BALANCING VALUE IN NETWORKED SOCIAL INNOVATION

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ABSTRACT

Innovation increasingly takes place through co-operation. Even more so in the case of social innovation, where profit and non-profit organisations collaborate to create solutions for societal issues. For these innovations to become successful, already early in the process it needs to be clear to the participating organisations that they will be able to gain value in return for their investments in the creation of the service proposition. This means that, together with the proposition, a business model needs to be designed, that provides insight in the feasibility and attractiveness of the total proposition, as well as in the value for the various participants separately. Building on existing methods, a 5-step approach was developed to support the process of refining the overall proposition together with the participating organisations, and at the same time checking the balance in value flow for each of them. This paper describes the approach to balance value in networked social innovations using one project as example.

INTRODUCTION

There is increasing attention for collaborative innovation and innovation in networks. Many organisations recognise the opportunities to bring richer value propositions earlier to the market when including competences and services from others. Next to the opportunities that can be derived from a corporate strategy, there are even bigger opportunities in the societal challenges that we are faced with today: the greying population and the related increase in healthcare costs, the end of the fossil energy age, the unhealthy lifestyle of many people and increasing criminality. Finding real solutions for these societal problems requires the combined knowledge and experience from various parties, both profit and non-profit organisations. The combined knowledge enables the definition of a richer value proposition that is based on better insight in the unmet needs of the end-user and a wide range of available technologies. Typical value propositions for societal challenges are a system of products and services that are jointly developed and provided by a network of organisations. For these organisations it often means that they need to go beyond their current portfolio and business models.

For the participating organisations in networked innovation is important to be able to check not only the feasibility and attractiveness of the total proposition (as it is in any innovation process), but also what value it will deliver them in terms that are relevant to them. As participating organisations are both profit and non-profit organisations, value is defined in different terms: next to economical value, other values, e.g. knowledge or reputation, are important in the decision to commit to the innovation. Good insights are needed into the tangible and intangible benefits for all relevant participants, both initially as well as on the longer term.

In the Netherlands, Design Initiatief is actively pursuing networked innovation for societal issues, by initiating projects and partnerships. While supporting these projects it was found that these projects have a high complexity, due to the number of participating organisations and the dynamics in the network. A 5-step approach was developed and implemented in the early stages of six projects.

This paper describes how the 5-step approach can support the front-end of networked service innovation. This will be illustrated by an example of a social open innovation project in which the approach was used to facili-

tate the definition of the value proposition as well as the business model with the network of organisations.

LITERATURE AND THEORY

Networked social innovation integrates theory and practices from multiple research perspectives. Literature from a wide range of areas, such as business management, organisation science, innovation management, service design, sociology, and engineering contain relevant insights. Nevertheless there is not one area that provides an integrative approach for networked service innovation.

Social innovations are defined as innovative activities and services that are motivated by the goal of meeting a social need (Mulgan, 2006). Therefore they do not start from a certain company's perspective. Pol & Ville (2009), emphasize that social innovation (new ideas improving quality of life and/or quantity of life) and business innovation (profitable new ideas) are different, yet overlapping concepts. There are immense opportunities in the overlapping area, where business can go hand in hand with improving quality of life of people. Visionary businesses can play a role in creating new business models that open up new markets, and simultaneously attend to societal wealth improvements. In a 'virtuous cycle' businesses can benefit from greater profits and grow their business faster, thereby reaching more people who's poverty and human suffering are then alleviated (Thompson & Mac-Millan, 2010). Yunus et al. (2010) indicate that social business models not only require new value propositions, but new value constellations and new profit equations as well.

In general, these social innovations need the participation of a number of organisations to identify the unmet needs, generate the ideas as well as to realise them. Diverse collaborative networks bring more novel solutions (Nieto & Santamaria, 2007). It is assumed that flexible value webs or value networks will replace the traditional, static and linear value chains (Allee, 2008; Stathel et al., 2008; Tapscott et al., 2000; Riedl et al., 2009). Business networks enable the achievement of greater value than organisations can

achieve on their own (Blankenburg et al., 1999). But businesses participating in networks also need to appreciate some of the paradoxes that are intrinsic to the nature of business networks (Hakanson & Ford, 2002). As there are different roles and organisations with different needs involved, value models are needed that will combine tangible and intangible values for the dynamic network of participating organisations. Already decades ago marketing literature mentioned the reality that often, next to direct transfers of tangible entities, indirect, intangible and symbolic aspects are involved in exchanges between parties that have a social relationship (Bagozzi, 1975). Back then; a manufacturer-retailer-consumer system was already considered a complex chain. The multi-party systems that are inherent to social innovation are far more complex, but nevertheless the ideas on value exchange are still applicable. Value exchange and balancing value of both tangible and intangible assets is needed (Allee, 2008).

Morelli (2006) indicates a shift from the provision of finite solutions (products) which are often relieving people from their own tasks and responsibilities to the provision of semi-finished platforms including products and services, that will enable people to create value according to their individual needs. Value creation becomes a synchronic and interactive, non-linear and transitive process in which customers other actors co-create value (Ramirez, 1999). The resulting value proposition of the collaboration of profit and non-profit organisations is often not a single product or service but rather a socio-technical service system. Such a system includes anything that is necessary for performing its intended function, including its environment and social context (Kroes et al., 2006). It combines products and services in their social context. Service innovation is in itself not new: designing services is probably as old as humanity. However, the experience economy (Pine & Gillmore, 1999) and evolution towards human value-centred innovation, has shifted the thinking towards a serviced based approach. This led to a global shift in many organisations to rethink their operations and strategies towards

a service-centered point of view which is intangible, user oriented and relational (Vargo & Lusch, 2008). Existing methods have extended from the field of interaction design to a more holistic approach based on design thinking aiming at novel solutions that dramatically improve existing ones (Miettinen, 2009). Osajala & Osajala (2009) distinguish business competence in service innovation from service design competence, and see the creation of innovative value propositions as an important step to link service strategy and service design. As such there is a strong parallel between innovation in products and services in the front-end of the processes, where a value proposition is defined. Recently there is an explosion of tools described in literature to map the various stakeholders in conceptualising services (Miettinen and Koivisto, 2009; Stathel et al., 2008; Tollestrup, 2009; Diana et al., 2009; Wreiner et al., 2009; Kronqvist and Korhonen, 2009). Ballantyne et al. (2010) argue that reciprocal value propositions reveal opportunities for engagement with suppliers, customers and other beneficiaries beyond sale/purchase transactions. Reciprocal value propositions are positions as a communication practice that brings exchange activities, relationship development and knowledge renewal closer together. Although they do not specifically address social innovations, their suggestions fit very well with networked social innovations.

Open innovation is mostly seen from the perspective of one company (Chesbrough, 2003; Chesbrough et al., 2006). A recent, extensive overview of open innovation literature by Dahlander & Gann (2010) derived four types of openness: inbound and outbound innovation based on pecuniary and non-pecuniary interactions. This shows that the company's strategy and it's funnel of innovation projects is leading in strategic decisions. There is a lack of literature on a more pragmatic level, supporting concept and design decisions. Research by Pisano & Verganti (2008) on collaborative innovation distinguishes four basic modes of collaboration, which are defined by the openness of the network (open vs. closed) and its goverance (hierarchical vs. flat).

Although this supports selection of a collaboration strategy, it does not provide relevant clues for implementation of a strategy on project level.

The dot.com era resulted in an enormous increase in research on business models. Literature covers many aspects of business models: what they are (Osterwalder, 2004; Osterwalder et al., 2005; Doganova & Eqyuem-Renault, 2009), what they do (Pateli & Giaglis, 2004) and what their power is (Magretta, 2002; Shafer et al. 2005), which ontologies exist (Gordijn et al., 2005; Akkermans et al., 2004), how business models can be reinvented (Johnson, 2010) and how they connect to strategy and innovation management (Teece, 2009). Most of these authors use the term "value", but use it to indicate "financial profit". Business models are viewed as a means to find new ways to reach and address the customer, and as such are seen from the perspective of one company with an existing business in an existing market. As such the scope is too limited to cover social innovations. Yunus et al. (2010) indicate the need for new profit equations for social business models, but largely focus on the recruitment of social profit oriented shareholders. Business models that address the intangible values explicitly seem not (yet?) to exist in literature.

The challenges in the creation of social innovations in flexible networks can benefit from the research mentioned above, but as the projects start in the so-called "fuzzy front-end", the proposition is still under construction, the network is not yet stable, and organisations might leave the party while others come in at a later stage, bringing new insights to the table. The iterations that take place in these early stages are needed to enrich the proposition and validate the feasibility both technically as well as economically.

EMPERICAL RESEARCH

To better understand the issues and dynamics of social innovation in flexible networks an empirical setting is needed. Design Initiatief is a Dutch national program of projects driven by the ambition to create business-generating solutions for future markets through networked innovation,

in which knowledge institutes, design firms and businesses participate. Design Initiatief aims at the ideation/pre-seed phase of new business development and makes use of the strong design and development reputation of the Dutch creative industry and knowledge centres in this area.

The starting point is societal changes and issues, for which future potentials for the Dutch economy are explored. Potential network-partners are invited to participate in jointly creating and developing breakthrough solutions. Design Initiatief had initiated and facilitated over 60 projects in less than two years and learned about the differences in networked social innovation compared to 'regular' innovation projects. These differences lead to new requirements for the process in the front-end of social innovation in networks:

- Societal issues are the starting point of networked social innovation. Defining a suitable value proposition for future needs is the first step that leads to defining and building the network of companies and organisations to realise the proposition. In this creative step multiple organisations are needed to define a value proposition that integrates as much knowledge and experience as possible. This is an iterative and dynamic process, in which knowledge is exchanged and developed and advancing insights are resulting in adaptations to the value proposition;

- The arising new value propositions often require reconsidering the current business model and context. Therefore the proposition, the business model and the partner-network are designed concurrently. The consequence of this is that the partner-network is not a pre-defined starting point, neither a closed system. The network is flexible and changes during the innovation project as goals develop and values for the players become clearer every step: during the process different scenarios need to be explored, and this may lead to some partners stepping out of the network, because the proposition does no longer provide sufficient value for them, and others entering at a later stage, bringing in new assets and needs;

- To ensure a sustainable commitment from the participating organisations, each organisation has to be able to balance the value he brings to the network with the value that he can obtain from the solution, in terms that are important to him. Next to economical value, other intangible values may be influencing the decision to commit, e.g. knowledge or reputation. The expected balance may be different for each of the potential network-partners.

Design Initiatief aims for better support for her networked social innovation projects. The research project is therefore set as an action research project. Six projects were actively supported in the process to balance value for the participating organisations.

RESEARCH QUESTIONS AND APPROACH

Networked social innovation projects – as done through Design Initiatief – require an adapted innovation process. Based on the literature several methods were identified that offer partial solutions: the exchange theory from marketing perspective (Bagozzi, 1975), the business model ontology (Osterwalder, 2004), the e3-value ontology (Gordijn & Akkermans, 2001; Gordijn et al., 2005; Gordijn et al., 2006), the business model canvas (Osterwalder & Pigneur, 2010), the reciprocal value proposition approach (Ballantyne et al., 2010), the actors' network maps (Morelli, 2006) and the value network analysis (Allee, 2008).

The research question for this paper is to define a process for balancing value for social innovation in flexible networks that enables:

- Enriching an initial value proposition starting from a societal issue and future insights, and building on knowledge, experience and skills of multiple organisations;

- The inclusion of a complex and dynamic network of a variety of different types of organisations and individuals;

- The inclusion of different types of value (tangible and intangible).

Elements that were applicable from literature were combined in a 5-step approach to balance value:
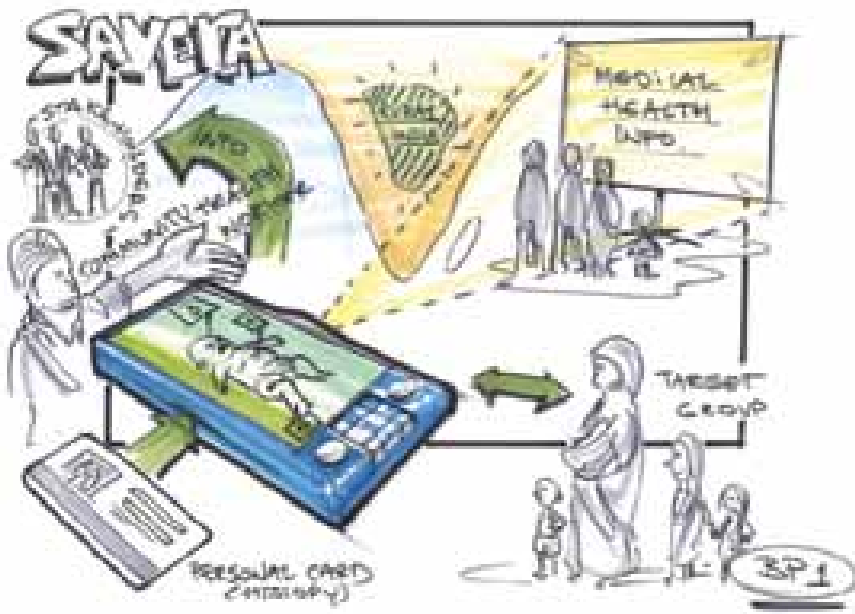
1. Enriching the initial value proposi-

Figure 1: Initial value proposition of the Savera project

tion;

2. Creating the value flow model and partner-network;
3. Balancing value for network-partners;
4. Refining the value proposition;
5. Detailing the business model canvas for each network-partner.

The approach was implemented in six of the Design Initiatief projects. To be able to go into more detail in the description of the results, we will only describe one of the six projects in this paper.

RESULTS OF THE EMPERICAL STUDY

One project, the Savera project, will be discussed in detail to clarify both the research approach as well as the approach to balance value.

CONTEXT OF THE SAVERA PROJECT

Currently, the majority of India's population, 730 million people, resides in rural areas and depends on government health workers in primary health centres. Despite government human and financial investments, health conditions of women in rural India are poor. The mortality rates of babies and pregnant women are a significant problem in rural India (Parmar et al., 2009). This social issue is used as the starting point for the Savera project.

Step 1: Enriching the initial value proposition

Design Initiatief brought together different organisations and provide more information on the context, current problems, solutions and insights.

The participants were people from non-profit aid organisations, knowledge centres, universities and businesses in the healthcare industry. This multidisciplinary group covered knowledge on rural India, and specifically the situation of pregnant women, experience in doing business in the bottom of the pyramid, as well as technological options. The participants started with identifying unmet needs of the target group: pregnant women in rural India and the community health workers who provide care for them. From the input an initial value proposition

was created that aims for a knowledge based service solution to advice pregnant women on location and detect potential dangers in order to be able to proactively overcome them (figure 1). This initial value proposition was discussed with the participants in an interactive workshop, using the business model canvas (Osterwalder & Pigneur, 2010) as guiding principle. The business model canvas supports the discussion on what is offered to whom, what resources are required to deliver such a value proposition, and what the potential revenue model could be.

The resulting value proposition is strongly based upon improving the information exchange mechanisms between medical experts, health workers and rural women. A continuous interaction between all these stakeholders will generate a database, which will be useful to government and AID organisations to offer dynamic content and reduce mortality of both women and babies.

Step 2: Creating the value flow model and partner-network

With the interested participants of the brainstorm session, a first value flow model was made, to create an overview of all relevant stakeholders and the value flows between them. First all relevant stakeholders are identified and put on one sheet. Then the main flows of value are mapped. Starting with the best-known value flows (such as physical goods and money), and subsequently adding other flows, such
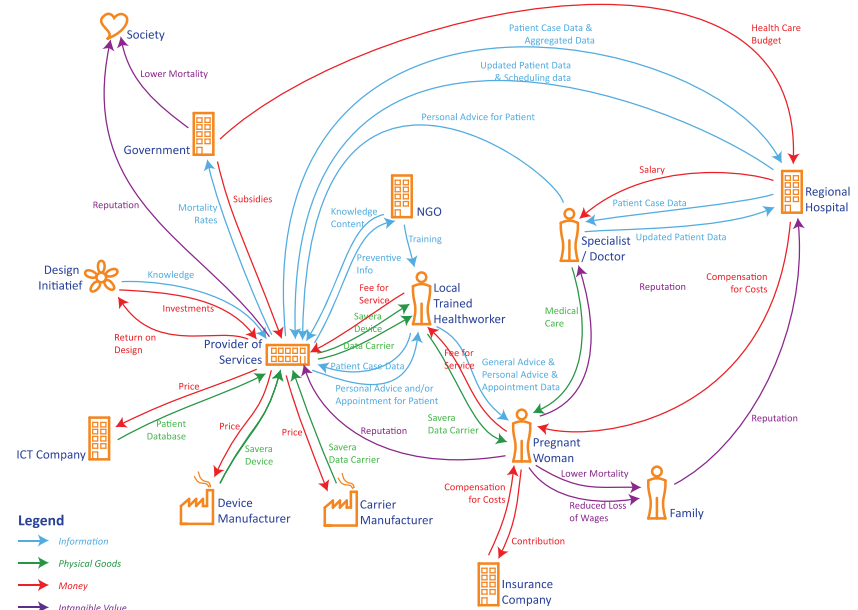

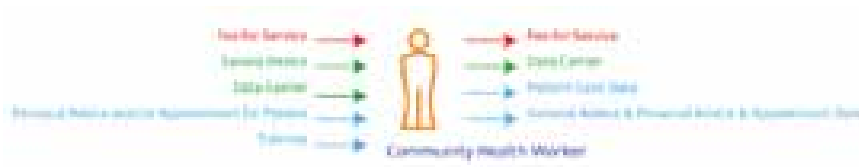*Figure 2: Value flow model for Savera project*

Figure 3: Balancing value flows for community health worker

as intangible values. By continuously asking what values were important for each of the stakeholders to participate, the model was enriched.

In this step the provider of the new service is indicated as a separate entity on the model. This enables the mapping of all relevant new values created by the new service.

With the model, organisations were identified that are important for the innovation to become successful. These organisations were approached to participate in the project. With the relevant potential network-partners discussions were held and an iterative process of refining the value proposition was started, building on the knowledge and experience of the potential partners. The resulting value flow model (figure 2) is a representation of the refined service proposition, including all relevant network-partners and the value flows between them.

Step 3: Balancing value for network-partners

In this step for each potential network-partner a check is made on the balance in the value that is brought the network with the value that can be obtained from the solution. An example of a detailed picture of the balance in value flows for the community health worker is shown in figure 3. With each of the stakeholders dialogues were held to identify if the balance in value felt OK to them, and this evoked discussions on especially the intangible values such as the type of information they needed, as well as elements like reputation.

As the values that flow to and from a stakeholder can be different in nature (tangible and intangible), balancing is not just a mathematical exercise. In smaller workshops the details for each network-partner are defined, providing insight in the sustainability of the proposition for the partners. In those smaller workshops typically more intangible values are unveiled such as the value of lower mortality rates to the various stakeholders in the picture.

Step 4: Refining the value proposition

In this step the value proposition is refined to ensure all values are included and maximum value is generated with the new service proposition as a whole. Through workshops with the all the network-partners, a mutual understanding is of the total value of the proposition and the specific stakes of the various partners therein. This step provides insight for each of the potential network-partners on their role and their specific contribution to the overall value proposition. This is an important element in building commitment of the network-partners towards the overall solution.

Step 5: Detailing the business model canvas for each network-partner

In this step, each of the network-partners uses the refined value proposition and value flow model to work out the details for his organisation on the business model canvas. Depending on the position in the overall network, customers for one of the partners can either be the end-user, or other network-partners. Each partner will need to ensure that the key activities and key resources he needs to fill in his part of the overall proposition can be realised against a cost structure that is in line with the expected revenues.

This is a last check in this front-end of the innovation process. After this

step, the consortium will be officially formed, and activities to realise the new service will be starting, and real investments will need to be made.

FINDINGS

Implementing the 5-step approach for the six projects of Design Initiatief, gave insight in the typical aspects of designing services for social needs in a flexible network. Important learnings are:

- These projects require a constant switch between the total value of the proposition for the end-user and the value for each of the network-partners. Both value flows, on top-level as well as on individual level, must be positive, sustainable and in balance. Switching between the business model canvas and the value flow model helps to zoom in and out during this process.
- Participating organisations cannot simply be divided into suppliers and customers of the value proposition, as the business model canvas suggests. Many stakeholders are both supplier and customer, e.g. users of the service are also the sources of the data required to build the knowledge system. Linear models for value flow are therefore not appropriate;
- Interdependency is a main driver for the success of social innovation in flexible networks; commitment to collaborate is much easier achieved when there is value for all and dependency on all;
- Intangible value appeared to be especially important for governmental bodies as well as end-users (e.g. mother and child in the case of Savera);
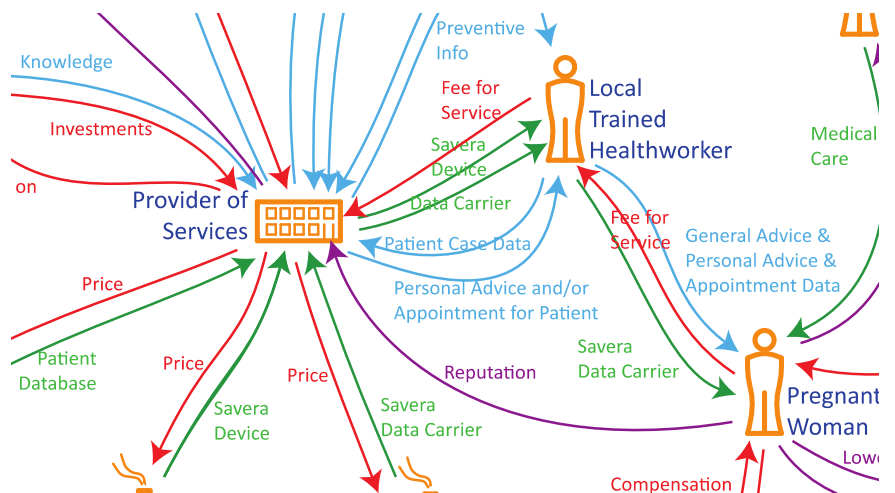

Figure 4: Detail of the value flow map showing the new service as central entity

- During the iterations it proved that keeping the new service providing entity centrally in the value flow model helped to be flexible in the definition of the added value of the overall proposition. We experienced that the discussion was more open, than when it seemed that there was a natural fit with one of the existing organisations. Leaving it open if a new company needs to be set up helped for the participants to be freer in adding services outside the scope of their current businesses. Later on in the process, a check was made if one of the companies would see a good fit to provide the total service, or that it would be better to create a new (joint) company to provide the new service.

CONCLUSIONS

Designing new services for social issues in a network of organisations puts specific challenges to the innovation process. The complexity is higher, because the value proposition in itself is more complex: when more parties bring in value in terms of knowledge, products and services a richer value proposition can be defined, that addresses the needs of more stakeholders and ensures a better anchoring of the solution in society in the longer term. The complexity is also higher, because different types of values have to be incorporated in the overall model: next to the tangible values, such as the physical goods and money flows, also intangible values need to be made visible, especially for non-profit stakeholders. On top of that, the puzzle to ensure a sustainable positive balance in value flow for each of the relevant stakeholders is inherently more difficult.

The 5-step approach developed and implemented in six projects, has proven to be useful in supporting the process of capturing the maximum value of the overall service proposition, as well as in balancing the value flows for each of the network-partners. The combination of the business model canvas with a value flow model, allows for an iterative process of constantly zooming in and zooming out.

The approach also supports the definition of completely new services, by keeping the new service as a separate entity central in the model, the added

value of the service can be defined and refined in the iterative process, and different scenarios for whether the service will be provided by one of the existing organisations, or a new company should be set up can be explored. Further development of the approach will be done through action research in other Design Initiatief projects, as well as other social innovations.

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