspace, free coffee and food, and event spaces for the public and companies, where people can connect and cooperate with others from different backgrounds, which creates added value within this network. There is well-designed software to support the interaction, communication and reservation service among users, and hosting events is another channel to develop the relationship as well. Thus, the key resources in this case are an easy-to-use, interactive

registration software, working spaces, meeting rooms, food and drink. However, methods of promoting their space and maximizing space utilization play an essential role in impacting their revenue. The relevant activities in operating this hub may relate to venue maintenance, the efficiency of the reservation system, and the preparation of hosting events. With regard to their key partners, software developer is an important role to support this hub, and the public and other branch owners can also give valuable opinions on improving the operation of this hub. Its cost structure mainly consists of two points; one is the regular cost of business operation, the other is the software cost of each user.



Figure 5.2.9.1. The free co-working area (Source: Seats2meet in Eindhoven)

Therefore, this network-based hub uses a virtual platform as a tool to connect people and also provide a physical, flexible, free co-working and meeting space to enhance the quality of interaction. It makes people co-create their own experience within networks, building up links with different groups of experts, resulting in a more efficient way of communication, learning, exchanging knowledge. Owing to the freedom of the space, the hub can differentiate its' service with others and is more able to take advantage of social innovation as a unique selling proposition for self-sustaining.

CASE STUDIES PROUD PARTNERS:

Within the PROUD project, 5 partners developed their own Design innovation hubs – five different types of design innovation hubs with five different Business Model Canvas. The Business Model Canvas is a strategic management and lean startup template for developing new or documenting existing business models. It is a visual chart with elements describing a firm's value proposition, infrastructure, customers, and finances. The Business Model Canvas was initially proposed by Alexander Osterwalder.

4.2.8. CASE STUDY 8 — BUDA::LAB (KORTRIJK – BELGIUM)

BUDA::lab opened in December 2012 as a hub of Designregio Kortrijk, based in Belgium. Its aim is to attract the creators of the region, students, creative communities and SMEs or even big enterprises to use the space and making facilities for communication and collaboration.

BUDA::lab is a public workplace and a meeting point where companies, individuals, students, schools, designers, ... can go to make, to attend workshops, to meet, to be inspired and to be challenged.

BUDA::lab proposes a range of analog and digital machines (3D printers, lasercutter, welding machine,...) available to a wide audience and brings together people who have expertise in different sectors and disciplines to emerge synergies. BUDA::lab is a co-working place



Website BUDA::lab

at the heart of the creative Buda Island in the centre of Kortrijk.

“...life is about the people you meet, and the things you create with them. so go out and start creating...” (The HOLSTEE manifesto)

The current business model focuses on managing the space and “making” as the major resource and service offering. BUDA::lab hopes to become self-sustaining within a few years. (currently it is funded by the City Kortrijk, Province West-Flanders, Howest, Intercommunale Leiedal and PROUD Europe – INTERREG IVB NWE).

The making area (BUDA::lab) is located on the ground floor (200 m²) of Budafabriek, about 2000 square meters with 3 floors. with different equipment and machines, such as a plotter, laser cutter, 3D printer etc. (Figure 5.2.1.1). Next to BUDA::lab is a co-working space to facilitate synergy.

BUDA::lab rents its working place to the city and has to pay as well the cost of electricity, insurances for machinery and users fablab,... BUDA::lab is charging a membership fee mainly to cover the obliged insurance cost/member and electricity for the use of machinery. This membership fee is not covering the total exploring cost of Budalab. (Figure 5.2.1.2).

Beside the challenge of attracting more target people, the venue hire of this space, staff salary and equipment fee are crucial facts in deciding the hub's future.

BUDA::lab has its own website, Facebook page and e-newsletter (www.budalab.be)



Figure 5.2.1.2. The membership fee of BUDA::lab

Business Model Canvas - BUDA::lab

Key Partners	Key Activities	Value Propositions	Customer Relationships	Customer Segments
BUDA::lab is a department of Designregio-Kortrijk	Permanence of BUDA::lab	Serial workshops for children between 5 - 13 Y, maker holiday camp, STEM events (science, technology,...)	Membership + benefitpackage	Students primary school
Intercommunale Leiedal, Howest, Province West-Flanders are partners of BUDA::lab	Maintenance of machinery		Volunteer working	Students secondary school
Design agencies	Programmation of workshops and events	Machine use, participation workshops, use space	Flexibel opening hours	Highschool students
Suppliers of machinery in BUDDA::lab	Billing	Creative guidance, participation workshops, use space	Evaluation after a workshop	Local citizens of Kortrijk
DIY companies	Networking	Quiet workingplace, access to make network, coffee, printer, catering	Infosessions	Creative citizens (outside Kortrijk)
City Kortrijk is a partner of BUDA::lab and owner of building Budafabriek	Performing machine training	Space & facility renting for groups	Accessibility and visibility at the facility	Class groups
Voka - Chamber of commerce is a partner of BUDA::lab as they inform their members (companies) about the activities of BUDA::lab	Performing advice	Space & facility renting for groups	Bring a new member (member gets member)	Associations
Volunteers: are helping with permanence of BUDA::lab	Frontoffice	Quiet workingplace, access to make network, coffee, printer, catering	Photography and exposure of the BUDA::lab - made - works: digital and physical window	Starter in the creative economy
Ingegno: partner for organising workshops for children in BUDA::lab	Production for customers	Quiet workingplace, access to make network, coffee, printer, catering	Design competition	Artists
Flanders In Shape	Development of long term strategy	Rent & advice model construction, contract work maquettes	Active prospection	Stand constructors/ decor constructors / architects
Teachers and docents: they inform the students about the possibilities of BUDA::lab	Maintenance of communication tools	Creative workshops design agencies and customers	New Year giftvouchers and present vouchers	Design agencies / Flanders In Shape
OKRA: association for seniors	Tour and information sessions of BUDA::lab	Workshop programme & teambuilding	availability	Event and communication agencies
				Seniors

Key Resources	Channels
Machines in Fablab	Facebook
Staff	Infosessions
Equipment: coffee machine, printers, fotoprinter,... for co-working space	Posters (city council, DIY stores, high schools)
Volunteers	E-newsletter
Communication tools	Open company day
Materials	Website
Space	

Cost Structure	Revenue streams
Staff cost	Fees
Machine depreciations	Machine use
Maintenance	Material use
Materials	Workshop fee
Displacements	Funding
Freelance fees	Markup to partnership make network
Communication cost	Hour fee: advice
Rent of BUDA::lab	Machine training
	Modelling workshops

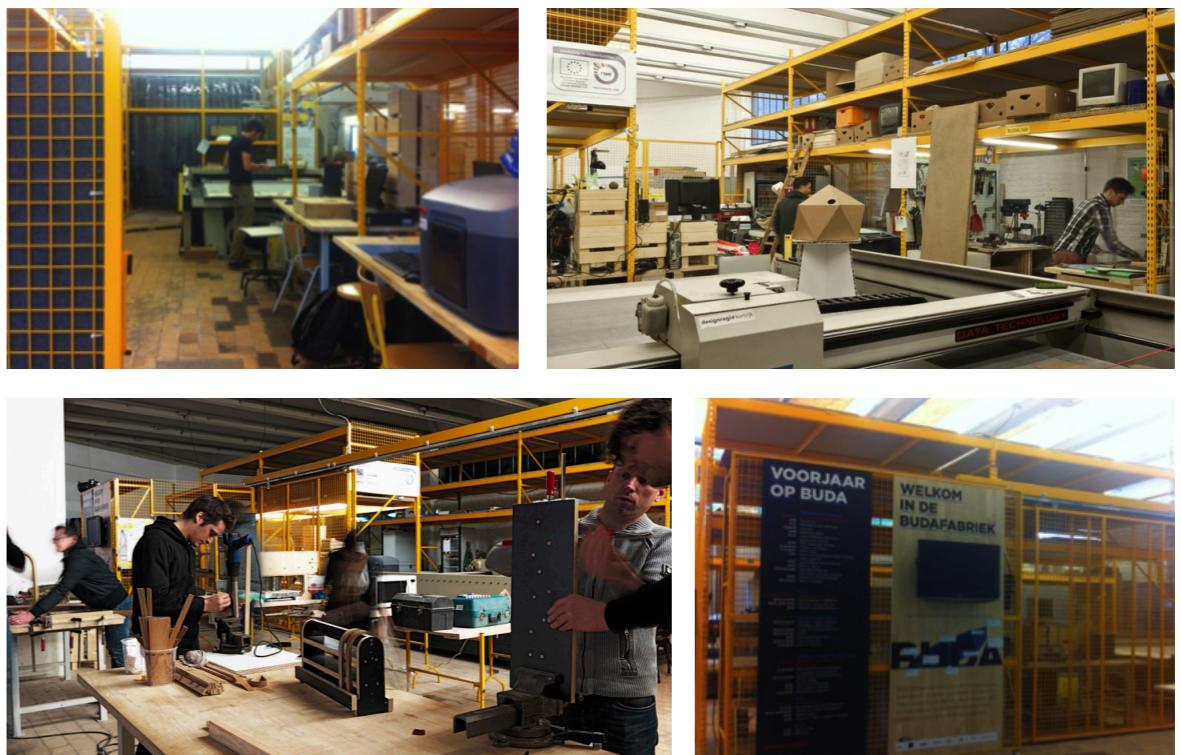


Figure 5.2.1.1. BUDA::lab Kortrijk

Business Model Canvas - Capital D (Design Innovation Space)

Key Partners	Key Activities	Value Propositions	Customer Relationships	Customer Segments
An extensive community of designers and representatives of business, public institutions and knowledge institutes	Capital D is the design platform of Brainport eindhoven that facilitates and connects an extensive community by a program of activities and events. It organises and hosts design based initiatives like workshops, masterclasses, exhibitions, lectures and conferences.	DIS is offering space for co-design driven people and organisations	Capital D is offering advice, support and coaching on co-design based projects	The hub is set up for the Design Community around Brainport Region Eindhoven, including all regional, national and International connections.
Founders of DIS Capital D are the City of Eindhoven, the Design Academy Eindhoven and the University of Technology Eindhoven	Capital D is the design innovation platform of Eindhoven region	DIS hosts a lot of initiatives about sharing insights and knowledge on design innovation.	Capital D offers a program of activities in the field of design innovation.	The stakeholders of Capital D come out of the triple helix: private, public and knowledge segment
The University of Technology Eindhoven is also involved in the creation of the multifunctional space	The keypartners and founders of Capital D can make use of the infrastructure to meet their clients, to network and to learn.	DIS has developed an open source toolbox to work with a co-design approach.	Capital D promotes and stimulates collaboration and knowledge sharing between a wide range of participants.	The keypartners and sponsors of Capital D belong to the core group of customers.
Capital D is partner of PROUD. All Proud members share their experience and give support to the creative ideas of Capital D	Capital D supports and develops new ways of knowledge transfer on design on innovation, design thinking and co-design	Proud Academy where the design community can network, meet and learn, focussing on co-design	Capital D offers a design basis for the key partners and their customers	Small and Medium enterprises, industries and public services who want to implement a co-design approach in their innovation projects.
Governmental organisations such as the Chamber of Commerce and the Ministry of Economy	Capital D organises the Dutch Design Week, a worldfamous Design festival and several (European) projects promoting the added value of design	The development and coordination of projects that stimulate co-design thinking on societal and economical challenges		A special segment is educational institutions; secondary schools as well as universities
Structural sponsors of events such as Dutch Design Week	Capital D offers the DIS as a multifunctional space that can be transformed into different settings: exhibition hall, lecture room, workspace, meetingrooms,...	The peer-to-peer community of Proud Academy, housed by Capital D, generates valuable exchange of knowledge on co-design		The general public: citizens from Eindhoven and elsewhere, communities of people collaborating on different societal themes

4.2.9. CASE STUDY 9 - CAPITAL D

Capital D is a design innovation hub in the Eindhoven, Netherlands, their aim is to provide a hub for

designers, design clients, user communities and other stakeholders, so they can work together to make innovation happen, then promote design innovation in the regional area.

This hub is a multifunctional space, the manager of Capital D introduced the main function of their space is to promote design innovation, *"The designer can use this place to meet clients, to work, to collaborate, and also we want to use this space to organize events, like trainings for designers, conference, all about promoting design innovation."* Designers can use this place to work, to learn, and to present their work; industry can come here to seek help for design innovation from designers.

In order to gather more people to come to this hub, Capital D organizes different activities for different stakeholders, such as: a co-design café where designers can interact and discuss ideas with other designers; master classes where designers and companies can learn from experts; special events for companies to launch new products and attract designers to collaborate with. Besides the above activities, Capital D also

organizes Dutch Design Week every year for designers to showcase their work, and promote regional design and Dutch design.

Although Capital D has already hosted these activities, they still want to attract more designers and companies to use these hubs for co-creation and to build a network for design innovation.

At present, Capital D gets funding for the hub from the government and from INTERREG IVB NWE, however, this funding will stop by mid 2015. In that time, Capital D should become a well-developed organization and find a business model in order to self-sustain. In the future, the company considers covering the costs for the hub from their core income the cooperation gains from memberships and other projects.



Figure 5.2.4.1. Capital D provides multifunction space for various design innovation related activities

Key Resources	Channels
The multifunctional space existing out of several rooms is the most important asset of Capital D	Events such as Dutch Design Week, Dutch Design Awards, Co-Design Café are transfer channels for knowledge
The projects and events of Capital D are key assets	Capital D makes use of all digital/social media to communicate about their programs

Cost Structure	Revenue streams
Staff	Subsidies by PROUD
Rent	Subsidies by the local and regional government
Running costs like energy	Sponsor income of the main events (eg Dutch Design Week)
Catering	
New equipment and furniture	

4.2.10. CASE STUDY 10 – DESIGN ZENTRUM

NORDRHEIN WESTFALEN / RED DOT DESIGN MUSEUM

The Red Dot Design Museum is part of the world famous Design Zentrum Nordrhein Westfalen that is located in Essen (Germany). The museum is the largest exhibition on design worldwide.

According to the general manager, the design museum is a rather atypical partner of PROUD.

Since the museum has an outspoken B2C-focus, it does not offer any of the core services such as providing space, research facilities, production support or networking. But yet, they have developed some interesting activities that match very well with the

PROUD-objectives.

The core task of this innovation hub is to transfer knowledge on design to the public and make them understand the importance of design quality.

The Red Dot Design Museum is a 100% private initiative that finances its own activities. The final aim is to obtain a “fat zero” result, which means that the result is slightly positive. This small but firm profit is invested in new initiatives and programs that support the execution of their core task. The participation in PROUD must be seen as a result of this strategy. It makes it possible to invest in additional services such as workshops, guided tours and educational programs for secondary schools.



Figure 5.2.10. Pictures of Red Dot Museum

How does the museum succeed in making profit?

First of all, the entrance fees are an important source of substantial and stable income. With more than 120.000 visitors in 2013, this is a reliable cash generator.

Secondly, the museum organises the highly reputed Red Dot Awards. This yearly contest supports best

practises in several design categories (Product Design, Communication Design, Design Concept). With 1.500 participants and more than 4.500 products entered into the competition, it is the most prestigious Design Award contest worldwide.

Consequently, companies are interested to link their name, their brand and their reputation with this

successful event. They are willing to pay for the use of the communication platform of the Red Dot Design Museum.

Based upon these two income sources, the Red Dot Design Museum has the opportunity to invest in additional staff for organising workshops, guided tours and educational programs. This leads to the conclusion that the PROUD-project that is linked with the museum can be considered as a successful event oriented project.

Business Model Canvas - Red Dot Design Museum (Design Innovation Hub Essen)

Key Partners	Key Activities	Value Propositions	Customer Relationships	Customer Segments
Red Dot Design Museum is part of the Design Zentrum Nordrhein Westfalen.	The permanent exposition of RDDM displays a complete range of current product design.	The purpose of the RDDM is the promotion of knowledge, research and education concerning design.	The museum has a very diverse public of about 120,000 visitors per year.	The consumer market at large is the most important target group
The Design Zentrum Nordrhein Westfalen supplies all hosting facilities for the Red Dot Design Museum.	RDDM organises temporary special exhibitions on design trends.	One of its core tasks is to transfer knowledge on design and make the public understand the importance of design quality.	10% of visitors are professionals 15% of visitors are students and teachers 75% of visitors are consumers	As for B2B customers, the RDDM aims at design-orientated industrial enterprises, design studios, communication and multimedia agencies.
RDDM has cooperation programs with secondary schools and universities	The expositions are supported by guided tours, workshops and presentations relevant to design.	RDDM regards design as an integral part of economic and technological promotion, and as an essential component in the striving for innovation	The Red Dot Design Award organises a worldwide competition for the design industry to promote the relevance and seriousness of good design.	A special segment is educational institutions on secondary and higher level
Red Dot Design Museum is a partner of PROUD, the European platform that brings together organisations characterised by design and innovation.	The yearly Red Dot Design Award is a worldwide competition for the design business.	The community that has been build up around the Red Dot Design Award generates high added value in terms of branding and reputation.		

Key Resources	Channels
Most important key activity of RDDM is the organisation of highly reputed Red Dot Design Award	Promotion by means of social media, internet etc. is most effective for B2C communication to promote guided tours, workshops and special exhibitions.
The Red Dot Design Award logo for best design has become an internationally recognised quality label.	Event organisation is important for branding. The communication around the Red Dot Design Award is essential for the B2B sponsors.
	RDDM has set up a networking plan to reach the design industry and the public institutions.

Cost Structure	Revenue streams
RDDM has a total budget of €00,000	Exhibiton fee for the award presented products generates 40% of cashflow
30% is personnel + overhead	Entrance fees of the consumers, event fees for B2B events
55% is material, equipment, exhibitions and rental fee for the space (to Stiftung Zollverein)	Subsidies by PROUD (only for investment into the Design Experience Exhibition/ Lab)
15% is communication	Result is a "fat zero". Profits are reinvested in the further projects.

4.2.11. CASE STUDY 11 – TECHNOPORT

LUXEMBOURG

Technoport Ltd is the result of a merge between two existing incubation facilities that existed since 1998 and 2004. This merge took place back in 2012. This new private company is held by two shareholders.

On one side the Ministry of Economy of Luxembourg (75%) and on the other side the Société Nationale de Crédit et d'Investissement (25%), a national economic diversification bank.

The Technoport has since developed new activities like the co-working space where major events are organised like the Startupweekends, Barbecue Game Jams, Apps Foundry Contests, and many more. In 2013 it decided to open a new platform – namely the Fab Lab, to address a new segment of product oriented entrepreneurs and makers.

The Fab Lab activity supports global creativity, knowledge sharing, innovation and local manufacturing by offering open access to different kinds of equipment (3D printers, laser cutter, milling machines...) and services (3D modeling and digital fabrication) to users in order to materialize almost all types of ideas.

More concrete, Fab Lab aims at starters, academic researchers, entrepreneurs and individuals.

Fab Lab has a 150m² fab lab space where the equipment is situated. Besides the use of this range of machinery, one can also count on the expertise of the lab crew (CAD/CAM) and on the lab space. Prices are fairly moderate.

The turnover of Technoport is based on revenues from three main sources:

- The incubation of technology-oriented start-ups generates around 65% of the annual budget.

- 25% of the budget is supported through the participation of the Technoport in a range of European projects (INTERREG, FP7, Horizon2020)
- 10% are finally generated thanks to the Fab Lab activity as well as the organisation of events or sponsoring activities.

This Design Innovation Hub focuses more and more on co-design sessions to explore new business models and innovative approaches for their clients. That might be an interesting future service to launch on the market, moreover because of the strong combination that exists between three dimensions within Technoport (business incubator + co-working space + fabrication lab). On the level of business modelling, it is obvious that one can categorise the Fab Lab Luxembourg dimension as a making model with a recent tendency towards events within a broader structure that is an interesting mix of Venue hire + Events + Making

Fab Lab will also have to take benefit from the arrival of the University of Luxembourg on the same geographic location in Belval – this huge opportunity can increase significantly the outcomes of the Lab.

For the moment the local press (radio, TV) is covering quite regularly the activities of the Fab Lab and social networks are working efficiently for spreading the word of mouth. But further efforts need to be done to touch a more general public.

2015 will also be an interesting expansion phase (new equipment and new part-time employee) for the Fab Lab. Until the optimal growth rate will be achieved Technoport's overall budget will cover any financial gap on this activity. They also have developed well-balanced partnership formulas, which have been launched lately and should bring some positive developments in 2015.

Business Model Canvas - Fab Lab Luxembourg (Technoport)

Key Partners	Key Activities	Value Propositions	Customer Relationships	Customer Segments
The Ministry of Economy of Luxembourg: shareholder	Availability of the coworking space	A multifunctional Incubator space with possibility to work, prototype, meet, train, network,...	renting of facilities and equipment	Starters and young SME's in the domain of innovation and product oriented devices
The Société Nationale de Crédit d' Investissement: shareholder	renting out of the machinery such as a lasercutter, 3D-printer, milling machines,...	The use of advanced equipment and machinery for prototyping	1-to-1 individual projects	The hub also aims at design-orientated industrial enterprises, design studios, communication and multimedia agencies.
PROUD: partner for organising the FabLab Kids workshops	Organising workshops, trainings and seminars on codesign thinking. Kidslab is a specific program for secondary school level	Exchange of knowledge on codesign between the design community	workshops (corporate or thematic)	A special segment is educational institutions on secondary and higher level
Greater region Fab Labs: partners	Specific programs for product oriented startup coaching and support on innovative thinking	The DIH welcomes startups in the IoT field	Organisation of co-design events	Academic researchers
	Open Design Conference & Workshop			Individuals with a special interest in innovation technology

Key Resources	Channels
The well equipped coworking space (450m ²)	Promotion by means of social media and internet to announce the events
Fab lab space (150m ²) with up-to-date machinery and materials	promotion through different channels (TV, radio, newspaper, participation at fairs)
Growing user community	
Knowledge and experience in the field of rapid prototyping	

Cost Structure	Revenue streams
Staff costs	Machine renting
Machine depreciation	customised projects (support in 3D modelisation and fabrication)
Running cost for the fablab space (energy, small material...)	workshop feeds
	Subsidies from European projects (PROUD)

Figure 5.2.12. The pictures of Fab lab Luxembourg



Business Model Canvas - Imagination Lancaster

Key Partners	Key Activities	Value Propositions	Customer Relationships	Customer Segments
University Of Lancaster	Research on design oriented themes such as design management, sustainability, service design, urban design,..	A multifunctional coworking space with possibility to work, meet, train, network,....	Participants of the DIH activities, workshops, events, projects,....	Academic researchers
Local authorities of Lancaster	Research projects on design based solutions and innovation	Imagination Lancaster facilitates innovation for a wide range of organisations	Customers who make use of the coworking space	Design professionals, artists,....
Partners and funders in a wide range of sectors	Development of digital and physical tools to support co-design	Bridge between design practice and science and social science methods	Sponsors of the coworking events	Social enterprises, charity organisations,....
Arts & Humanities Research Council		Development of knowledge exchange tools and approaches on prototyping and testing	Participants of the events, workshops, trainings,....	Companies, mostly SME's, open to design and innovation
Proud partners				Public sector such as the local government

Key Resources	Channels
Flexible creative space for events and teaching	Communication by means of social media and internet to announce the events, programs,...
The Imagination Laboratory is a large space with up-to-date machinery and materials	Network in the public and private sector
Knowledge and experience in the field of codesign thinking	Events where people can share ideas and experiences on desing and innovation

4.2.12. CASE STUDY 12 – LANCASTER UNIVERSITY

ImaginationLancaster's hub sits within the premises of Lancaster University, a university with over 2500 staff and ranked top 10 in the UK overall for research and top 2 for 'Art and Design'. The hub consists of a flexible creative facilitation space and up-to-date machinery, focussing on research on design-oriented themes such as design management, sustainability, service design, and urban design.

Co-design is critical for the approach

ImaginationLancaster takes to knowledge exchange.

CHAPTER 5: RESEARCH FINDINGS

1) By researching 30 design innovation hubs' website, and visiting design innovation hubs and interviewing their managers, we once confirm that there are five main offerings that design innovation hubs provide for promoting design innovation; the five value propositions are:

- (1) Space
- (2) Event
- (3) Research
- (4) Network
- (5) Making

2) Even when two design innovation hubs provide the same offering, they still do this in different ways. For example, BUDA::lab and Snijlab all have making service, but in BUDA::Lab people can make objects by themselves, only registered member (but everyone is welcome and can learn to use the machine) can use those machines; on the contrary, Snijlab provides a professional making service, people are not allowed to use machines there, customers just prepare the document, and Snijlab will help people to make products.

3) There is no one specific business model can apply to all design innovation hub, the research from Searle (2011) also indicates that there is no business model could fit for all sectors in creative industry. For this reason, in this project, we need to seek different business models for the various services respectively. The business models in this project are not only to provide the solutions for each offering, but also have to provide a guideline about how to combine different offerings together to support each other. Therefore, the modular business model is required in this research.

CHAPTER 6: DESIGN DEVELOPMENTS

AND CHARACTERIZING YOUR SPACE

Combining the results of the research, the different value propositions and the relevant criteria will be listed here in six blocks:

- (1) What potential benefits the hubs can get (Benefits)
- (2) How the hubs can create value by this model (Value creation)
- (3) The existing good example of this kind of hub (Example)
- (4) What kinds of key resources the hubs need (Key resource)
- (5) What kinds of key activities the hubs need to do (Key activities)
- (6) What kinds of preparation the hubs need to do (Preparation)

6.1. SPACE

- (1) **Benefits:** The potential benefits for the hubs mainly comes from two profitable ways: renting income (own space) and middleman service fee (provide venue hire service), as well as the intangible values such as people's networks and good reputation of the hubs.
- (2) **Value creation:** The value creation of the hubs (own space) need to provide a permanent space for target people or help to find an appropriate space to fit clients' needs, such as space to host events, offices for work or for research activities etc.
- (3) **Example:** Strijp-S is a special example of the renting space. Although they do not own the space, they rent the space from the landlord. However, they divide their space into two different functions and rent it as an owner: one is open space office another is to rent permanent space to various designers. Thus, the researchers treat it as a can charge tenting fee of the value proposition. The tenants could personalize their space and use it over a long-term period for a

much lower renting fee compared to others in that area. If someone just needs a table to do works in few days, they could also book it in the “flexible working space”. The payment is calculated by days. Only Seats2meet in this research as a middleman provides venue hire service and gains self-sustaining; others are funded by governments, so they do not charge money to the clients. However, it doesn't mean this kind of benefits could not become a common way of the revenue to the hubs.

(4) **Key resources:** The key resource that the hubs need to have is a space that can apply its benefits to fulfill the target audience's specific needs.

(5) **Key activities:** The key activities mainly focus on doing space maintenance, which keeps the attractiveness for target people; creation and maintenance of relationship with target people, such as creating special services to keep attract future and exist customers; as well as using marketing skills to let more potential customers know about this space.

(6) **Preparation:** The preparations the hubs need to do are: doing research of target people, which helps to understand their needs and preference of the space. In addition, the internal strength analysis

could help to find out the what resources the hubs can use; and external market environment research helps to position what kinds of space could gain the opportunities to attract customers. Besides, if the hubs need to provide a venue hire service, alliance collaboration is very important, since it could reduce the cost of hiring a space from partners and increase the services profits. These preparations could also help the space owner to check whether their chosen value proposition is right or not.

6.2. EVENT

(1) **Benefits:** Holding events is the best way for existing and potential customers to understand what hubs can do and how they do. It also promotes their services in order to increase revenue through service, access and membership fees.

Intangible benefits: Events provide more opportunities to have connections with people from different backgrounds, accelerating idea exchange, and increasing the hubs' reputation.

(2) **Value creation:** In order to increase the number of people taking part in events, there are various kinds of activities that hubs can host including exhibitions, conferences, training programs and workshops,

which can lead to better interaction and develop a long-term cooperative relationship.

(3) **Example:** Capital D and MAD Brussels are two events-oriented hubs. Through providing the latest professional information and relevant events or workshops, they can help their target audiences to understand what hubs can do for them and develop links among stakeholders. Furthermore, based on the understanding of clients' needs, it may present more opportunities to develop cooperation.

(4) **Key resources:** Activity planners play important roles in hosting hubs' events because they requires various consideration such as planning activities, contacting relevant stakeholders, organizing resources and controlling the procedures of events.

Inviting key people to a speech or to join a conference and workshop is beneficial for hubs to increase the their reputation and the chance of developing new ideas.

In order to enhance the performance of events, preparing the relevant infrastructure for events is essential, which includes space, tools and facilities.

(5) **Key activities:** Maintaining stable relationships among stakeholders is needed in order to explore and achieve the needs of the target audience. When promoting events some activities, such as issuing invitations to clients by mail, e-mail, and social media, as well as marketing through various advertising channels such as media, magazines and newspaper, should be considered according to the hub's resources.

Additionally, searching for possible sponsors is essential for events, so knowledge of how to approach the potential sponsors and what advantages sponsors can gain from events is required.

(6) **Preparation:** Knowing how to identify their key customers is essential because hubs can develop various categories of events in order to satisfy clients' needs, so doing some research to analyze what advantages hubs can provide and emphasizing the difference of hubs' services should be considered in order to attract more clients.

(1) Benefits	Rent income (own space) Provide venue hire service A network of people Better reputation
(2) Value creation	Own space To provide permanent space for target people Renting service Help to seek appropriate space for fitting clients' needs.
(3) Example	E.g. Strijp-S
(4) Key resource	A specific space which can fulfil specific needs
(5) Key activities	Space maintenance Create and maintain the relationship of target people Marketing Sponsor finding
(6) Preparation	Research of target people's needs Internal strengths analysis - what kinds of resources I can use Market Environment research - help position what kinds of space could gain opportunity to attract target people Explore stakeholders - to raise range of services

Figure 7.1.1. The value propositions and the relevant criteria - Space

(1) Benefits	Access fee Service fee Membership fee A network of people Better reputation Idea creation
(2) Value creation	The hubs can gather relevant people to arrange an event such as, exhibitions, conferences, training program or workshops etc.
(3) Example	Capital D, MAD Brussels
(4) Key resource	Activity planner Key people Activity space Facilities for event
(5) Key activities	Gather relevant people Marketing and communication Maintaining relationship with target people Find sponsors
(6) Preparation	Target people needs research To identify internal strengths - what kinds of resources I can use Market Environment research - help position what kinds of events could gain opportunity to attract target people

Figure 7.2.1. The value propositions and the relevant criteria — Event

6.3. RESEARCH

(1) **Value:** Through research programs, hubs have the ability to produce solutions to solve clients' problems such as useful databases, selling Intellectual Property or discovering potential business opportunities to improve current services. Also, selling the hub's research results, consulting and prototyping services can be a way to increase revenue.

Intangible benefits: Through the variety of research projects, hubs can increase the chances of cooperation with different partners, of developing research-oriented networks and of promoting the hub's reputation at the same time.

(2) **Value creation:** In order to maximize benefits for stakeholders, hubs should continuously explore new business opportunities for customers. Thus, they may accelerate the communication and cooperation between experts, the public and industries by designing a series of workshops, experiments and prototypes, which can fulfil the clients' demands and expand into a wide range of research projects.

(3) **Example:** Waag Society is an example of conducting

research as a trigger to lead people to exchange knowledge. This will not only develop solutions from research results, but can also create long-term benefits and innovation among all stakeholders.

(4) **Key resources:** Experts, their research teams and facilities in research-based hubs play a vital role because they can impact the quality of research results.

(5) **Key activities:** Creating a cross-disciplinary research environment should be planned well as it may affect whether research results can satisfy clients' needs or have positive effects on hubs. The relevant research activities include collecting cognitive resources in order to understand different thinking. They also need to create tools for doing research. Furthermore, hubs should find solutions for how hubs can maintain relationships between key partners, which kind of project has the potential to do research and who will be the key people to help them.

(6) **Preparation:** Looking for potential or target clients, taking advantage of internal resources and exploring external market opportunities can help hubs utilize resources, focusing on main clients.

(1) Benefits	Intellectual property Service fee Data fee A network of people Better reputation
(2) Value creation	The hubs can help target people to do research project or sell their research result.
(3) Example	Waag Society
(4) Key resource	Experts Facilities Existing network of target people
(5) Key activities	To do research activities Create a cross-disciplinary research environment Maintain relationship with target people Create tools for doing research Find sponsors
(6) Preparation	Target people needs research To identify internal strengths - what kinds of resources I can use Market Environment research - help position what kinds of research could gain opportunity to attract target people

Figure 7.3.1. The value propositions and the relevant criteria — Research

6.4. NETWORK

(1) **Benefits:** Hubs can act as brokers to build up a physical environment or a virtual platform to increase potential connections among stakeholders from various backgrounds. The more stable relationship hubs can make with target audiences, the more chances they have to provide their services and increase revenue from access, membership or middleman fees.

Intangible benefits: Developing networks is beneficial for hubs because it can make people with different techniques communicate with each other in a physical environment or a virtual platform, where different professional groups of people can create their own communities. The increasing number of communities can expand the scale of the hub's networks and increase the hub's reputation.

(2) **Value creation:** Hubs should provide a flexible and comfortable environment, where people are willing to share and exchange their knowledge as well as develop people-to-people connection with people from different backgrounds.

(3) **Example:** Seats2meet and Little Mountain focus on maintaining relationships with people. Seats2meet is open for the public; Little Mountain is for a few companies. Seats2meet use both virtual and physical space to expand the connectivity among the public. On the other hand, Little Mountain provides a co-working space and prototyping service in order to shorten the time of new product development, both of which can contribute to the hub's dynamic environment and create potential cross-disciplinary cooperation.

(4) **Key resources:** The relevant facilities are required such as a physical space, infrastructure maintenance and a web content management system.

Furthermore, clusters based on different technique or knowledge within the hubs would be seen as indirect resources to deliver value.

(5) **Key activities:** Attracting people to use the hub's

services is important because their unique selling proposition is the variety of people working together. Thus key activities that include promoting hubs, maintaining relationships and designing a suitable environment for users' demands, should be well organized.

(6) **Preparation:** Identifying the hub's potential users and internal resources, designing an open environment and building up connectivity among users is needed. Then how to differentiate and promote the hub's services is important in order to increase the utilization of space and reduce each user's unit cost.

6.5 MAKING

(1) **Benefits:** For the profit value, the hub can ask for a machine using fee from the user, charge a service fee by providing a course related to the making, or selling the material, machine-build equipment and some products which made in the hub.

For the non-profit value proposition, the hub can expand its own network from the user, and promote its reputation by providing unique machines or services.

(2) **Value creation:** the hubs can get benefits in three ways: firstly, it can provide machines for people to make stuff by themselves; secondly, they can host a workshops or a training programs about making skills; thirdly, it can provide a professional service to help designers produce their product in a small amount.

(3) **Example:** Snijlab provides a cutting service mostly for designers and artists, by focusing on one professional area, it now has a good reputation among professional designers and has built its own brand. Designregio Kortrijk wants to self-sustain on long term, a membership fee is asked to cover the obliged insurance fee and cost of renting space, electricity of Budalab (overall cost)

(4) **Key resource:** to provide a making service, the hub has to have its own user community, appropriate

(1) Benefits	Access fee Membership fee Middleman fee A network of people Better reputation Increase communication chance
(2) Value creation	The hubs can provide specific network for people or provide a platform for P2P connection.
(3) Example	Seats2meet, the Little Mountain
(4) Key resource	Platform (virtual / space) Facilities Existing network of creative communicates (clusters)
(5) Key activities	Invite relevant people Marketing and communication Create and maintenance of stakeholders' network Create and maintain of a platform Sponsors finding
(6) Preparation	Target people needs research To identify internal strengths - what kinds of resource I can use Market Environment research - help position what kinds of event could gain opportunity to attract target people

Figure 7.4.1. The value propositions and the relevant criteria — Network

(1) Benefits	Service fee (facilities using, skills training, IP creation etc.) Sales income (material selling, product selling, machine selling etc.) Access fee Network of people Better reputation
(2) Value creation	Provide machine and training relevant skills to help Help target people to product their ideas. Provide production service.
(3) Example	Snijlab, BUDA::lab, Fab Lab Luxemburg
(4) Key resource	Experts, staffs Facilities (Machine, tools, material, software) Space Existing a network of people
(5) Key activities	Provide machines Maintain facilities Host training programs (teaching relevant skills of machine) Build and maintain user communities Marketing Find Sponsors
(6) Preparation	Research on target people Internal strength clarify - what kinds of resource can be use Market Environment research - research on brand position and how to communicate its value and attract target people Gather target people - to maintain the number of users

Figure 7.5.1. The value propositions and the relevant criteria — Making

spaces, machines and making tools, staff, and maybe the expert to help organize these activities.

(5) Key activity: the main activity for the hub is to provide and maintain machines, because this is where its value comes from, it also needs to build and maintain a good relationship with its user community, communicate its value to target people, as well as sponsor finding sponsor.

(6) Preparation: before providing a making service, the hubs need to research the market environment and its user community, to identify the user's needs and what kind of resource hub can use. Then, the hub needs to use research result to decide its position and how to operate a making service. In addition, the hub gather target people before opening the lab, since, it is necessary to make sure it will have a stable community to come to this service.

to operate hubs. Then they can continuously explore more business opportunities or expand the ranges of services, based on the existing reputation, networks, skilled staff, experience and creative people working in the hubs. Also, their intangible assets such as reputation, the number of members, and the benefit of social innovation, collaboration and people's trust should be considered because they require considerable time to develop it. Seats2meet is an example that explains the importance of time. In their first year, the number of users was low, but after one and half years, the income from users was enough to pay their rent. Therefore, using the hub's strengths to provide direct services to support daily expenditure, and then considering how to take advantage of the current infrastructure to maximize profits would be a way to ensure reach break-even point. Therefore, both physical and intangible assets can bring different values to the hubs as long as the hubs can clearly understand customers' needs. Then, providing subsequent solutions such as the creation of ideas through social collaboration, interactive workshops, expanding networks and experiments in the labs can directly or indirectly provide various benefits to all stakeholders. However, because each hub might have a different background such as culture, legislation, environment, society or language, these design innovation hubs would benefit from these differences and then create their own unique modular business models.

Based on these five modules, three topics developed from this research will be discussed further in the researchers' individual parts, including what kind of strategy can help hubs increase revenue, how to plan a network to enhance collaboration among users and how to use branding and communication strategy to attract more people. These three different aspects of research will explain more about how to plan and make appropriate decisions for design innovation hubs.

CHAPTER 7 : DISCUSSION OF FINALISED PROPOSAL OR SOLUTION

Building on the previous sections, we have suggested five different services modules for hubs to use: Space, Events, Research, Network and Making. However, it is clear that each hub should clarify whether they can afford the costs coming from these multi-functional services or combine two or three modules to develop a differential modular business plan.

Although each module can create tangible and intangible benefits, it would be better if they can consider how to make their short-term and long-term strategies in order to ensure self-sustaining. For example, Snijlab and Waag Society have already found their unique selling propositions to sustain themselves such as the ability to explore new business potentials, providing the laser cutting outsourcing service, getting profits from co-developing products and selling the lab's products or machines. Those can cover their fixed cost

7.1. HOW TO DESIGN REVENUE STREAMS OF THE DESIGN INNOVATION HUB (BY ZHANG JUNRU)

7.1.1 HOW TO CHOOSE A REVENUE STREAM

There are ten forms of revenue stream which are listed below (Fig. 8.1.4.3.1):

(01)	Booking fee	(e.g. Seats2meet) The hubs charge money for space bookings.
(02)	Access fee	(e.g. The Storey, 2013) People have to pay to participate in an event or a network
(03)	Membership fee	(e.g. Buda Lab) Use membership fees.
(04)	Product/material fee	(e.g. Snij Lab) Selling design products or relevant material in the hubs
(05)	Tenant venue hire fees	(e.g. Strijp-S) Charge money for venue hire.
(06)	Brand license fees	(e.g. The International Design Center, Berlin) Sell brand licenses to allow target people to use the brand logo in their own marketing activities
(07)	Advertising fees	(e.g. thelighthouse) Provide a platform, such as an online website or presentation event for clients to advertise their products or services and charge for them.
(08)	Project fee	(e.g. Jewellery industry) Charge to provide services for the whole project.
(09)	Intellectual property	(e.g. the Waag society) Intellectual property as a resource to charge clients money
(10)	Brokerage fees	(e.g. Little Mountain) Some hubs gain money through renting space from a landlord and subletting it as an office and network platform to target people

Figure 8.1.4.3.1. Ten forms of revenue streams that hubs currently use

7.1.2. USING DESIGN INNOVATION HUBS' REVENUE STREAMS AS A CASE TO STUDY

When these categories are combined with the different value propositions, patterns of current design innovation hubs' revenue streams appear. The results show that each value proposition can generate a profit through different types and uses in many different ways (Figs. 8.1.4.5.1–8.1.4.5.5).

Space (profit)				
	Content of the value proposition	Type of revenue stream	Forms of revenue stream	A current example
Provide own space	A. "Transaction revenues"	(4)	"Leading/ Renting/ Leasing"	(05) Tenant venue hire fees
	B. "Recurring revenues"	(3)	"Subscription fees"	(03) Membership fees
Help venue hire service	A. "Transaction revenues"	(4)	"Leading/ Renting/ Leasing"	(05) Tenant venue hire fees
	B. "Recurring revenues"	(6)	"Brokerage fees"	(10) Middleman fees

Figure 8.1.4.5.1. Profit from space

Event (profit)				
	Content of the value proposition	Type of revenue stream	The ways of the revenue stream	The current example
(Exhibition, conference, workshop)	A. "Transaction revenues"	(7)	"Advertising"	(07) Advertising fees
	B. "Recurring revenues"	(2)	"Usage fees"	(01) Booking fees (02) Access fees

Figure 8.1.4.5.2. Profit from events

Network (profit)				
	Content of the value proposition	Type of revenue stream	Form of revenue stream	A current example
Activity, make connections	B. "Recurring revenues"	(2)	"Usage fees"	(02) Access fees
			"Subscription fees"	(03) Membership fees
	B. "Recurring revenues"	(6)	"Brokerage fees"	(10) Middleman fees
Provide a platform for connections	A. "Transaction revenues"	(5)	"Licensing"	(06) Brand licensing fees
			"Advertising"	(07) Advertising fees
	B. "Recurring revenues"	(2)	"Usage fees"	(02) Access fees

Figure 8.1.4.5.4. Profit from network

Research (profit)				
	Content of the value proposition	Type of revenue stream	Form of revenue stream	A current example
Doing research and selling research results	A. "Transaction revenues"	(5)	"Licensing"	(09) Intellectual property
	B. "Recurring revenues"	(2)	"Usage fees"	(02) Access fees
Collaborate for research	A. "Transaction revenues"	(5)	"Licensing"	(09) Intellectual property
	B. "Recurring revenues"	(2)	"Usage fees"	(08) Project fees

Figure 8.1.4.5.3. Profit from research

Making (profit)				
	Content of the value proposition	Type of revenue stream	Form of revenue stream	A current example
Provide facilities	A. "Transaction revenues"	(1)	"Asset sales"	(04) Product/material fees
	B. "Recurring revenues"	(2)	"Usage fees"	(01) Booking fees (02) Access fees
Provide experts to help with innovation	A. "Transaction revenues"	(5)	"Licensing"	(06) Brand licensing fees (09) Intellectual property
	B. "Recurring revenues"	(2)	"Usage fees"	(01) Booking fees (02) Access fees (08) Project fees

Figure 8.1.4.5.5. Profit from making

7.1.3. THE COSTS OF DESIGN INNOVATION HUBS

Based on our interviewees, the categories of cost in design innovation hubs are similar to each other, except that the research value proposition will cost a lot of money for research activities (the Waag society said "80% of costs" are experts salaries) and intellectual property protection

(01)	Venue hire	Unless the hub owns the space, this is a large part of the whole cost
(02)	Space/facilities maintenance	Even if hubs have their own space, this also costs a lot of money spent on, e.g., electricity, machines, furniture, etc.
(03)	Experts/staff salaries	Each value proposition needs experts ideas and staff to work to keep the whole hub running on the right track.
(04)	Marketing and communication fees	Each value proposition needs to spread out and to let target people know about it. It must also maintain customer relationships. Fees involve costs such as advertising, PR or inviting celebrities, etc.
(05)	Intellectual property protection	Hubs (for the research value proposition) may need to pay money for intellectual property protection

Figure 8.1.4.6.1. Costs of design innovation hubs

7.1.3.1. THE COSTS OF EACH HUB'S VALUE PROPOSITION

The results show how costs are related to the value proposition.

(1) The cost of space

For hubs renting their own space to customers, space and facilities maintenance fees have to be paid to ensure the quality of the hubs; salaries are paid to experts and staff¹ to manage the hubs' daily operations; and marketing and communication fees are costs that hubs have to cover in order to reach more target people. On the other hand, for the venue to provide a hired helping service, hubs have to pay money to the landlord as well as to experts and staff, also marketing and communication fees (Fig. 8.1.4.7.1).

Space (cost)		
Content of the value proposition	Type of cost	
Provide own space	(2)	Space/ Facilities maintenance
	(3)	Expert/ Staff salaries
	(5)	Marketing fees
Help with venue hire service	(1)	Venue hire
	(3)	Expert/ Staff salaries
	(5)	Marketing fees

Figure 8.1.4.7.1. The cost of space

(2) The cost of the event

In the event value proposition part, although there are three different aspects to it, the costs related to venue hire fees, space and facilities maintenance, expert and staff salaries as well as marketing and communication fees. Here, the venue hire fees relate to whether the hubs own its own space or not. If they do have their own space, there are maintenance costs, such as 'fixing the roof', and service costs, for example 'electricity bills' need to be paid. If they own their own building

outright, they still have overheads. Even if they are not renting it is likely there is a mortgage. Marketing and communication fees will vary depending on the different themes of events (Fig. 8.1.4.7.2).

Event (cost)		
Content of the value proposition	Type of cost	
(Exhibition, conference, workshop)	(1)	Venue hire fee (only for hubs that have to rent space)
	(2)	Space/ Facilities maintenance
	(3)	Experts/ Staff salaries
	(4)	Marketing and communication fees
	(5)	Intellectual property protection

Figure 8.1.4.7.2. The cost of events

(3) Cost of the research

Research costs can be divided into two parts — doing research and selling research results; collaborating in research.

To do research and sell research results, the hubs first need to do the research and get the results, and then protect the relevant intellectual property; selling the results is the third step of this process. Thus, the costs mainly arise for space/ facilities maintenance (e.g. the Waag society has professional equipment for scientific research), relevant experts and staff salaries, intellectual property protection and marketing and communication fees. Venue hire fees are based on whether hubs have to rent space or use their own space.

Collaboration in research is a service that needs much more intimate co-operation with target people and stakeholders. The hubs not only need to pay money to gather target people together to take part in a project, but also need relevant stakeholders to support them. In addition, space, as a place to do these activities, is another essential element, which needs money to pay for it (Fig. 8.1.4.7.3).

Research (cost)	
Content of the value proposition	Type of cost
Doing research and selling research results	(1) Venue hire fee (only for hubs that have to rent space)
	(2) Space/ Facilities maintenance
	(3) Experts/ Staff salaries
	(4) Marketing and communication fees
	(5) Intellectual property protection
Collaborate for research	(1) Venue hire fees (only for hubs that have to rent space)
	(2) Space/ Facilities maintenance
	(3) Experts/ Staff salaries
	(4) Marketing and communication fees

Figure 8.1.4.7.3. The cost of research

(4) Cost of the network

Regarding hubs that offer a network value proposition, some hubs just provide a platform for making connections; others focus on activities that make connections. The costs generally look similar, but the biggest differences are in the space and relevance aspects. Running connection-making activities needs more intimate communication with customers and an understanding of what kinds of alliances and relationships they seek. Thus, a place for face-to-face consultations will be necessary. This also results in a different working environment for experts and staff —here the experts staff mainly provide answers to questions of "how and with whom to collaborate", and a consulting and strategic decision-making service. Marketing and communication fees will be spent on advertising and to provide catering to promote better communication.

On the other hand, providing a platform needs experts to design a friendly place (real or virtual) and staff may need to maintain an open atmosphere so that customers

can find what they want in terms of collaboration by themselves. That means that cost mainly arise for platform design and relevant maintenance fees. Experts and staff are paid to market and maintain the platform. Their salaries may be different to those people who provide consulting services. Marketing and communication fees will be spent to advertise the platform (Fig. 8.1.4.7.4).

(D). Network (cost)		
Content of the value proposition	Type of cost	
Activities to make connections	(1) Venue hire fees (only for hubs that have to rent a space)	
	(2) Space/ Facilities maintenance	
	(3) Experts/ Staff salaries	
	(5) Marketing and communication fees	
Provide a platform for connections	(1) Venue hire fees (only for hubs that have to rent space)	
	(2) Space/ Facilities maintenance	
	(3) Experts/ Staff salaries	
	(5) Marketing and communication fees	

Figure 8.1.4.7.4. The cost of Network

(5) The cost of making

Making, as a value proposition needs to be divided into two parts, one is providing facilities; the other is providing experts to help with innovation. No matter which a hub chooses, physical space is essential, because facilities need to be put somewhere, and also require appropriate maintenance. Both of these offerings need to do daily marketing to attract users and maintain the number of customers. The Experts and staff, from the perspective of hubs as facilities providers, are mainly paid for their knowledge of how to use the 3D printing or laser-cutting machine. However, from a helping innovation perspective, experts and staff will be paid because they can make creative ideas or give

advice on how to innovate, not just for their facilities-using skills (Fig. 8.1.4.7.5). In an interview, Peter Troxler, 2013 shared an interesting view on ‘trading’ in that experts can use the machine free by providing the same time to supervising others using the equipment. This could be another way to reduce the cost of making a value proposition, though this depends on the willingness of experts.

(E). Making (cost)		
Content of the value proposition	Type of cost	
Provide facilities	(1) Venue hire fee (only for hubs that have to rent space)	
	(2) Space/ Facilities maintenance	
	(3) Experts/ Staff salaries	
	(5) Marketing and communication fees	
Provide experts to help with innovation	(1) Venue hire fees (only for hubs that have to rent space)	
	(2) Space/ Facilities maintenance	
	(3) Experts/ Staff salaries	
	(5) Marketing and communication fees	

Figure 8.1.4.7.5. The cost of making

7.1.3.4. SCENARIO OF HOW TO CHOOSE A REVENUE STREAM

Based on desk research and interview assessments, how to choose a revenue stream can be identified. Therefore, the next chapter will use a scenario to show how the process works. Take making (provide the facilities) for example:

If a hub wants to provide making as a value proposition: firstly, the manager may specify what kinds of value proposition, providing facilities or helping skills that fit the hub, then choose target people from the general public to develop the company. If a hub decides to focus on offering facilities, the profit will be located in:

The type of “Transaction revenues”: to gain profit in the short term via “Asset sales”, such as selling products or material fees.

The type of “Recurring revenues”: to make profit which includes more service demand via “Usage fees”, such as booking fees and access fees to use the hub’s facilities, or “Subscription fees” (mainly membership fees) to cover all the fees and make a long-term profit.

The problem that the manager needs to consider is how to organize these profit sources in order to cover the cost within the allowed time, such as in three years before the funding runs out or if the start-up capital can only maintain the hub’s running for one year, etc.

For example, if a hub is eager to make a net profit in a short time, big companies, SMEs and the general public may not be wise choices, since big companies and SMEs do not need the hub’s machines, such as a plotter, laser cutting or 3-D printer. “They have better machines than us” (BUDA::lab, 2013). With the general public, on the other hand, the hub has to spend more time and labour

Making (a profit) can be chosen and organized				
Content of the value proposition	Type of revenue stream	Form of revenue stream	A current example	
Provide facilities	A. “Transaction revenues”	(1) “Asset sales”	(04) Product/material fees;	
	B. “Recurring revenues”	(2) “Usage fees”	(01) Booking fees (02) Access fees	
		(3) “Subscription fees”	(03) Membership fees	

(The aim is for income to cover costs within the allowed time)

Figure 8.1.4.10.1. Scenario of a hub choosing revenue streams (01)

costs to coach them in how to use the machines (Snijlab 2013). Students, independent professionals and business start-ups might be better as target people. The research results show that they are willing to pay to book facilities or to pay a product-making service fee and for the relevant materials (e.g. Snijlab, 2013; BUDA::lab, 2013). If a hub builds a good reputation by offering a making service over a long period, customers may be willing to pay more money to become a member, and thus enjoy long-term service (fig. 8.1.4.10.1-2).

In addition, the manager can make a profit by not just focusing on “making” but through multiple value propositions, after considering the cost of each of them. Since a hub also has a space that could become another value proposition to be used, such as charging a specific venue hire fee, as well as forming a people “network”, which could be generated from the value proposition of “making” and hooking more target people to use the hub. Thus the revenue streams model could be modular with streams compensating for each other (fig. 8.1.4.10.3)

(E). Making (cost)		
Content of the value proposition	Type of cost	
Provide facilities	(1) Venue hire fees (only for hubs that have to rent space)	
	(2) Space/ Facilities maintenance	
	(3) Experts/ Staff salaries	
	(5) Marketing and communication fees	

Figure 8.1.4.10.2. Scenario of a hub choosing revenue streams (02)

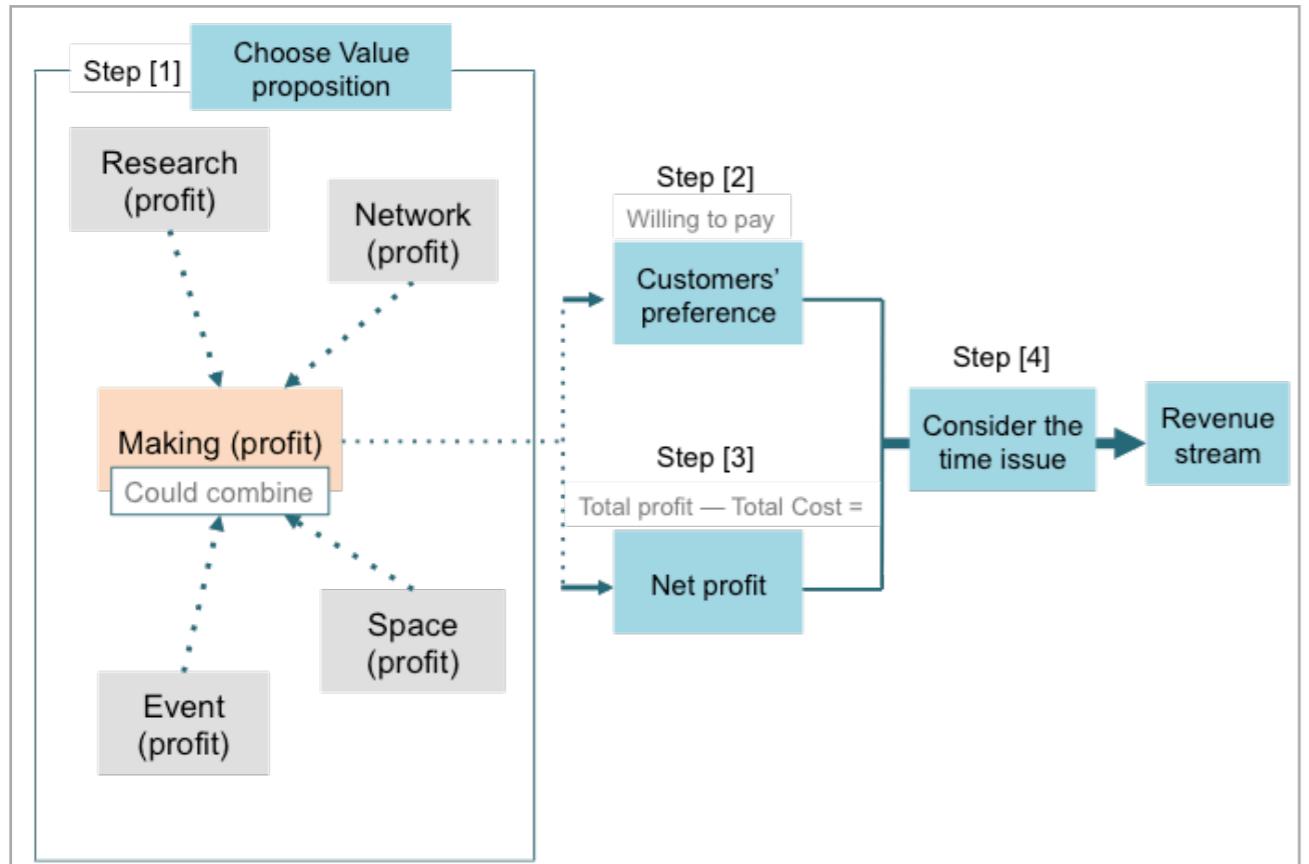


Figure 8.1.4.10.3. Four steps in the process to choose making revenue stream

However, this is only theoretically feasible; in practice, things do not seem as easy as they look. For instance, most of the hubs offer a making value proposition based on their local market. There is some upper limit to the number of target people and the power of consumption. Thus, there might be an upper limit to the profit.

Moreover, there may be more than one hub in one place. The competition forces managers to provide different offerings in order to attract regional people. This is another condition that managers must consider, whether their revenue stream model can be chosen or not.

7.1.4. CRITICAL THINKING ABOUT THE WORKFLOW AND TOOLKIT

Firstly, there are five different value propositions, all of which could be applied to two types of revenue stream, which also offer least three kinds of making a profit and cost generation. Thus, there are many possibilities for

revenue stream models that could be tried. This is a complicated matrix. Even if a revenue stream has been proven as a successful model and has good feedback, a slight difference may cause the whole revenue stream to turn onto the wrong track. For instance, as Peter Troxler (2013) said, there was a hub that wanted to focus on providing making facilities. They copied everything that a making Fab Lab has, except the network element; they neglected to build a community before the hub opened. One year later, the hub had to close.

Secondly, the workflow in this thesis follows a logical way to design a feasible hub via these steps: (1) choose the value proposition; (2) consider the target people; (3) list the possible profit and costs; (4) make sure the profits can be larger than the costs within the allowed time. However, how to calculate the exact profit and cost is also a complicated question. Not everything can be considered closely; sometimes it is a question of "just

do it" (Seats2meet, 2013 and Strijp-S, 2013).

Third, the idea or concept of a design innovation hub is quite fresh and developing, its future could be more diverse than it is today (Peter Troxler, 2013). Hence, variable and specific revenue streams could lead to variety too. Take Fab Lab as an example, the value proposition and revenue stream are always based on the specific region that the hub is in. An "engineer prototyping service" may help the Manchester Fab Lab to become self-sustaining but it would probably fail in Germany, since they prefer to use in-house machines (Troxler, 2013). In addition, some big companies are begun to realize the threat from Fab Labs. For example, Nokia (2013) is providing specs for the 3-D printing of a Lumia phone-shell so that users can design their own shell, and thus face up to the challenge of hubs by making products more customizable (Nokia, 2013; Troxler, 2013). Furthermore, the increasingly number of design innovation hubs now established will lead to competition as well as changing how hubs develop. Therefore, a workflow and a toolkit for profit and costs are ways of considering how revenue stream generation will work, but it is not an unchanging formula, especially if the toolkit is opened up for innovation.

A final point is that managers should realize that revenue streams need experts and staff to apply them. Many approaches of the revenue streams discussed above need people in the hubs to lobby stakeholders and target people (e.g. events need staff to find the right guests, good places and to convince target people to get involved). Thus, a qualified human resources manager is essential to a hub's development.

7.1.5. CONCLUSION

This dissertation offers an overview of the theories of revenue streams in order to find a feasible planning approach based on hubs business strategies (hubs' value propositions). It can help to choose appropriate revenue stream models for design innovation hubs. Through analysis via desk research and interviews with current hubs, a pattern of revenue streams, profit, costs and timing is laid out. If profit can cover the cost within the time allowed, this revenue stream could be used. Based on these results, a scenario is built to describe how to use the results of the research and to provoke critical thinking about the outcome.

7.2. BRAND AND MARKETING COMMUNICATION STRATEGY FOR DESIGN INNOVATION HUBS (BY LIU LI-LIN)

7.2.1. MARKET COMMUNICATION STRATEGY FOR DESIGN INNOVATION HUBS WITH DIFFERENT BUSINESS MODELS

In order to build a strong brand, a well-designed marketing communication strategy is very important for a design innovation hub; however, every design innovation hub provides different services, so the strategy they need, will be different too. This section will discuss marketing communication strategies for the different business models, which this research identified before, including space, events, research, network and making.



Figure 8.2.7.1. Five business models for design innovation hub

7.2.1.1. SPACE MODEL



The design innovation hub uses a space model to create value by renting space to target people to do design innovation related activities.

Target people

The target customers of the space model are designers and companies; for designers, the hub can provide space for them to work, to show their work and to meet clients; for companies, especially start-ups and SMEs, they also need space to launch new products, to use as an office and to meet clients.

Main goal of marketing communication

For a design innovation hub which uses a space model, the main goal of marketing communication is to let more people know it has space to offer, the features of the space, how the space can help people achieve their goals, what kinds of facilities the space has, what kinds of activities are suitable for hosting in the space, past successful cases, and extra benefits they can have by using the space (e.g. the chance to meet famous people or to work with a big company).

Marketing communication method

The marketing communication plan for a space model can be divided into two stages; in the first stage, the goal is to raise people's awareness, to let more people know about the space offering and its features, so really it needs to attract people to come to the space and experience it. To attract people, the hub can provide some attractive stuff in the hub to make people want to come to the space, such as free meals or the free

latest magazines – some people may come for those attractions, then they will see the advantages of the space by themselves. Seats2meet offers free lunches and beverages in its hub, many independent workers go there for free food and working space; when they need a place to meet a client, they will choose to use the paid meeting room at seats2meet because they already know the advantages of the space.



Figure 8.2.7.1.1. Seats2meet provides free working space and free meals to attract people come to its space

The hub can also organize events in its space or be a sponsor and provide space for events; by hosting events in the hub, people will come to the space and better understand its characteristics. The content of events should be carefully chosen, they have to be consistent with the hub's value and show the space's features. Capital D hosts co-design café's in its space, thus they successfully let local designers know it has a multifunction venue that can be used by designers and companies to innovate by design together.



Figure 8.2.7.1.2. Capital D organizes Co-Design café for designers in its space, then the designers will know Capital D has a multifunction space for them to use. (Source: Capital D website)

When a space offering is known by its target people, the second stage is promoting by word of mouth, i.e. encouraging current customers to transmit information to potential customers. In order to let people communicate the features of the space more efficiently, the hub can provide some printed material for them. Seats2meet offers postcards with space information on them and ask its users to give a postcard to their friends, thus promoting the hub



Figure 8.2.7.1.3. Seats2meet use postcard to let people know more detail information about its space.

Web promotion is also important for a hub to promote space; besides a traditional website, a hub can use new technology to develop a 3D virtual reality presentation of the space, so people who are interested but are unable to go to the space can still appreciate the environment and see the advantages of the space via the Internet.

7.2.1.2. EVENT MODEL



A design innovation hub uses an event model to create value by hosting design innovation related events for different people, or helping customers to organize events.

Target people

For the event model, the target customers are the general public, designers and companies. The general public may come to events for fun or to learn basic design skills; for designers, they may attend events to show their creativity, interact with other people, or learn advanced design skills from experts; for companies, they can attend events hosted by a hub or ask a hub to help them organize special events to train their employees or launch a new product.

Main goal of marketing communication

For a design innovation hub which offers an events service, the main point of a marketing communication plan is inform potential customers that it hosts events, about the special features of different events, how these events are different from those of other hubs, what people can gain by attending an event, previous successful events, and detailed information about events (e.g. time, criteria, attendance fee, schedule.) It also important to let people, especially companies, know that the hub can help them organize special events or training programmes according to their needs.

Marketing communication method

To achieve the above goals, there are some marketing communication methods that can be used by the hub. At the beginning, the aim is to publicise events, so the

hub can use social media to convey information about events, such as Facebook or Twitter, the advantage of using social media being that it is convenient and cheap. When using social media, the hub not only releases information, it has to focus on how to transmit information to the right community, such as a group of designers or companies, which are interested in design innovation. According to Hede and Kellett's research (2011), they found that people like to receive information about a special event via the infrastructure they interact with at present rather than a new one; and our research found that almost all design innovation hubs had used Facebook fan pages to communicate event information to their customers (e.g. Waag Society, MAD Brussels, Designregio Kortrijk and BUDA::lab Kortrijk).

Besides using social media, a hub can host some events for free; by participating in these free events, people will learn more about the content of different events and understand what kind of benefits they can get, and also talk to others about an event. Gitelson and Kerstetter's study (2000) shows that people's experience of previous

events will affect their decisions to attend future events. This strategy can be used with a word-of-mouth strategy. Word-of-mouth is one of the most effective ways to promote events (Hede and Kellett, 2011), because people in the same community have the same demands of an event. MAD Brussels organizes various training programmes for designers at no charge; designers who are satisfied with a programme will attend again and recommend MAD Brussels to their friends.

Moreover, the hub can use personal selling techniques to target specific customers who meet their requirements for events, such as a training programme for company or a personal exhibition for a designer. Personal selling can customize the message to the customer, identify customers' prospects and tailor a solution to their needs (Keller, 2008). By satisfying their needs, the hub can build a good reputation and establish a long-term relationship with those people or companies. MAD Brussels assists designers to host their own exhibition or exhibit their work at international design events; such exhibitions not only help designers to become independent, but also let MAD Brussels be known about by more people.

The design innovation hub uses a research model to create value by doing research with various partners or selling research results (e.g. data, IP).



Figure 8.2.7.2.1. Waag society communicates its event information by using Facebook fan page. (Source: Waag society in Facebook)



7.2.1.3. RESEARCH MODEL



The design innovation hub uses a research model to create value by doing research with various partners or selling research results (e.g. data, IP).

Target people

The target customers of the research model are companies and academic institutes, a hub with a research service can sell data or IP to companies, or develop new products or technologies with them; academic institutes can also buy data or do research projects with a design innovation hub.

Main goal of marketing communication

The main aim of a marketing communication plan for a research model is to let target customers know about the hub has a research department, as well as to let them know about the different kinds of research the hub can do, the different types of data the hub can provide, the partners that the hub collaborates with at present, how the hub can help them to achieve their goal by research, the quality of the research from previous good cases, the special resources a hub has (e.g. experts, experimental equipment, experience) and other research related services that the hub offers (e.g. help them to apply IP).

Marketing communication method

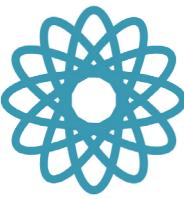
For a design innovation hub, which wants to promote a research service, it not only needs to let people know about the research service, but more important is to convince people to trust the quality of its research. Eppler and Will (2001) point out that for a knowledge-based product, advertising findings, collaborating with other reputable organizations and sponsoring events are

good ways to promote a brand and make connections between the knowledge provider and its target audience. To advertise research findings, a hub can publish its research results as a book or in a journal; publishing a book can generate media exposure, this strategy is used by many consulting companies to promote their brand (Eppler & Will, 2001); on the other hand, publishing an academic paper in a journal can help a hub to build a strong reputation in its professional research area, this strategy is used more by research organizations or academic institutes.

Being a sponsor for events is a good way for a design innovation hub to raise awareness of its research service, and by supporting some research related events, such as conferences or academic speeches, a hub can have more opportunities to make contact with its target customers (Keller, 2008), because only those who are interested in the specific area will attend academic events.

Another way for a hub to build its research reputation and demonstrate its capacity is by working with famous organizations or big companies; then, the hub can not only learn from experience but also get endorsements from them and be noticed within a short period of time. The Waag Society does research with different partners from various industries, to develop new technologies or products via collaboration; it not only gets profits from selling the products but also build its research reputation.

7.2.1.4. NETWORK MODEL



A design innovation hub uses a network model to create value by establishing a network for designers and companies for them to have the chance to interact and exchange knowledge.

Target people

There are two main types of potential customer for a network model: designers and companies. The network helps designers to make connections with other designers to form a designers' community, and also gives them the chance to get in touch with other companies. The companies use the network to reach the designers they need and work together in innovation.

Main goal of marketing communication

For a design innovation hub which wants to promote a network service, marketing communication can help the hub to tell its target customers that the hub has established a network, about the functions of the network, how the network works, how it can help target customers to perform better, who can target customers build relationships within in the network, what kinds of information the network provides, what special knowledge is only shared in the network and other benefits that people can have by joining the network (e.g. joining the network as a status symbol).

Marketing communication method

To promote a network, a design innovation hub can use various marketing communication methods to help the network become known and attractive to a target audience.

Firstly, the hub can invite celebrity experts to joint the

network and endorse it; Pringle (2004) indicates that using celebrities can be very powerful when launching a new brand, especially when the product category is new, because celebrity offers customers reassurance. By involve experts in the network, it not only guarantees the quality of the network and raises the network's name, but also attracts people who want to connect with those experts who thus will join the network, too.

Another way to let people know about a network is to participate in trade shows or international exhibitions. A network is an intangible thing and very hard to promote via traditional media, but trade shows and exhibitions offer a personal interactive opportunity for the hub to show the content of the network and how it can help customers achieve its goals (Elliott, Percy & Pervan, 2011).

Although a network is an intangible thing, a hub can still use tangible facilities or events to attract people to join the network; through facilities and events, people in the network can interact with others face by face and build strong connections. Seats2meet wants to form a network of people with different knowledge, it started by providing a comfortable working space where everyone can work for free, they only have to register their profession on a virtual board; if one person working there has a problem and wants to seek help from others, he/she just needs to check which professionals can help him/her on the board, and go to ask them for help; over time, a network of knowledge exchange will form and grow up naturally via people who work at Seats2meet.

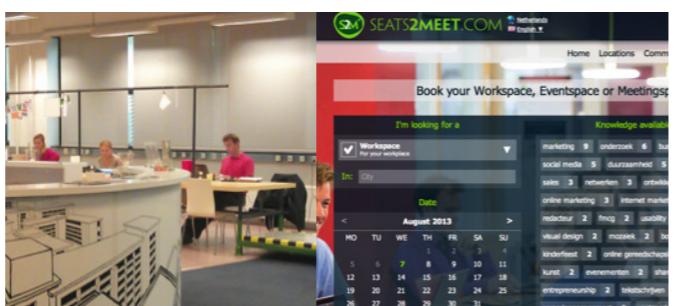


Figure 8.2.7.4.1. Seats2meet establishes network of people from different backgrounds by providing intangible space and virtual platform. (Source: Seats2meet website)

Little Mountain also wants to form a network and believes in the power of "working together"; so it rents a big space for young designers to work together on various projects there. Designers can only work in Little Mountain's space for three year; but, by collaborating with others during these three years, even when designers move out, they still have the connections with those still at Little Mountain and so a network of mature and younger designers is formed and will keep developing.

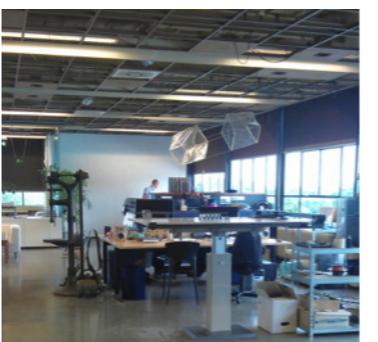
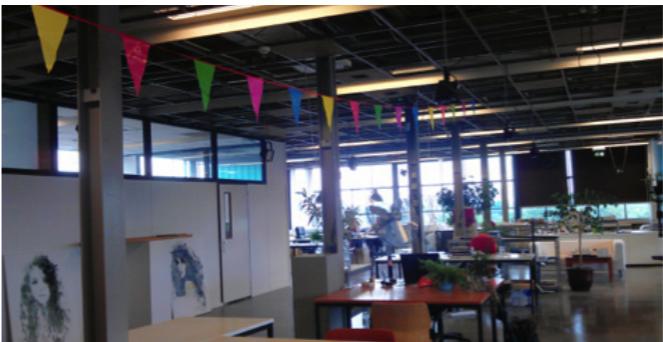
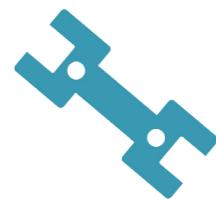


Figure 8.2.7.4.2. Little Mountain establishes network of designers by offering them the working space to work together.

7.2.1.5. MAKING MODEL



A design innovation hub uses a 'making' model to create value by providing making facilities (e.g. 3D printer, laser cutting machine), or helping customers to make a prototype.

Target people

For a hub with a making model, its target customers are the general public, designers and SMEs. The general public can come to the hub to experience making machines and make things by themselves; designers can use the hub's making facilities to produce products on a small scale; SMEs may need the hub's facilities and professional skills to help them make and test a prototype.

Main goal of marketing communication

When designing a marketing communication plan for a design innovation hub with a making model, the most important thing is to tell people that the hub offers a making service and how this can help them achieve their goal. It is also important to let the hub's target customers know what kinds of facilities the hub offers, how it charges for using the making facilities, how the making service at the hub is different from those of others, and information about making-related activities that the hub provides (e.g. information about workshops or machine-use training programmes).

Marketing communication method

A making service is a new concept for most people, especially the general public, some of them may never have heard about it before; thus, in the beginning, the objective of marketing communication is to raise

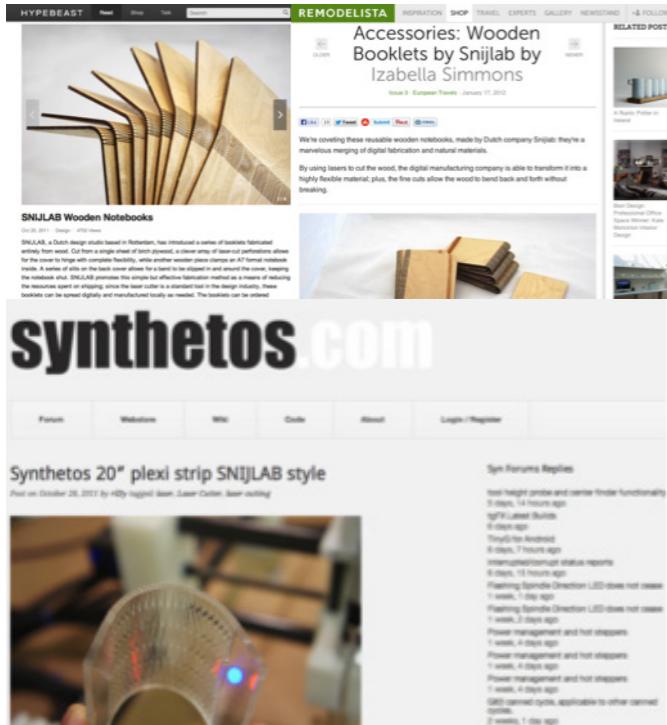


Figure 8.2.7.5.1. Snijlab promotes itself by putting the photos of their work in famous design websites and blogs. (Source: Hypebeast, 2011; Synthetos, 2011; Remodelista, 2012)

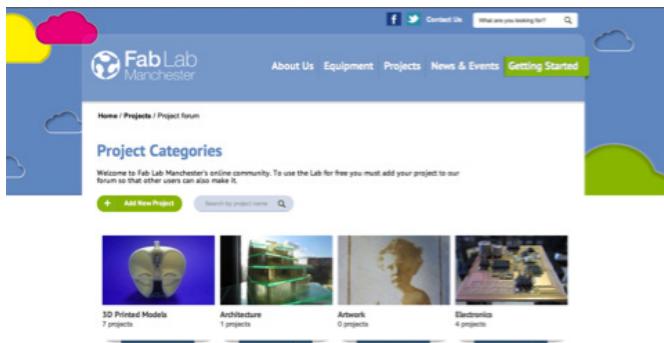


Figure 8.2.7.5.2. Manchester Fab Lab provides the platform for its users can share their work and experience to others. (Source: Manchester Fab Lab)



Figure 8.2.7.5.3. Buda Lab organizes events to attract target people to become user of Budalab.

people's awareness about the making service. To do this, the design innovation hub can use existing social media, with which people interact frequently, to communicate with its target customers about what a making service is, such as posting photos of the stuff which is made in the hub on popular design blogs or design forums. This strategy is usually used by a newly established design innovation hub. For example, when Snijlab was starting up, it did not spend any money on advertising, it just put photos of the products made by its facilities on some design websites and then waited for information to be spread via the Internet; after a few months, Snijlab was known about by many people in the region.

Another useful method for promoting a making service is by word-of-mouth; in interviews, the managers in design innovation hubs with a making service all mentioned that many of their users came to their hub via others' recommendations. Such word of mouth not only means people-to-people oral communication, written and electronic communications are also included (Keller, 2009). In order to motivate people who would like to talk about their experience, a design innovation hub can provide a showcase for current users to share their work and good experiences and thus attract more people. Manchester Fab Lab provides a platform for people to share their designs on its website, everyone can upload their work made at Fab Lab and their opinions about it to the website, and also see others' ideas. Through the experience sharing of current users, it can help the hub to communicate its values to potential customers and promote its name.

The hub can also plan programmes for its target customers so that they can experience its making facilities and have a deep understanding about how the hub can help them achieve their goals via the making service. According to our research, almost all the design innovation hubs offering a making service are using workshops to promote it.

7.2.2. CONCLUSION

This section has discussed brand strategies for design innovation hubs and marketing communication methods for the different business models, which this research designed before. Brands are very important to organizations to show their differences and make delivery promises to customers; and marketing communication helps organizations to inform, persuade and remind customers of its offerings, and thus achieves its goal to promote brands.

Brands and marketing communication are very important for design innovation hubs, because design innovation hubs only offer a service rather than tangible products. Service products are intangible and create value only at the moment of purchase and/or experience; these features make it very hard for customers to make a choice, especially as the design innovation hub is a relatively new concept for most people, so it needs a brand strategy and a well-designed marketing communication plan to communicate its values and promote itself to potential customers.

This discussion proposes three brand strategies that can be used by a design innovation hub, including a corporate brand strategy, an individual brand strategy and an endorsement brand strategy. By using a corporate brand strategy, a design innovation hub only develops one brand for all the services it provides, so the hub can be promoted with limited resources; by using an individual brand strategy, a design innovation hub can develop different brands for different offerings, thus attracting a wide range of customers; by using an endorsement brand strategy, a design innovation hub can work with different organizations, and thus become known in a short time or extend itself into new markets. This discussion also includes some marketing communication methods that can be used by a design innovation hub for different business models, and some examples to show how an existing design innovation hub can use those strategies. When designing a marketing

communication plan, it is necessary first to think about who is the target audience, what kinds of messages they want to hear, and how they expect to receive those messages; then, based on such information and the resource hub has, the hub can develop an appropriate marketing communication plan.

To communicate with and attract customers successfully, the hub must ensure it has an integral brand and marketing communication plan and that it transmits a consistent message to customers.

7.3. CREATING A NETWORK DEVELOPMENT PLAN FOR DESIGN INNOVATION HUBS (BY CHEN PEI-JU)

PROUD is a project funded by the EU as part of the INTERREG IVB NWE programme, which uses design as a driver to seek innovation and economic development in a sustainable way. Therefore, PROUD partners established design innovation hubs to use new methodologies focusing on co-creation to collaborate with people from different backgrounds in order to collect new ideas for improving current products, services and spaces.

This collaborative model can be seen in a large amount of literature, but it usually focuses on the increase of network economy in an inter-organizational network, or on maximizing the efficiency of a company's supply chains (Man, 2004; Roseira, Brito and Henneberg, 2010; Holmen, Aune and Pedersen, 2013). However, many scholars have discussed a trend towards a collaborative network that places emphasis on its different contributions to the development of innovation (Arana and Castellano, 2010; Eschenbächer, Seifert, and Thoben, 2009). This is because collaborating with different organizations or the public is helpful as it enhances an organization's capacity to develop innovative ideas (Dahlander and Gann, 2010).

Therefore, it is worthwhile for design innovation hubs to

understand how to develop their networks, in order to acquire relevant resources and ideas for innovation.

In addition, there are many advantages to being a part of network such as sharing knowledge, the increase in the use of facilities, cost and time reduction, and increasing the organization's flexibility in a dynamic environment (Camarinha-Matos and Afsarmanesh, 2004; Huxham and Vangen, 2005). Thus, if a hub can access different benefits from different networks, it is useful to increase the effectiveness of its modular business plan. But it might be a challenge for design innovation hub, as can be seen in the previous chapter, because each hub has a different business model and it is not easy to gather people together in order to develop a collaborative network.

So the aim of this research is to help design innovation hubs use different networks' advantages in order to enhance their modular business plan through a network development plan. There are four objectives including (1) identifying the different benefits of a collaborative network and its challenges (2) clarifying different methods to develop a network (3) uncovering different network developments of five models (4) creating a network plan to enhance the modular business plan.

This chapter will focus on three elements, first, five different design innovation hubs' network developments will be discussed. The next section will create a network development plan for design innovation hub, to describe how network development can help modular business plans work better, in order to help hubs self-sustain. Then, the last two sections detail the relevant limitations and conclusion.

7.3.1. FIVE DIFFERENT NETWORK DEVELOPMENTS

Face-to-face interviews and the relevant data from websites show that each hub chooses a different way to develop its network according its current situation. In this section, five different hubs including Space, Event, Research, Network and Making will be discussed

in terms of their network development, benefits and challenges.

7.3.1.1. A SPACE HUB

Strijp-S is an example of a hub that provides space for professional workers from different backgrounds to work together. It is totally different from traditional working styles, and crosses boundaries between people that work for different companies. As a manager in Strijp-S pointed out two key values of the hub:, he said that "[it]...provide[s] an open area for other people to join ...[and] can accelerate new ideas". This useful opinion explains that providing a flexible working area for people is an effective means of getting new ideas.

The other value the manager emphasized regarded their strategic design team. He explained that although most of the time people work for their own clients, when a project requires a multi-discipline team, they could team up strategically, and this would be more competitive than a design studio or design agency. Also, the cost of rent in this shared environment is very competitive. However, one of Strijp-S's main challenges is to gather a wide range of professional workers, so it is necessary to consider how networks can make it easier to build up this strategic team.

7.3.1.2. EVENT HUBS

Capital D and MAD Brussels are two examples of hubs that use design as a driver for developing their networks. A project manager in Capital D said that co-design is an approach they used to get new ideas and to find possible solutions from the public. Because of this cooperation between hubs, designers, the public and industries, it forms an interdependent relationship and gradually creates a design culture.

Although MAD Brussels say that launching events is the best way to promote designers, raising events or activities requires a great deal of time to prepare.

Furthermore, Capital D points out that inviting people to

Value Proposition

- Professional workers from different disciplines:
 - People coming from different background can be more competitive.
- New ideas:
 - Providing an open working area is an effective way to get new ideas.

Infrastructure Management

- A flexible-working place:
 - It provides very flexible options to for people to rent a working place.

Customer Interface

- Strategic team:
 - People can team up flexibly according to different project requirements.

Profit Equation

- Cost reduction:
 - The rent is very reasonable and competitive.

Challenge

- The number of people:
 - It is important to increase the number of people who come from different disciplines.

Figure 8.3.2.1.1. The network impacts at Strijp-S (source: Appendix B-11)

Value Proposition

- To promote design for innovation:
 - Our aim is to serve the design community and to help them promote innovation (Capital D, 2013).
- New ideas and solutions:
 - Through the collaboration between designers and the public, it produces new solutions (Capital D, 2013).

Infrastructure Management

- A flexible place:
 - Providing a very flexible space for everyone is a way to encourage innovation (Capital D, 2013).

Customer Interface

- Interdependent relationships:
 - Design Innovation Hub can be a platform to provide designers useful information (Capital D, 2013).
 - Companies also contact with us in order to reach the design community" (Capital D, 2013).
 - We want to aid more cooperation in different design industries (MAD Brussels, 2013).

Profit Equation

- Getting funding:
 - from the city or events

Challenge

- Time for preparation:
 - It takes time to invite appropriate people to guide co-design activities. (Capital D, 2013).
 - It is not easy to collaborate or to attract people to get involved (MAD Brussels, 2013).

Figure 8.3.2.2.1. The network impacts in Capital D and MAD Brussels (source: Appendix B-9 and B-3)



Figure 8.3.2.3.1. The network impacts in WAAG Society (source: Appendix B-5)



Figure 8.3.2.4.1. The network impacts at Seats2meet (source: Appendix B-8)

join co-design is not easy because you have to find an appropriate person to lead the activity. Therefore, it is important to consider how networks can help these two hubs to find the appropriate people to promote design culture through events.

7.3.1.3. RESEARCH HUBS

Firstly, Waag Society developed an internal network consisting of six categories of research labs to launch the relevant research projects. In order to foster social innovation, it crosses research boundaries to provide a space for professionals, students, companies and the public to express their ideas. In interview, a manager in Waag Society said that, providing this open environment is an approach to encourage connections with different people and also maximize ways of using these infrastructures to produce different benefits.

This research-based hub takes advantage of combining social values in order to provide better products or services to the market. Therefore, a manager in Waag Society pointed out the relationship with customers, she said, in this network, they encourage people to share their resources in order to create more profit, which develops an interdependent relationship and builds trust accordingly.

However, one of the difficulties cited by a manager in Waag Society regards getting funding from sponsors, because it might be risky if doing research from this creative perspective cannot produce predictable results. Therefore, through the assistance of network members, it might be possible to financially support this research-based team so as to lower the risks of creative ideas.

7.3.1.4. NETWORK HUBS

Seats2meet provides a good model for building up a collaborative network. The aim of this hub is to provide an open space that can accelerate knowledge exchange

between people: as a manager of Seats2meet said, "knowledge is also another money". Knowledge in this hub can be a shared commodity that can be accessed by people within networks. Besides, an easy-to-use infrastructure can be seen as a critical factor in making people feel more comfortable interacting and building trust with each other. Over time, a diverse range of people would gather here and share an abundance of knowledge to build better connections with others.

This type of hub requires a long period of time to develop a variety of characteristics of communities, but choosing an appropriate way to help people find the community they want is the most important thing. Therefore, inviting more people from different backgrounds of knowledge would help to make this hub competitive.

7.3.1.5. MAKING HUBS

Stadslab Rotterdam and Snijlab are both use the "Fab Lab" concept to promote ideas exchange. Troxler provides an insight into the positioning of Fab lab, which focuses on sharing knowledge and providing useful facilities for learning through creation. Snijlab chooses to provide a professional laser cutting service for clients to accelerate idea exchanges. These machines can be used as a bridge to build up connections, stimulate people to exchange ideas and develop problem-solving abilities. But, there is a challenge in this Making hub. As Troxler explains, "the most difficult and important [thing] is to build the community of users". Thus, taking advantage of networks to maintain a long-term relationship is a possible way of enhancing this type of innovation.

As can be seen, it is clear that each type of hub has a different focus in order to integrate different stakeholders and develop their networks. All of them

try to provide open, flexible environments to create networks in order to maximize their impacts on people.

All of them rely on partners with whom to exchange knowledge and enhance problem-solving abilities. Also, they have similar challenges such as time constraints, getting funding and the difficulties of developing networks. Although not all of them are working in the field of design, their working and living environment might have possibilities to relate to design, or they may use their creative ideas or knowledge to improve existing services or products.

Because of these common behaviours, experience and problems, it is possible to find a common reason to create networks between people in order to achieve a common goal. Therefore, the next section will discuss ways in which a network development plan can be used to help the modular business plan to integrate the five models' strengths and achieve sustainability.

7.3.2. CREATING A NETWORK DEVELOPMENT PLAN FOR A MODULAR BUSINESS PLAN

7.3.2.1. THE SIX STEP NETWORK DEVELOPMENT PLAN

According to network theories, developing a network can be viewed from different perspectives, and there is no specific approach or model that can be used to explain networks' dynamic development. Therefore, I will take ideas from three theories - Graph Theory, the Strength of Weak Ties and Collaborative Network Relationship Analysis (CNRA) - to explain how this network plan works. There are six steps that can be used to describe how a network development plan can help the modular business plan have a better collaboration and thereby ensure a hub's sustainability (see Figure 8.3.3.1.1):

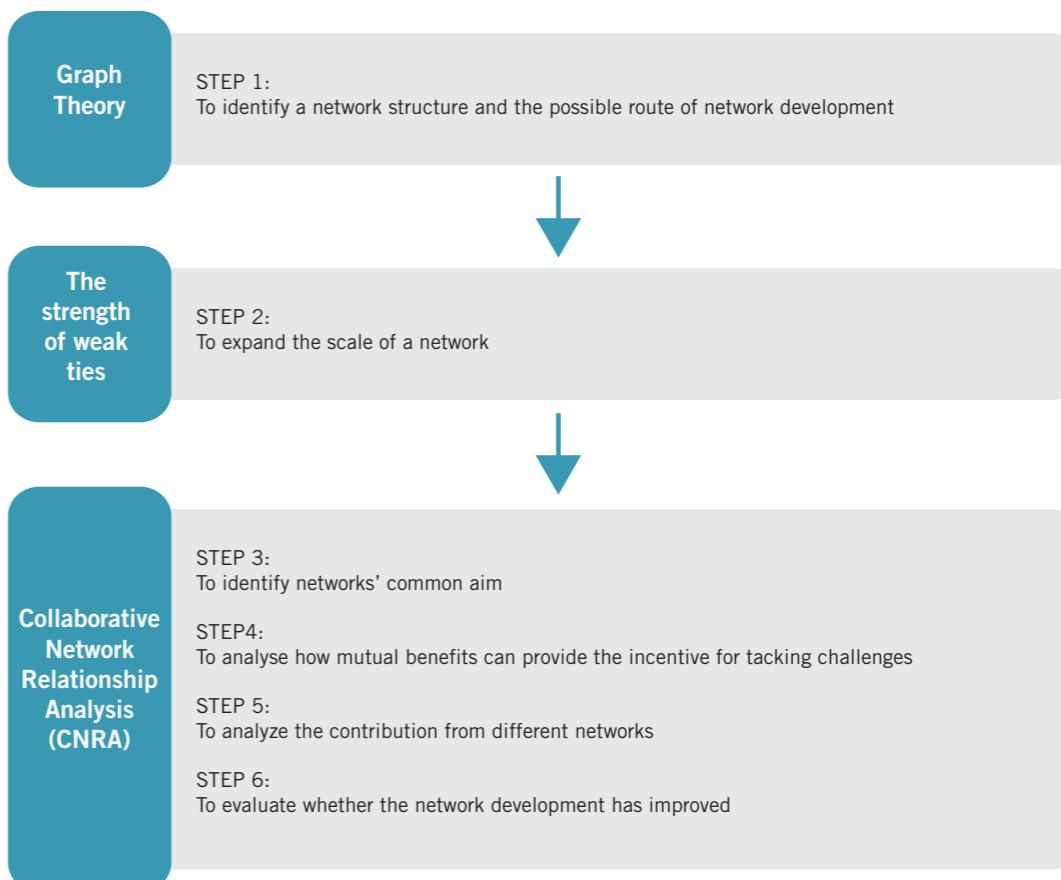


Figure 8.3.3.1.1. The six step network development plan

Value Proposition

- Knowledge exchange:**
 - Providing knowledge and using knowledge is what Fab Lab should focus upon, rather than technology (Stadslab Rotterdam, 2013).
- Professional service:**
 - We provide a professional laser cutting service to designers and small companies (Snijlab, 2013).

Infrastructure Management

- Learning through creation:**
 - Problem-solving ability: Our experience from facilities is the way we can provide solutions for our clients to solve their problems (Snijlab, 2013).
 - Receiver + Supplier: People who have share their experiences with others, but they can also receive benefits, such as the free use of the facilities (Stadslab Rotterdam, 2013)

Customer Interface

- More interaction:**
 - Through positive interactions, we can better understand what our clients think (Snijlab, 2013).

Profit Equation

- Time constraints:**
 - It needs to get balance in combining cross-disciplinary knowledge into services (Snijlab, 2013).

Challenge

- To develop community:**
 - The most difficult thing is to develop the community of users (Stadslab Rotterdam, 2013).

Figure 8.3.2.5.1. The network impacts at Stadslab Rotterdam and Snijlab (source: Appendix B-6 and B-7)

7.3.2.2. THE APPLICATION OF THE NETWORK DEVELOPMENT PLAN

Then, the next part will discuss how to apply these six steps into the modular business plan in order to help design innovation hub enhance its self-sustaining ability.

Step 1: To identify the network structure and route of network development

In the first step, because each hub has different resources, so there are many routes that hubs can take. This research chooses four services (Space, Event, Research and Making) as a start pointing (Figure 8.3.3.2.1) to display how this network development plan can help hubs connect to others.

Step 2: To expand the scale of a network

As can be seen from Figure 8.3.3.2.2, network development can play an important role in building connections with others and forming closer

relationships. Besides, according to insights from research, although not all people in the hub are working in the design industry, they still have some connection to each other (Figure 8.3.3.2.2).

Also, over time when the scale of network is expanded, it is possible to build up new relationship (Figure 8.3.3.2.3). Furthermore, as I will show in the last section, it is possible to take advantage of the impact of network for building connections with people from different backgrounds. Therefore, it is assumed that networking is an effective way of connecting with people. The assistance of networking can effectively build up a relationship with another network and develop common goals to solve their problems.

Step 3: To identify networks common aim

According to the previously mentioned interviews, there are some common aims in these different services'

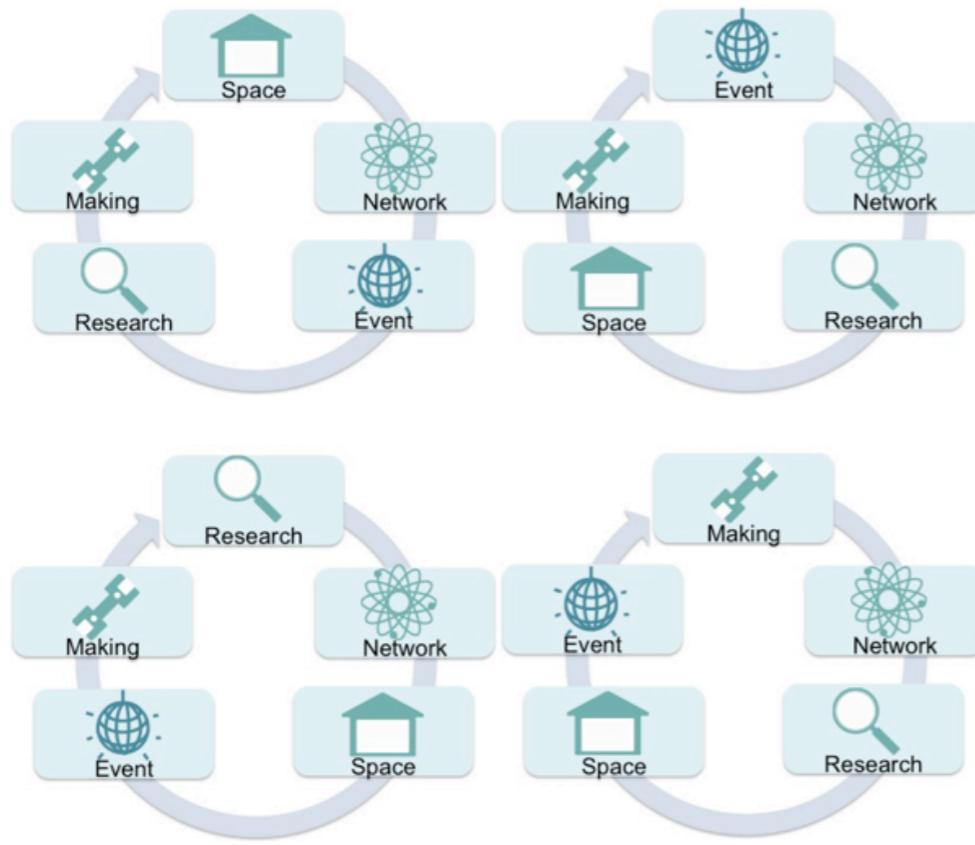


Figure 8.3.3.2.1. Four different routes in the network development plan

networks, which are designed to facilitate the increase of flexibility, new business opportunities, knowledge exchange and new ideas.

Step 4: To analyze how mutual benefits can provide the incentive for tackling challenges

However, as can be seen in this research, the different hubs pose different challenges. Thus, step 4 will be divided into four parts (Space, Event, Research, Making), to describe how these four different hubs can collaborate with each other so as to create interdependent relationships and get benefits from each other.

I. Space hub's challenge:

It is difficult to increase the number of people who come from different professions in order to become more flexible and competitive, generate more new ideas and exchange knowledge.

i. The benefits from the other hubs' networks

• From Network:

The network-based hub's network provides a platform for creating connections with different professional workers, end users and the public. Then, this collaboration can help the space-based network to be flexible so as to form a strategic design team in terms of the improvement of public benefits, services and products in a sustainable manner.

• From Event:

The event-based network can help the space-based network to explore or introduce new business opportunities, and also to build connections with people in different industry.

• From Research:

Professionals in the space-based network can benefit from research results, which can help the design team to lower the risks of new product development and making designs become more easily acceptable by clients.

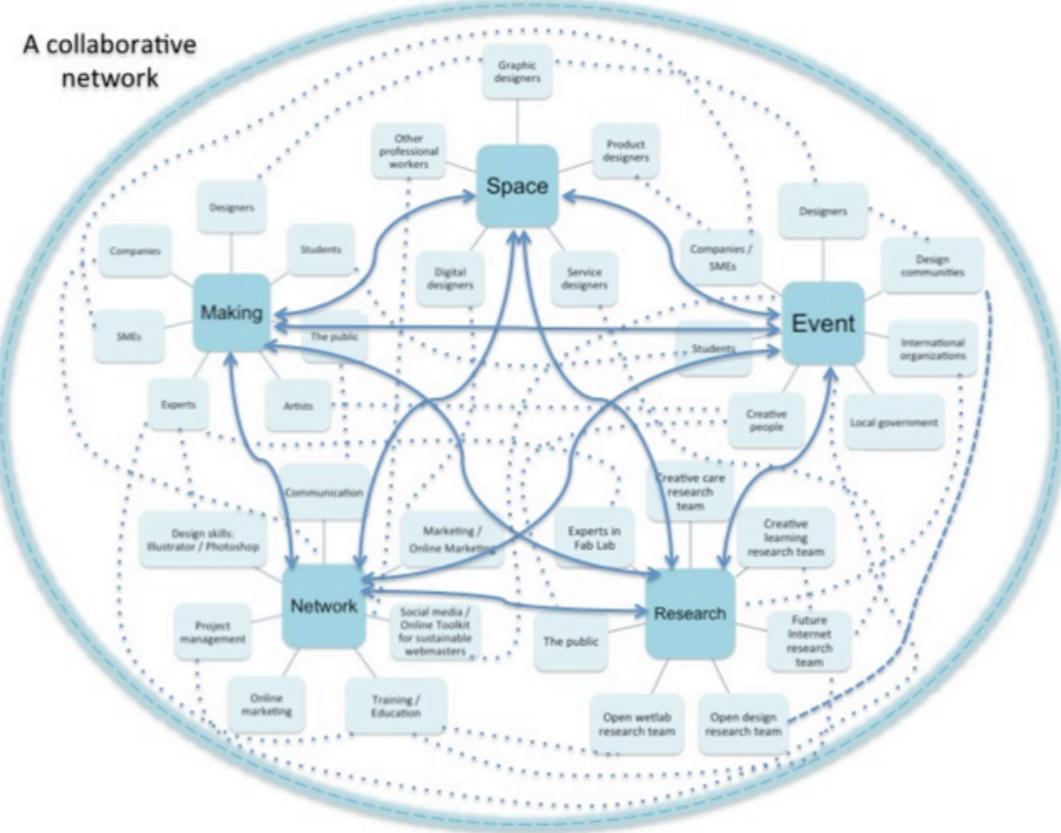


Figure 8.3.3.2.2. The connections between the five different services hubs

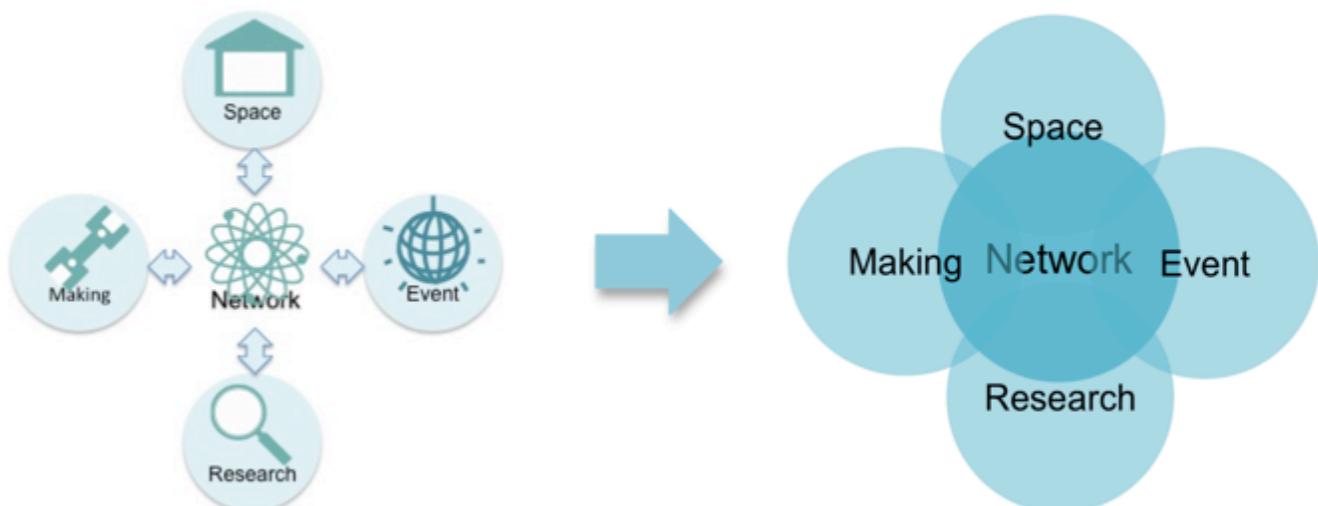


Figure 8.3.3.2.3. The relationships and development in the five different services hubs

- **From Making:**

A making-based network enhances professionals' quick-response abilities through prototypes, and helps designers to engender their clients' satisfaction. Also, through cooperation with people experienced in lab-work, designers can receive useful suggestions about the selection of materials.

- i. **The benefits from the other hubs' networks**
- **From Network:**

Spreading information through networks is an effective way to approach the target audience, because this information comes from their friends who know that they are interested in a specific design area or topic.

- **From Research:**

The research group can provide compelling research directions for design innovation hubs to invite people coming from different industries to join this cross-disciplinary discussion, and develop one-to-one relationships in order to increase the chances of providing services.

- **To Event:**

Professional design teams from different backgrounds can help design innovation hub's events use different design disciplines to attract more people who are interested in applying design to their services and products.

- **To Research:**

Through connection with the space-based network, the research group might have more chance to find out sponsors from the government, or from large companies.

As can be seen in Figure 8.3.3.2.4, when the space-based network starts to expand, all networks can get benefits through collaboration, which results in long-term relationships. Also, this network's development helps designers or design teams to become more competitive, flexible, and to continuously improve the current situation for the public from the perspective of service design.

II. Event hub's challenge:

It requires a considerable amount of time to prepare events that attract people, and inviting appropriate people from different backgrounds to guide workshops or projects is not easy.

- ii. **The benefits that a space-based hub's network can contribute to another networks**
- **To Network:**

It can provide people who are interested in design with practical working experience from professional workers.

- **To Space:**

Professional designers or artists can help hubs attract more people through different media such as a concert, an art exhibition, or fashion and digital design.

- **From Making:**

Skilled people in Making-based network can support this type of hub to provide practical experience in manufacturing. For example, they can exchange their experience in co-design activities, and conduct or test the relevant projects after activities.

- ii. **The benefits that an event-based hub's network can contribute to another networks**
- **To Network:**

Joining events can help people to access the latest information, and can also aid network members in expanding their social lives, meaning that they are not limited to connecting through the Internet.

- **To Research:**

Launching events can help research groups to find suitable sponsors and promote the research-based network's reputation.

- **To Space:**

The space-based network can expand the scale of the network and explore the possibility of potential co-working design partners.

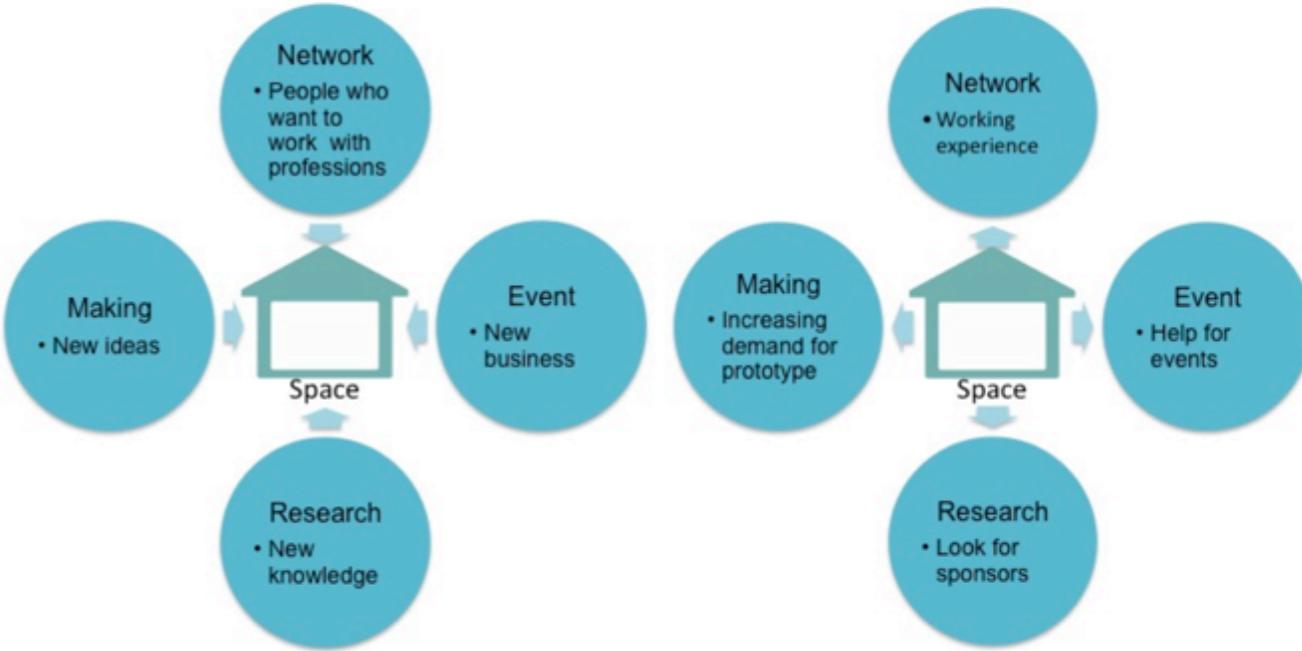


Figure 8.3.3.2.4. The cooperation between the Space hub and the others hubs' networks

and business potential to create a valuable, profitable research project to increase funding.

i. The benefits from the other hubs' networks

- **From Network:**

Network-based hubs can provide an open space for research groups to collect ideas from the public for research projects. This explores the possibilities of creative ways of challenging current services or products.

- **From Space:**

Professional workers can team up flexibly according to the requirements of different research projects. This strategic design team can help the research hub to explain or to communicate with clients from the concept of human-centered design or service so as to connect business value to the research project. By increasing effective communication, it is possible to meet sponsors' needs and thereby find suitable sponsors to invest in different research projects.

- **From Event:**

The benefits coming from the event-based hub concern the promotion of research's reputation.

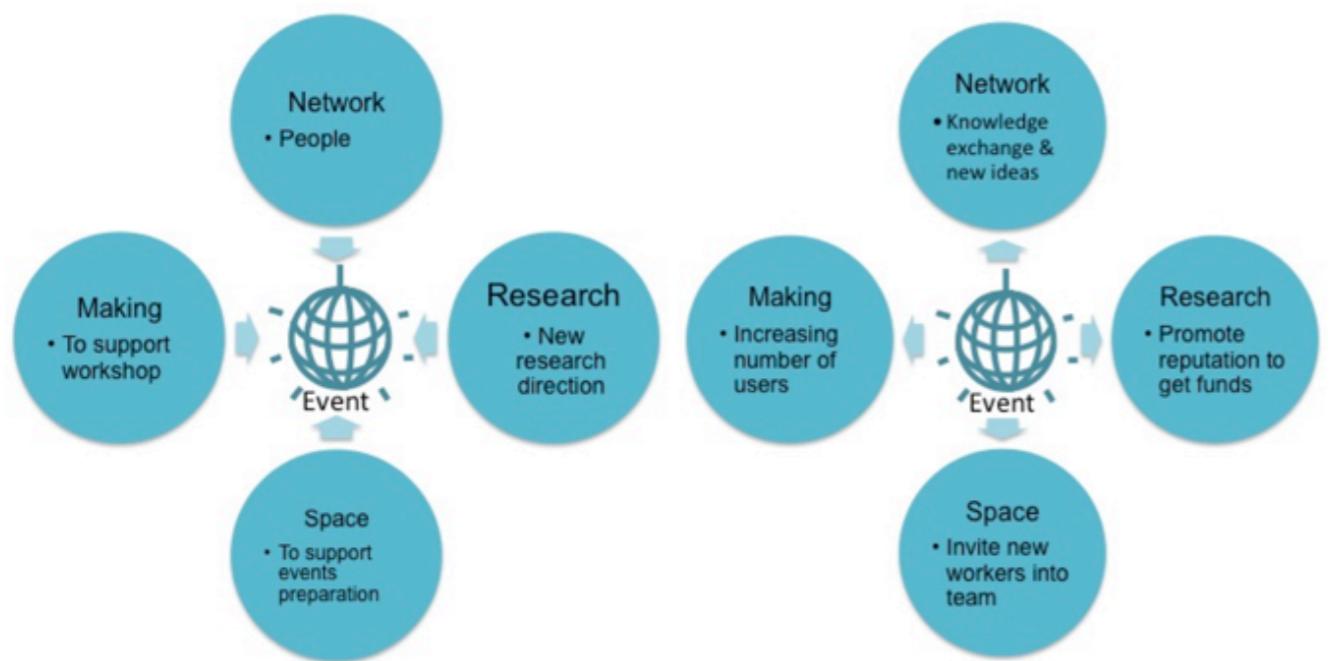


Figure 8.3.3.2.5. The cooperation between the Event hub and the others hubs' networks

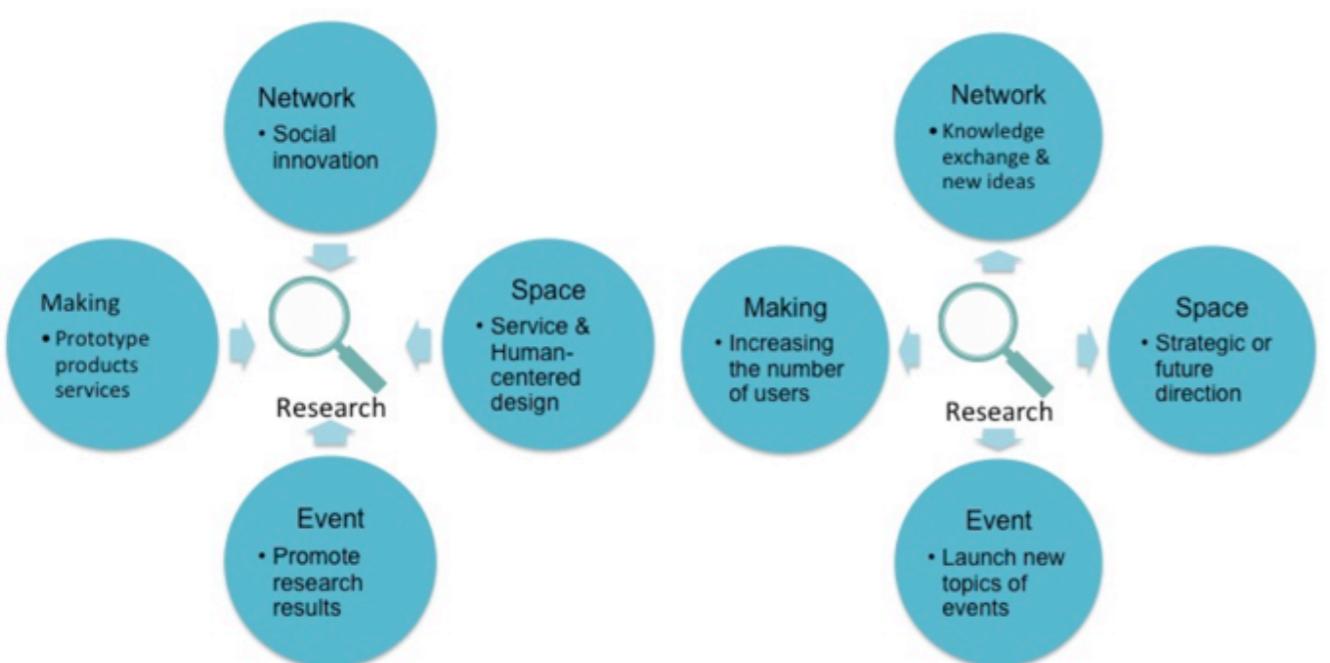


Figure 8.3.3.2.6. The cooperation between the Research hub and the other hubs' networks

Different conferences may attract different audience such as academics, SMEs, large international companies, the government and the public, so it is possible to find a group of sponsors.

- **From Making:**

A making-based hub can help evaluate business potential from the control of the design budget in manufacturing. It is helpful to clearly present the relevant risks of research projects and to make sponsors aware of the possibility of failures or a change in the direction of research.

- ii. **The benefits that a research-based hub's network can contribute to another networks**

- **To Network:**

The research-based hub can provide cutting-edge and cross-disciplinary knowledge to the public, so it is beneficial for people to exchange ideas and explore possible business opportunities.

- **To Space:**

Professionals in design can access the latest trends from research results and adopt these into their designs, in order to enhance their competition.

- **To Event:**

Event coming from different research disciplines would contribute to knowledge exchange and new ideas, which could create more opportunities to attract more people to join events.

- **To Making:**

Research ideas coming from social innovation would stimulate people to try to bring their creative ideas to life, which may increase the number of users.

Thus, the research-based hub (Figure 8.3.3.2.6) can encourage sponsors to focus on the improvement of public benefits and also adopt human-centered design into services or products. Not only can it help sponsors to explore potential requirements, but this type of hub might elicit funding from them. So this network

development started from research is an alternative way to support the hub's sustainability.

IV. Making hub's challenge:

It is difficult to find or develop a community of users.

i. **The benefits from the other hubs' networks**

- **From Network:**

People in the network-based hub are varied, so it is possible to find different communities who are interested in learning through creation or whose work requires prototyping services.

- **From Research:**

In order to test or experiment as part of the research project, it might need the facilities or creative people in the lab to help or to provide suggestions from different perspectives in order to improve the research results.

- **From Space:**

Professional designers might contribute design capability to help users in the find strategic ways to present their products. Connecting professional design and innovative ideas would be another way to support social innovation.

- **From Event:**

A making-based hub can benefit from different topics of workshops, which can bring different groups of people to prototype products, work together or develop further topics within the network. This community can be gradually self-developed by hosting different events.

ii. **The benefits that a making-based hub's network can contribute to another networks**

- **To Network:**

Learning by creation is another way of helping people to exchange knowledge and they can develop more new ideas in this cross-disciplinary environment.

- **To Research:**

Researchers can benefit from the testing of the research project by a different community of people

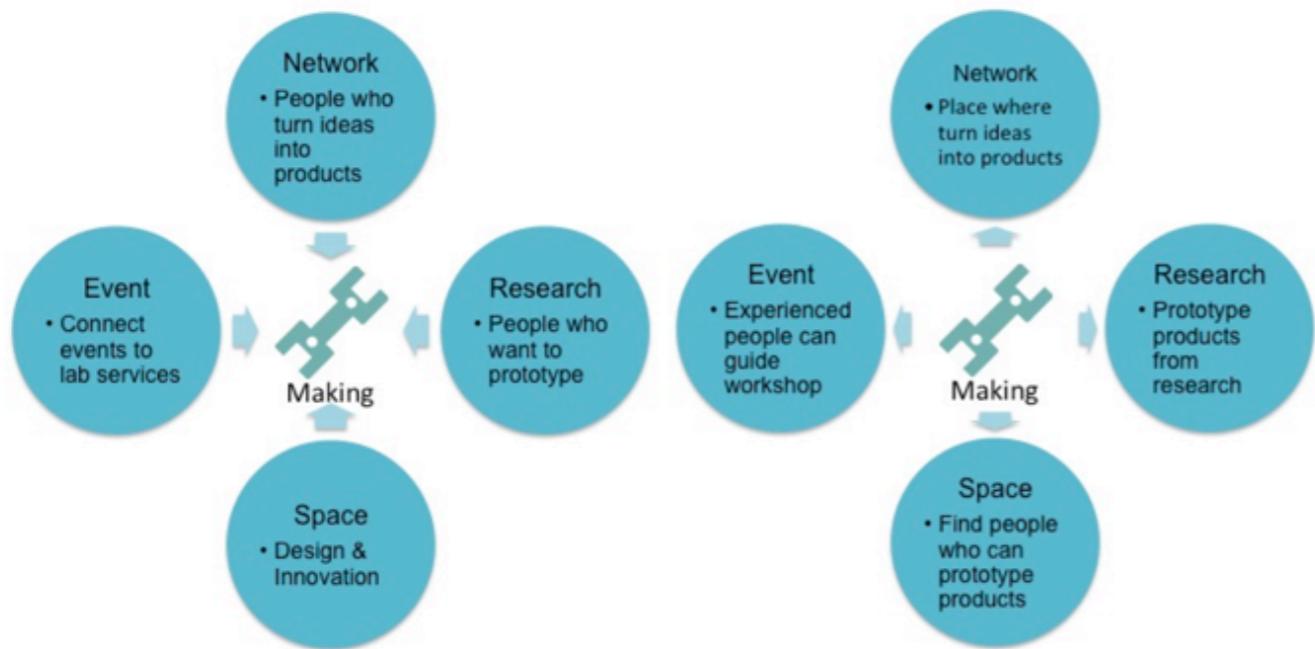


Figure 8.3.3.2.7. The cooperation between the Making hub and the others hubs' networks

in lab, which can lower the potential risks of a new project.

• To Space:

Professional designers can cooperate with skilled people in the lab, which can make their designs more feasible and more readily accepted by their clients after seeing professional prototypes.

• To Event:

Launching events requires a wide range of people to communicate design culture from different perspectives, so a making-based hub can provide a practical alternative for people to transform their creative ideas into real products. It can accelerate the integration of design and innovation.

From Figure 8.3.3.2.7, it is apparent that a making-based hub can support other hubs in a practical way through the lab's infrastructure. Similarly, other hubs can provide people with an alternative means of solving their problems and achieving their needs in a sustainable way.

Therefore, it is clear that through collaboration, it is possible for different hubs to enhance their ability and

increase potential customers. However, it is important when planning a network development to consider whether a hub can access or take advantage of other hubs' resources, and what value a hub can share or receive from another hub. It would be better if all services could be connected with each other not only because it can build up long-term relationships, but it can also increase chances of providing services to clients.

Step 5: To analyze the contribution from different networks

In step 5, it is important to identify the unique contributions of each hub (see Figure 8.3.3.2.7), because it can help each hub to ensure their different focus, which will then enable them to share their different values with each other. For example, in this network development plan, each hub offers a different contribution including a collaborative network, human-centred design, design and innovation, service design, and design culture, so each hub can contribute different benefits from different perspectives.

Step 6: To evaluate whether the network development has improved

In the beginning, each hub provides different services, but after a period of time, this collaborative network can be formed for using design to maximize public benefits from different perspectives such as design culture, co-design, service design, human-centred design and design and innovation. However, it should be considered whether there is another design component that can be added to this network in order to keep its competition.

7.3.2.3. RECOMMENDATIONS

In this network development plan, a hub can choose one model to develop its network, or it can be flexible and combine two or three according to the current situation. Besides, this research provides four different routes to explain how network development can help a hub gain benefits from others, but there is no specific rule that must be followed. Therefore, each hub should

plan how to structure a mutual benefit network in order to maintain a better relationship among stakeholders. Furthermore, this network plan should be assessed regularly to ensure its competitive advantages according to changes in the external environment such as new technology or new competitors, in order to maximize the benefits of its modular business plan.

7.3.3. CONCLUSION

As has been shown, the aim of setting up design innovation hubs is to employ design to accelerate innovation and sustainable development. Co-creation is one of the methods they choose to collect innovative ideas from cross-sectorial partners, before applying them to the improvement of current services. However, this is a challenge for design innovation hubs, because it is not easy to collaborate with a wide range of stakeholders and to find how these stakeholders can help design innovation hubs self-sustain.

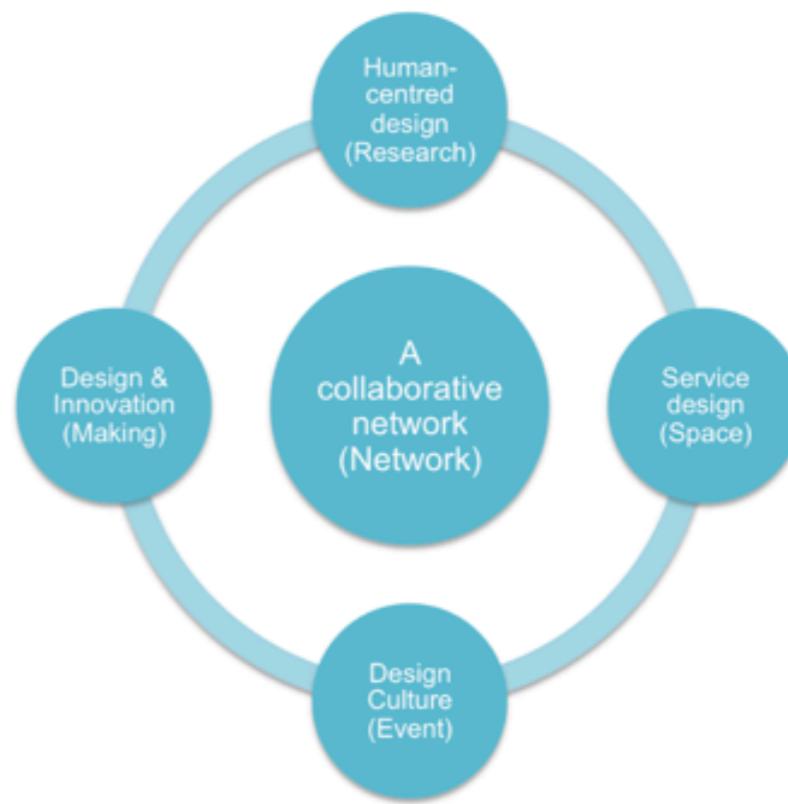
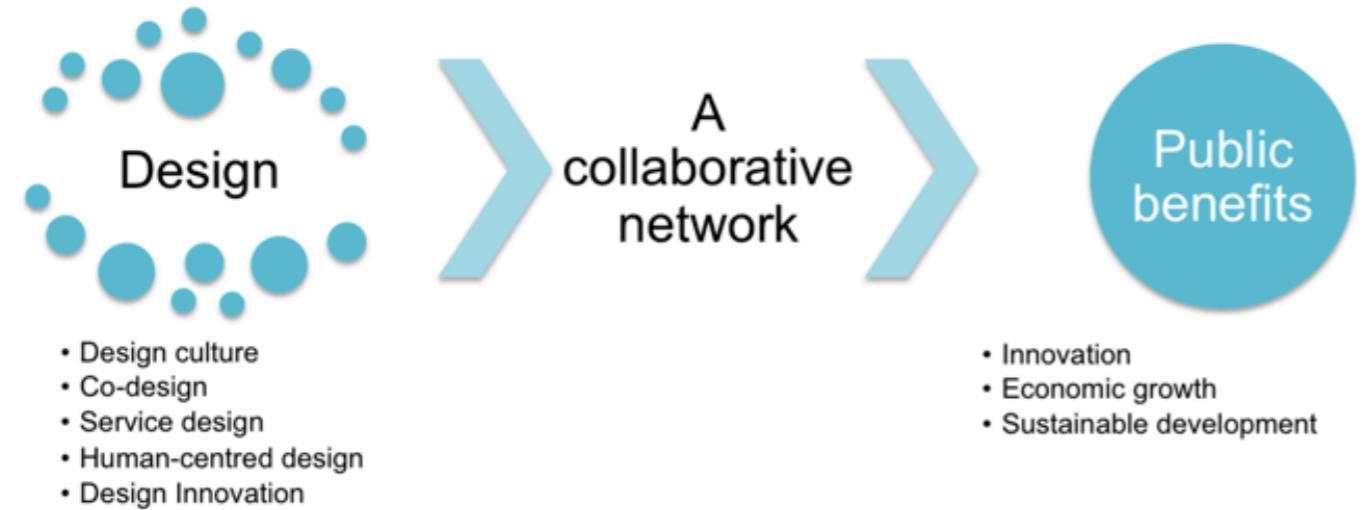


Figure 8.3.3.2.8. The different contributions in the five others hubs' networks

Figure 8.3.3.2.9. The different contributions for public benefits through the collaborative network



According to the relevant literature, it is clear that there are many different benefits that design innovation hubs may encounter through cooperation with others, such as the increase of potential clients, business opportunities, new ideas, reputation and the deduction of cost. Thus, developing their networks will offer design innovation hubs more potential opportunities to self-sustain. However, building trust and maintaining competitive advantages are necessary when developing a network, because it could impact the efficiency of collaboration within a network.

Three methods from different perspectives including Graph Theory, the Strength of Weak Ties theory and Collaborative Network Relationship Analysis can be usefully employed to develop a network development plan: they show how to structure the network and suggest the strategies of expanding their network and of analyzing their mutual benefits. Then, the analysis of five different services of network development (Space, Event, Research, Network, Making) shows that the hubs have similar behaviours and goals, but different challenges.

Therefore, a network development plan can help design innovation hubs to take advantage of others' shared resources in order to be better positioned within this network. The six steps of this network plan describes how each hub can enhance their own capacities for self-sustaining, but can also provide benefits to others in the long term. Although they develop their networks from different perspectives including design culture, co-design, service design, human-centred design and design and innovation, when they form a collaborative network, the contributions from design would largely impact on the regional economy and the development of innovation. However, there are some recommendations that the hubs should consider when creating a network development plan such as the external environment, abilities, resources and competitors. Although developing a network requires considerable time to plan, to organize resources and activities, to encourage people to join in and to evaluate the efficiency of collaboration, it is an effective way of influencing people to engage in design innovation hubs and use a sustainable means of maximizing public benefits.

CHAPTER 8 PRE-COMMERCIAL PROCUREMENT (PCP)

8.1. WHAT IS PRE-COMMERCIAL PROCUREMENT (PCP)

When starting or operating a Design Innovation Hub, organizations will be faced with procurement regulations, being procurers themselves, participating in a procured assignment of advising their network on procurement issues. This chapter will help the hub's organisations in the procurement processes.

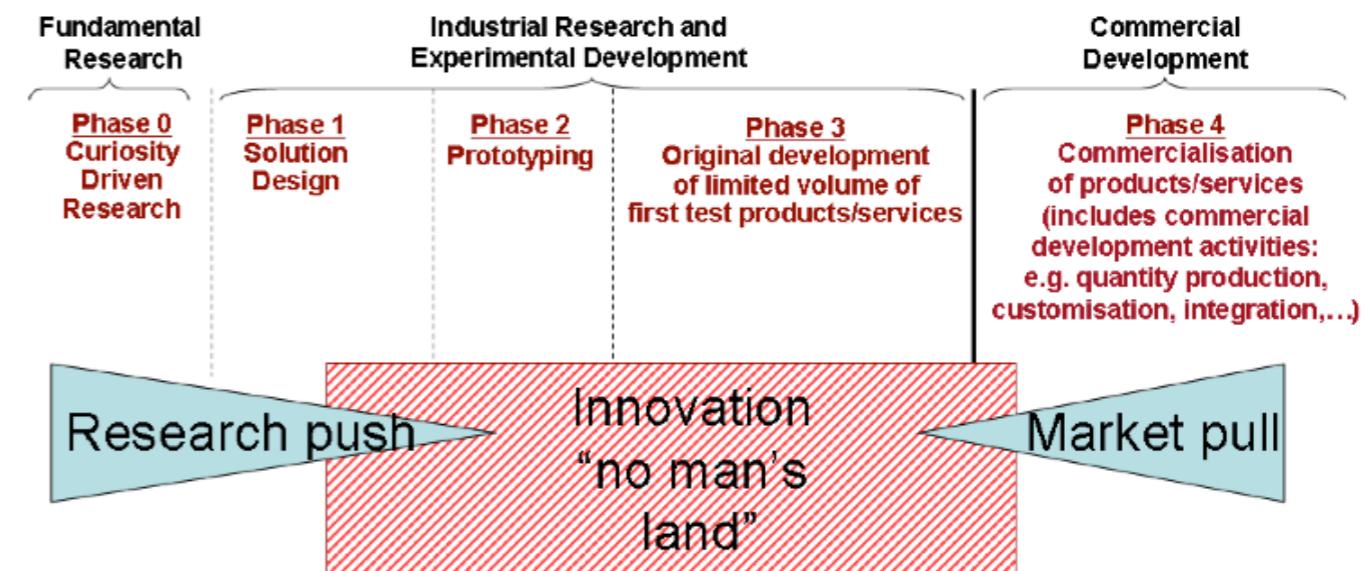
PCP is an approach for acquiring Research and Development services which enable public procurers to:

- share the risks and benefits of designing, prototyping and testing of new products and services with the suppliers and other stake-holders such as the end-users
- create the optimum conditions for wide commercialization and take-up of R&D results through standardization and/or publication

- pool the efforts of several procurers. Pre-commercial procurement gives an opportunity to develop different ideas in parallel where one, or few of the initial ideas that will eventually be selected for commercial public procurement in accordance with the Procurement Directives.

Pre-commercial procurement starts earlier in the innovation cycle of a product than a more conventional procurement project would do. It is also a competitive process where solutions are step by step selected or abandoned.

- **The first phase** in pre-commercial procurement may involve a pre-study or 'solution exploration' where several different solutions are explored.
- **A second phase** may include prototype development of the solutions that are judged most promising. This can be followed by the development of a small test-batch of some of the remaining solutions. Eventually one or few of the remaining solutions are selected for commercial roll-out.



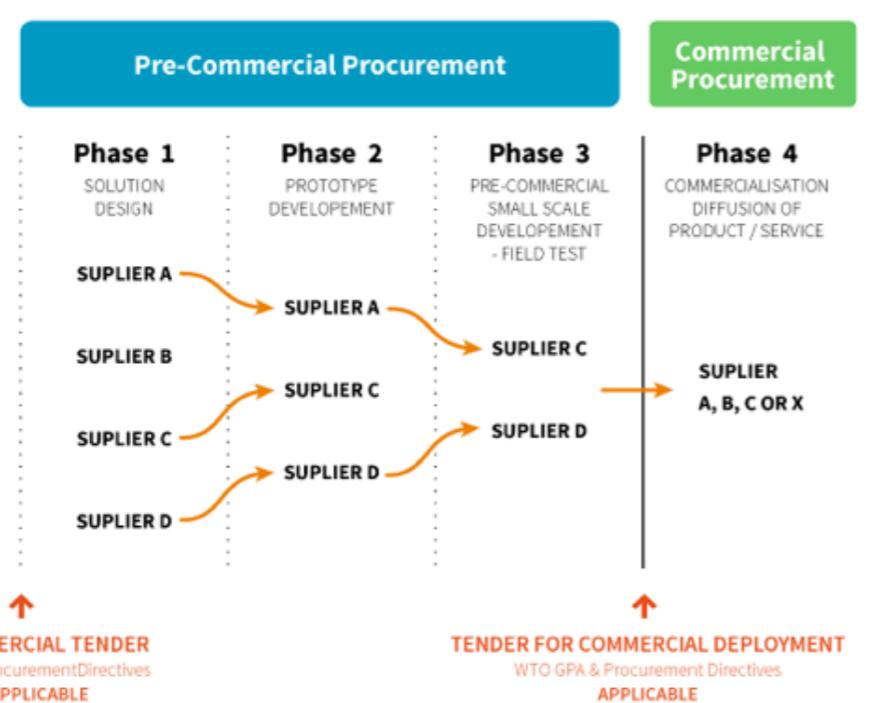
8.2. EUROPE'S VIEW ON PCP

- PCP has to steer the development of solutions towards concrete public sector needs, whilst comparing/validating alternative solution approaches from various vendors
- Public procurement/demand driven innovation can open markets for industry/researchers creating growth & jobs in Europe
- However, potential is underutilised in EU due to fragmentation of demand, lack of incentives -> transnational PCPs/PPIs

customer / early adopter / first buyer. It's a demand driven strategy that opens innovative new possibilities on the market.

8.3. DESIGN PROCUREMENT

Public procurement related to design is an interesting domain for applying PCP because it is often criticized by the innovation and design industry. The main accusation is that governments and public authorities too often try to buy design as though it were a discrete commodity, rather than a creative service, and that this seriously hampered the ultimate outcome for both buyer and supplier.



8.2.1. OBJECTIVES:

- Price/quality products that better fit public sector needs
- Earlier customer feedback for companies developing solutions
- Better take-up/Wider commercialisation of R&D results

The overall objective is to support public authorities in undertaking pre-commercial procurement (PCP) actions, which stimulate innovation by engaging the suppliers in the market as well as the end-users (Living Labs).

PCP has the advantage that it can be considered as a tool for launching innovative solutions tested by end

8.3.1. DEFINITION OF DESIGN

The problem with discussing design procurement is partly one of definition. Design activity as it relates to the business of government can range from laying out a tax form or building a website, to developing an entirely new policy or service. Additionally, the iterative nature of the design process is often a poor fit with static procurement processes.

8.3.2. PROCESS THINKING

The public Procurement Process has become a

classic example of a means becoming an end in itself. Outcomes are often secondary, with public services frequently trying to second-guess the market through complex specifications based on inputs, and requiring a level of information that was daunting for all but the largest firms to provide.

Small businesses tend to stimulate innovation, create a competitive spur by keeping costs down and value high and work flexibly to meet client needs. They follow the demand driven approach that is required for a short time to market strategy.

The vast majority of design businesses are SMEs and the experience shows that access is the key barrier for small businesses in trying to supply to government. The time and cost involved with the public sector tendering process is prohibitive, contracts can be difficult to find and supplier selection criteria are not always transparent. Track record also counts for a lot, making it difficult for new entrants to tap into government as a market.

8.3.3. SERVICE DESIGN THINKING

Small businesses help to bring new ideas to larger organisations, many adapt to meet client needs and work to keep quality high and costs low.

Design delivers. If one were to assume that this message is becoming more widely understood and that across sectors, organisations of all kinds now want to engage with design, how do they then go about procuring and commissioning it? Given the complexity, dynamism and breadth of design activity in the design industry, how can public authorities effectively procure such a diverse and dynamic, ever-evolving service in a way that delivers value? Embracing a broader view of what constitutes “value for money” is key to this.

Using service design thinking, creative research methods such as prototyping, blueprinting, storytelling, a lot of organisations (e.g. Imagination Lancaster), are seeking to uncover good procurement practice and to imagine the future of procurement. These projects are currently defining indicators of what good procurement looks like, the conditions under which good procurement happens,

and how these organisations can embed learning into the process to enable governments to be more innovative and efficient in their approaches to understanding and procuring design, and in re-imagining procurement process.

The innovative strength of Design Thinking lies in the co-working of business/organization + technology + end users. That's the key factor for successful Design Thinking.

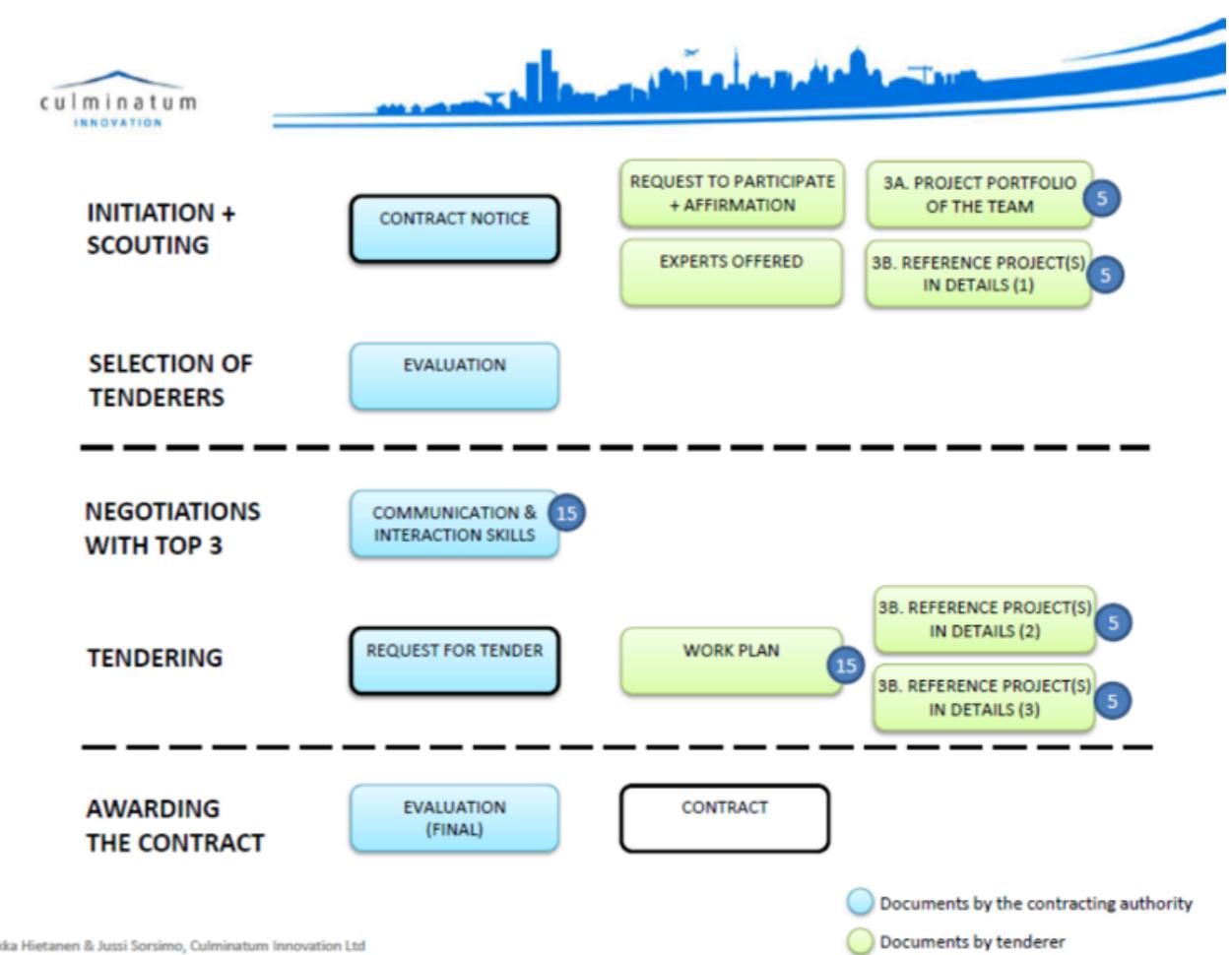
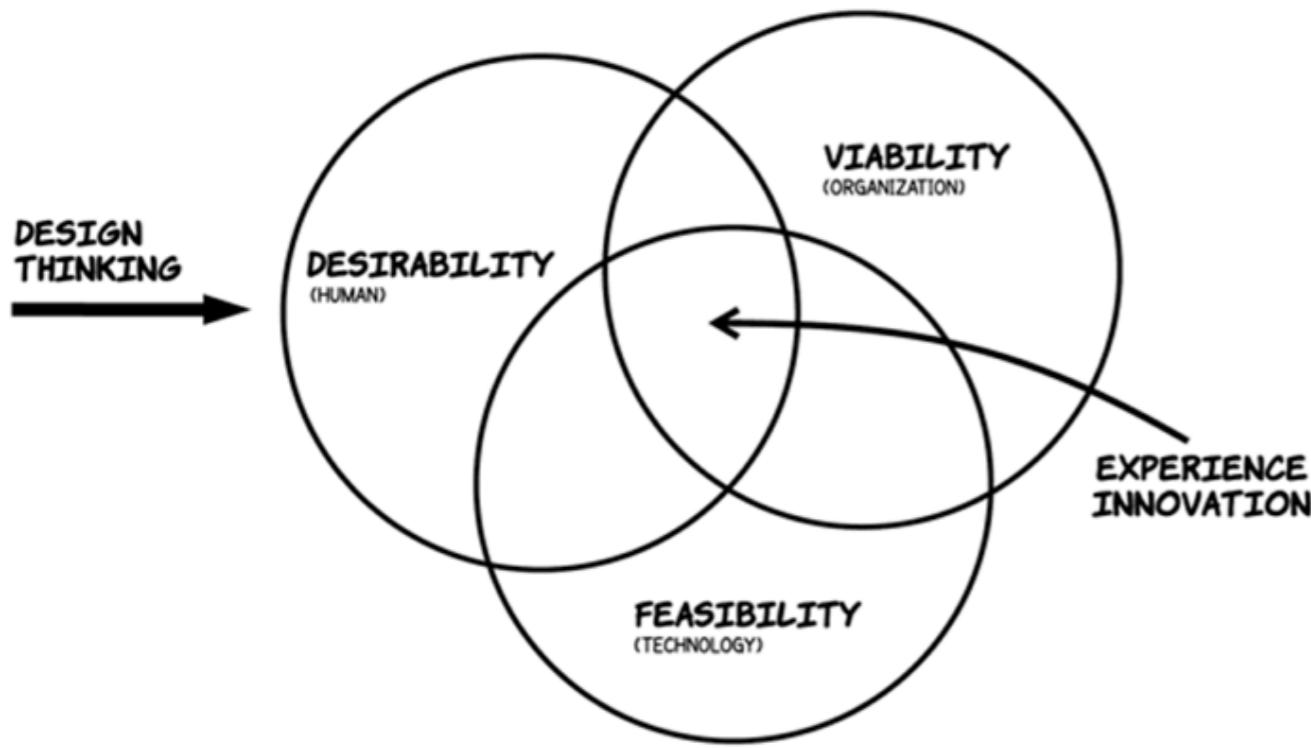
8.3.4. CULMINATUM INNOVATION MODEL

This innovative new procurement model developed by Culminatum Innovation (Finland) facilitates knowledge exchange between procurement and supplier, so that commissioning and procurement teams can build their

knowledge of the market, and suppliers can build their knowledge of procurement protocol for future scenarios.

This model reveals the needs of a good public procurement process. This tool should address:

- a thorough early needs assessment including all key parties (business/organizations, end-users, suppliers)
- clear contractual and legal procedures, including the IPRs and transparency
- formal commitments and roles of the parties involved in the process
- focus also on the commercialization phase, i.e. in securing deployment (through commercial procurement) of the new solution/service as a final step in the Innovation chain



8.4. PRIORITIES FOR THE FUTURE OF DESIGN PROCUREMENT?

8.4.1. FEATURES OF DESIGN PROCUREMENT

- Effective design procurement is about good practice in procurement, not just good design
- Whistleblowing bad practice is all very well, but design thinking can provide a way of re-imagining procurement beyond current conditions and mind-sets
- Design thinking can help re-imagine innovative procurement of services, and not just design services
- Procurement should be a sustainable process that facilitates knowledge exchange between procurement and supplier, considers beyond cost, builds relationships between supply and demand, and gives government a closer proximity to market.

public procurement of innovation at national and regional level

- Support soft, non-legal instruments as well as the development of practical tools for procurement of innovation and design, in combination with other policy instrument
- Diferent interests and incentive systems must be overcome in order to capture risk-predatory strategies
- Develop skills and methodologies for cooperation, Formalize the collaboration
- Overcome the asymmetry of information by increased Communications

8.4.2. ADVANTAGES OF DESIGN PROCUREMENT

- Facilitates negotiations between procures and suppliers
- Time to market is shorter
- Less risks of failure because the client's needs are dealt with
- Elimination of suppliers before the call for tender: less work afterwards
- Getting in touch with possible future team members in an early stage
- Less pre-work because there is a possibility to learn about the market and the needs throughout the process
- Creates a win-win-win for procurers, suppliers and end users.
- New opportunities for companies to invest

8.4.3. ACTIVATION OF PCP

- Turn the image of public procurement and PCP into an activity, where people are allowed to take risks and ask for new solutions that pull innovations
- Enable the recognition of best practice examples in

CHAPTER 9 CONCLUSIONS, RECOMMENDATIONS, AND TOOLS FOR DESIGNING A BUSINESS PLAN FOR DESIGN INNOVATION HUBS

As this research demonstrates, there is no one specific business model that can be applied to all design innovation hubs. The research identifies five value propositions and created business models for each, including strategies for marketing communication, network and revenue stream. Additionally guidelines have been created to combine different services and strategies to support each other. These various business models together form the modular business plan for the Design Innovation Hubs.

Value propositions in the modular business plan

According to the conducted research, five different services for design innovation hubs have been described to form a modular business plan:

1. Space
2. Event
3. Research
4. Network
5. Making

Design innovation hubs can have the flexibility to choose different services to offer to their clients, depending on their internal and external environments.

TOOLKIT

In order to make this modular business plan more accessible, five toolkits and guidelines for the services (Figure 9.1-9.5) are created to help hubs in adopting three different perspectives, including marketing communicating strategy, network plan and revenue stream. This demonstrates further how this modular business plan can help design innovation hubs to self-sustain.

As can be seen, these five tools are each divided into four columns. The left-hand section shows the description of the services business models, to help managers confirm whether it is the service they want to provide or not. The rest of the sections provide the three approaches that apply to the service that they are offering.

For instance, a Space-based hub is concerned with providing a physical space for clients. Therefore, when considering developing this Space service, its business model includes the benefits, values, resources, activities and relevant preparation, providing an overall concept for hubs' managers to evaluate whether their hubs have the relevant resources to offer this Space service. The three approaches illustrate how to attract people to this Space, how to maintain relationships in this space and how to make a profit by providing Space services.

There are small icons placed in each service's description, indicating the connections between these three perspectives and the five different services. The relevant research can be consulted in this document. The toolkits and guidelines can help design innovation hubs visually to consider the business models of these five different services' offerings, and they provide further discussion depending upon the three different approaches.

As each hub has different internal and external environments, it is important to allocate services according to each hub's current situation, in order to self-sustain in the long term. It is very flexible, because hubs might focus on one service, or select two or three of them, in order to produce a new business plan.

Therefore, combining this flexible modular business plan and the visualised guidelines below will prove helpful for design innovation hubs to develop their strengths to achieve their hubs' sustainability.



Figure 9.1. The space model guideline

Provide Event as a value proposition

- The **BENEFITS** you gain:

- Service income
- Idea creation
- A network of people
- Better reputation

- The **VALUE** you offer:

- Arrange events to gather relevant people
- Key partners
- Activity space
- Facility for events

- The **RESOURCES** you prepare:

- Activity planners
- Marketing & communication
- Creation and maintenance of stakeholders' network
- Identify your target clients
- Analyse your internal strengths & external environment

- The **PREPARATION** you need:

- Gather relevant people
- Marketing & communication
- Creation and maintenance of stakeholders' network

- The **ACTIVITIES** you do:

- Existing a network of people

- The **PUBLISHING** you need:

- Help clients to conduct research projects

- The **PROMOTION** you do:

- Provide research results

- The **RESOURCES** you prepare:

- Experts
- Facilities
- Conduct research
- Creation a cross-disciplinary research environment
- Marketing & communication
- Create and maintenance of stakeholders' network

- The **PREPARATION** you think:

- Identify your target clients
- Analyse your internal strengths & external environment

Marketing communication strategy

- Who are your main **AUDIENCE**?



- How to **ATTRACT** an audience?

• Use existing social media

to convey information about events, such as Facebook or Twitter.

e.g. Designregio Kortrijk.

• Free attendance to an event

will mean that more people to participate and learn more about the hubs' events

e.g. MAD Brussels

• Use word-of-mouth as people

trust the information given to them by their friends.

• Use personal selling to meet the

requirements of specific clients, such as a training program for company

e.g. MAD Brussels

Network Plan

- Who are your **STAKEHOLDERS**?



- How to **GATHER THEM**?

• Create a flexible space

to encourage innovation and collaboration between stakeholders

• Through different

visually-attractive media

e.g. concert; art exhibition; fashion or digital design

• Provide useful information

e.g. Introduce the chances of cooperating with companies to form an independent relationship

• Connect with different industries

to extend partnerships

• Be at the forefront of promoting design culture and attract companies to use events for promoting their products

Revenue Stream

- The **INCOME** you gain:

- Usage fee
- Booking, access & project fee
- Subscription fees
- Membership fee

• Advertising fee

e.g. Middleman fee

• Brokerage fees

e.g. Charge the right for advertising their products or services

• Venue hire fee (if needed)

- Space/Facilities maintenance fee
- Experts/Staff salary
- Marketing fee

You need to think:

- The **COSTS** you pay:

- Venue hire fee (if needed)
- Space/Facilities maintenance fee

• Marketing fee

e.g. Charge the right for advertising their products or services

• TIME (since you may need a period of time to gain self-sustainability?)

Revenue Stream

- The **INCOME** you gain:

- Licensing fee
- Intellectual property fee
- Subscription fees
- Membership fee
- Brokerage fees
- Middleman fee

• Usage fee

e.g. Booking, Access & project fee

• Brokerage fees

e.g. Charge the right for advertising their products or services

• Advertising fee

e.g. Middleman fee

• Brokerage fees

e.g. Charge the right for advertising their products or services

• TIME (since you may need a period of time to gain self-sustainability?)

Revenue Stream

- Are the target group **WILLING TO PAY**?

- Is the **INCOME > COST**?

- Can you afford to invest this amount of TIME (since you may need a period of time to gain self-sustainability?)?

Revenue Stream

- Are the target group **WILLING TO PAY**?

- Is the **INCOME > COST**?

- Can you afford to invest this amount of TIME (since you may need a period of time to gain self-sustainability?)

Revenue Stream

Provide Research as a value proposition

Provide Research as a value proposition

- The **BENEFITS** you gain:

- Research result
- Product & service fees
- A network of people
- Better reputation

- The **VALUE** you offer:

- Help clients to conduct research projects
- Provide research results

- The **RESOURCES** you prepare:

- Existing a network of people
- Conduct research
- Creation a cross-disciplinary research environment
- Marketing & communication
- Create and maintenance of stakeholders' network

- The **PREPARATION** you think:

- Identify your target clients
- Analyse your internal strengths & external environment

Network Plan

Network Plan

- Who are your **STAKEHOLDERS**?



- How to **GATHER THEM**?

• Create open spaces & facilities to promote public social innovation

• Use social innovation result to promote stakeholders' business

• Provide a cross-disciplinary environments to help stakeholders explore business opportunities

• Use research as a driver to explore new ideas and knowledge exchange

• Develop different projects to attract target audience and generate fundings.

• Encourage to share resource to make profit together

Revenue Stream

Revenue Stream

- The **INCOME** you gain:

- Licensing fee
- Intellectual property fee
- Subscription fees
- Membership fee
- Brokerage fees
- Middleman fee

• Usage fee

e.g. Booking, Access & project fee

• Brokerage fees

e.g. Charge the right for advertising their products or services

• Advertising fee

e.g. Middleman fee

• Brokerage fees

e.g. Charge the right for advertising their products or services

- TIME (since you may need a period of time to gain self-sustainability?)

Revenue Stream

Revenue Stream

- Are the target group **WILLING TO PAY**?

- Is the **INCOME > COST**?

- Can you afford to invest this amount of TIME (since you may need a period of time to gain self-sustainability?)

Revenue Stream

Revenue Stream

- Are the target group **WILLING TO PAY**?

- Is the **INCOME > COST**?

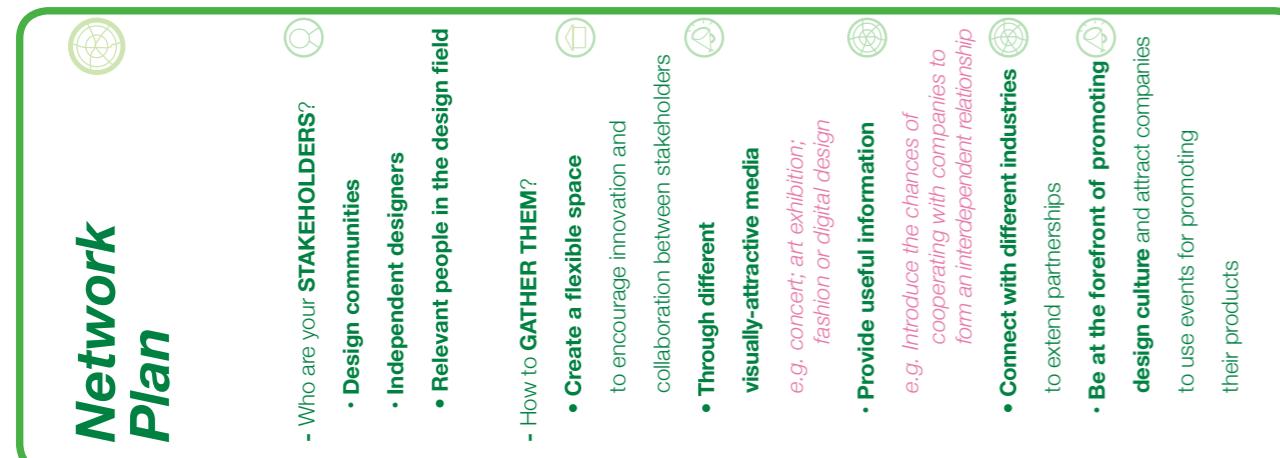
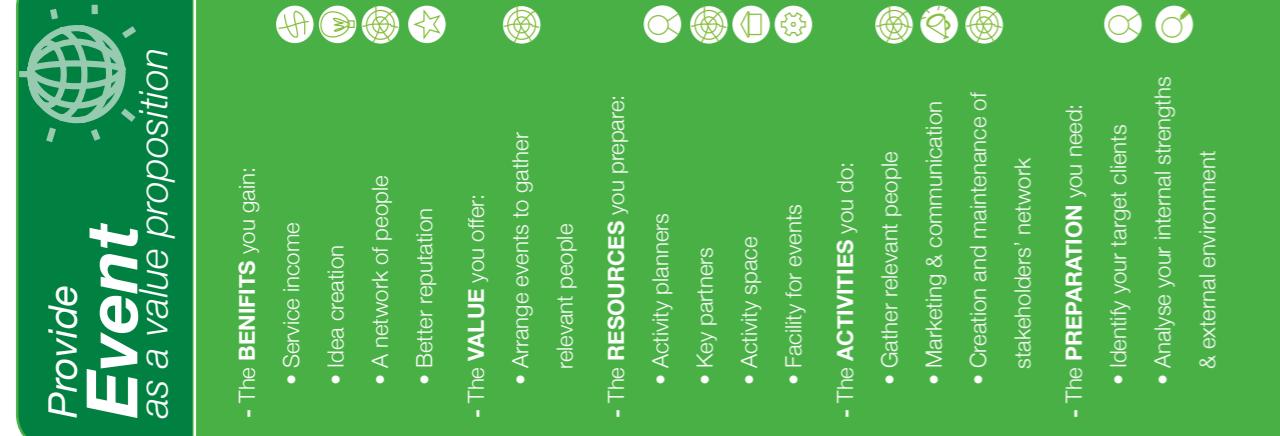
- Can you afford to invest this amount of TIME (since you may need a period of time to gain self-sustainability?)

Revenue Stream

Provide Event as a value proposition

Figure 9.2. The event model guideline

Figure 9.3. The research model guideline



Provide Network as a value proposition

- The **BENEFITS** you gain:
 - Service fees
 - An network of people
 - Better reputation
- The **VALUE** you offer:
 - Provide a network for promoting P2P connection
- The **RESOURCES** you prepare:
 - A virtual platform OR a physical space
 - Facilities
- The **ACTIVITIES** you do:
 - Invite relevant people
 - Marketing & communication
 - Creation and maintenance of stakeholders' network
 - Existing creative communities
 - Invitation of a platform for interaction
- The **PREPARATION** you think:
 - Identify your target clients
 - Analyse your internal strengths & external environment

Figure 9.4. The network model guideline

Network Plan

- Who are your **STAKEHOLDERS**?
 - People or companies come from different disciplines to work in an open space
- How to **GATHER THEM**?
 - Create an open space for everyone to increase the chances of cooperation
 - Provide a knowledge exchange environment, to accelerate creation of sharing ideas
 - Offer an easy-to-use infrastructure in virtual and physical spaces to make people feel more comfortable interacting
 - Encourage diverse range of people to develop the communities in this network, in order to maintain a long-term relationship
- How to **ATTRACT** audience?
 - Invite celebrity experts to join your network, which not only guarantees the quality of the network and raises the network's reputation, but also attracts people who want to connect with those experts.
 - Participate in trade shows or exhibitions: these events offer a personal interactive opportunity for you to show off your network.
 - Use tangible facilities or events to attract people to join the network, and encourage people in the network to interact with each other face-to-face, thereby building a strong connection
 - e.g. Site2meet, Little Mountain.

Revenue Stream

- The **INCOME** you gain:
 - Licensing fees e.g. Sell brand licenses to allow target people to use the brand logo in their own marketing activities
 - Subscription fees e.g. Membership fee
 - Brokerage fees e.g. Middleman fee
 - Usage fees e.g. Booking, access & project fee
 - Advertising fee e.g. Charge the right for advertising their products or services
- The **COST** you pay:
 - Venue hire fee (if needed)
 - Space/Facilities maintenance fee
 - Experts/Staff salary
 - Marketing fee
- You need to think:
 - Are the target group **WILLING TO PAY**?
 - Is the **INCOME > COST**?
 - Can you afford to invest this amount of **TIME** (since you may need a period of time to gain self-sustainability)?

Revenue Stream

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 - Is the **INCOME > COST**?
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Revenue Stream

- Who are your main **AUDIENCE**?
 - General
 - Designers
 - Companies
 - public
- How to **ATTRACT** audience?
 - Use social media, for example by posting photos of things made in the hub on popular design blogs or design forums.
 - e.g. Snij Lab
- Through word-of-mouth, including oral, written and electronic communications, you can provide a showcase for users to share their work and experiences.

Marketing communication strategy

- Who are your main **AUDIENCE**?
 - General
 - Designers
 - Companies
 - public
- Who are your **STAKEHOLDERS**?
 - People who want to turn ideas into products
- How to **GATHER THEM**?
 - Provide a knowledge exchange environment around manufacture
 - Support stakeholders to their professional projects
 - Provide machines for people to create prototypes and also share their experience to others
- How to **ATTRACT** audience?
 - Create more interaction among users in order to create new ideas
 - Develop and maintain users communities
- Plan an event for target customers to experience and gain a deep understanding of the making process

Marketing communication strategy

Figure 9.4. The network model guideline

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 - e.g. Site2meet, Little Mountain.

Revenue Stream

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Marketing communication strategy

Figure 9.5. The marketing model guideline

Revenue Stream

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Marketing communication strategy

Figure 9.5. The marketing model guideline

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Marketing communication strategy

Figure 9.5. The marketing model guideline

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Marketing communication strategy

Figure 9.5. The marketing model guideline

Revenue Stream

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 - e.g. Site2meet, Little Mountain.

Revenue Stream

- The **INCOME** you gain:
 - Product & service fees
 - A network of people
 - Better reputation
- The **VALUE** you offer:
 - Provide machines and experts to help people manufacture things or help clients to turn ideas into products
- The **RESOURCES** you prepare:
 - Provide outsourcing production services for product making
 - Experts and staff
 - Facilities
 - A physical space
 - Existing a network of people
- The **ACTIVITIES** you do:
 - Maintenance of space and facilities
 - Host training programs
 - Build users communities
 - Marketing & communication
- The **PREPARATION** you think:
 - Identify your target clients & build user communities
 - Analyse your internal strengths & external environment
 - e.g. Buda Lab

Figure 9.5. The making model guideline

Revenue Stream

- Who are your **STAKEHOLDERS**?
 - People or companies come from

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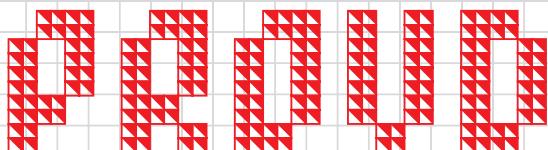
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