dmi:ADMC

Inflection Point

DESIGN RESEARCH MEETS DESIGN PRACTICE

The 20th dmi: Academic Design Management Conference Proceedings

dmi:ADMC

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Design Tools to Build Sustainable Business Models for Social Innovation

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In the face of growing societal challenges, Social Innovations craft solutions to unmet social needs. Twenty-five SI case studies were analysed under SIMPACT, a research project funded under the European Union's 7th Framework Programme. The results of this analysis demonstrated that SIs differ from traditional business models in the following ways: (i) they operate on paradoxical strategies; (ii) they cope with unfit legal frameworks; (iii) they are built on a divergence in the allocation of cost, use and benefit; and (iv) they employ frugal innovation strategies.

As social innovators often work under extreme resource scarcity, keeping the end game on creating a business model that drives meaningful change while being cost-effective and sustainable is king. Here the finding of our research is that social innovators currently do not make use of tools that would be extremely useful in designing effective business models.

We thus propose to set up an overall framework based on a revised version of the business model canvas to support innovators with tools, primarily coming from the field of service design, that give shape to sustainable solutions. The canvas therefore in our view is more than one of the many analytical devices or tools but rather the gateway for the design toolbox.

Keywords*: social innovation; service design; business models; business model canvas*

Introduction

In the public service sector, new needs are emerging along with growing societal challenges, like the ageing population, migration, youth unemployment, rising levels of NEETs and climate changes. The former "one-size-fits-all" approach is no longer appropriate, nor adequate for the public sector, as a profound understanding of end users calls for a re-design of services capable of responding to variegated needs through complex and varied service delivery. Third sector organizations are hence called upon even further to fill in the gap between market and state failure. Finding the right business model, able to generate social value while remaining financially sustainable is crucial for the long-term success and impact of these ventures: an exercise that defines when, how and where to add value to the organization's chain of activities (Chesbrough, 2006; Zott & Amit, 2009).

In light of fiscal austerity, more and more social innovations (SI) are prompted to adopt earned income strategies. Creating a business model is thus becoming a prominent issue for these organizations while also presenting an opportunity for innovation and growth. While a growing amount of literature is available on for-profit business models (Teece, 2010; Chesbrough & Rosenbloom, 2002), few studies have been conducted on the peculiarities of social innovations and their underlying business models (Michelini, 2012). Furthermore as the framework and tools used to analyze business models were developed for a different field, tools able to address the specificities of SIs are necessary.

In this paper, we will investigate the main differences that SI business models present and introduce a modified version of the business model canvas (Osterwalder & Pigneur, 2010) to serve as a gateway to help foster SI growth through the use of specific design tools. While design's potential role in the social sector (Manzini, 2015; Brown & Wyatt, 2010) has been identified as promising, our research has shown that it has yet to be fully implemented – in fact, key stages, like prototyping, are skipped altogether – and that much of the discussed potential relies on trained and developed intermediaries. The paper is supported with the main findings of the research done under the SIMPACT EU research project (www.simpact-project.eu), in which we investigated the economic underpinnings of SI through a series of case studies and narrative biographies that were analyzed and compared with current literature. We will conclude by highlighting some critical aspects of the toolkit and how that also reflects on the way that the ecosystem surrounding SIs will take shape.

Methodology

The work presented is based on the research done in the SIMPACT project, in which we developed 25 business case studies (BCSs) of social innovation (SI) across Europe and 32 social innovation biographies (SIBs), with a specific focus on their economic foundation. BCSs and SIBs were selected from SIMPACT's repository of 94 SI cases, focused on the grand societal challenges that Europe is facing: employment, migration and demographic change, and transversally gender, education and poverty.

The BCSs are based on the use of secondary soucrces, and focused on understanding the economic aspects of SI and the business models that inform them: through deep qualitative research, they advance the understanding of the economic aspects of already-known and described cases.

SIBs, on the other hand, seek to deepen our understanding of the innovation processes, development trajectories and stakeholder interactions at the micro-level of the SI: they were conducted through in-depth biographic-interpretive methodology, a combination of interviewing techniques, network analysis and triangulation.

The results of the BCSs and SIBs were then triangulated (Yin, 2014; Stake, 2006): to confirm and increase their validity results and insights primarily gathered with desk research methods were verified and confronted with results gathered using field research methods (Terstriep, J. et al., 2015). Based on the results coming from the comparative analysis of the BCSs and the SIBs, we were able to extract the business models behind SIs and proceed towards defining possible typologies. To uncover the business models and demystify the mechanisms that reside behind the generation of social value, we analysed the BCSs through a process of reverse engineering, applying tools and processes normally used for the generation of new businesses in the analysis of existing ones.

We chose to analyse the cases with a slightly adapted Business Model Canvas, with an added surplus section to render it more suitable for social innovations in order to understand into what activities eventual surplus is reinvested. This was done after having collected and considered all of the existing, modified versions of the tool, particularly those regarding non-profits and social innovation.

Peculiarities of Social Innovation Business Models: the main findings

The main SIMPACT findings, resulting from the reverse engineering process and upon which our discussion will be based, can be seen in the following distinguishing characteristics of SI business models.

SI business models are:

- configured around finding complementarity between antagonistic assets and seemingly conflicting logics;
- often structured around a divergence in the allocation of cost, use and benefit leading to multiple value propositions;
- modelled on multi-actor/multi-sided business strategies;
- developed as frugal solutions and through actions of bricolage.

Firstly, the large majority of the cases in our empirical research demonstrated a need to find sources of earned income and thus to create a business model in response to inputs coming from the external environment (i.e. fiscal austerity, a changing resource landscape, policy changes, etc.). Hybridity is emerging as a consequence of a need for new sources of revenue (Smith et al., 2010; Skelcher et al., 2015). SI business models are in fact complex (Smith et al., 2010) as they seek to create a system in which the transactions for economic and social value are complementary. Moreover, the hybridity of SIs is rooted in their use of antagonistic assets, or rather "resource combinations that a priori make the commercialization or marketing of a product or service more difficult". Hence, the challenge of SIs lies in finding a way to generate profit from given assets rather than acquiring the right resources to generate the most profit, as observed in our cases. SI business models are thus constructed on the social mission and finding complementarity to unlock the value stored in these untapped resources.

Secondly, consequently and contrary to other forms of innovation, SIs are often characterized by a divergence in allocation of cost, use and benefit. Where typically the subject who pays for the innovation, uses it and benefits from it, in SIs, this is often not the case as those who pay for it (welfare systems, donors, customers) may not use it and may not benefit from it (or at least not directly). Value propositions in social innovations thus target each in the aim of producing and capturing social and economic value: for beneficiaries (to produce social value and at times capture economic value), for customers (to provide social value and capture

economic value) and for donors/funders (to provide/produce social value and gain financial support).

As a result, SIs often have multiple customer targets and thus multiple value propositions, quite similar to multi-sided business models. Tailored value propositions for each customer segment are thus crafted with the intent of finding the best model to create, capture and deliver value. As in multi-sided businesses, value however isn't necessarily captured/monetized from the direct use and benefit of the service by the end users. Instead, value is often captured through a derivative currency that drives the paying customer's core value proposition, which in cases like Facebook and Google is user attention. Likewise, in SIs, economic value is captured through a derivative currency, i.e. social value. Unlike traditional business models, however, social value is created not only by satisfying customer demand but also in the process and delivery of value (e.g. what kind of resources are used, how they deliver their services, etc.). Social value is the cornerstone of the value proposition for financing supporters (i.e. paying customers, donors, investors) and in-kind supporters (i.e. partners, volunteers, etc.) of the SI. In other words, the social value is what allows the social innovation to create a unique offer and differentiate itself from its competitors. However, if social and environmental values become mainstreamed, SIs will have to find ways to create competitive advantage to differentiate themselves on the market for features that go beyond the social mission. SI business models are multi-actor, as they create value for multiple targets and as we'll see below deliver value thanks to embedded networks of partners and supporters. Mission-driven organizations thus need to create win-win business models in which both the generation of social value and commercial value are mutually relevant in order to be successful. Below in Table 1, the SIMPACT BCSs are shown by SI Business Model type (which won't be elaborated here), from which the importance of understanding how social value is created can be evinced.

SI Business Model	Description	Examples[*]
Beneficiary as Actor	Social value is generated through the active use of beneficiaries in the production of a commercial value	Broodfondsen; Catering Solidario; Aspire; Cooks without Homes; Dialogue Social Enterprise; Discovering Hands GuG; Coopaname; De Kringwinkel Antwerpen; Specialisterne; Place

	proposition.	de Bleu; SMart
Beneficiary as Customer	Social value is generated through goods or services that are sold to beneficiaries at below market rates subsidized by financing supporters.	Locality; RODA; Action Acton; Snailday
Beneficiary as User	Social value is generated through goods or services that are delivered to beneficiaries through the support of financing supporters.	ROMA Kids; Beat Bullying; Crossics; Konnekttid; Vielfalter; Seniornett; SIEL Bleu
Community Asset	Social value is generated through the active use of all assets in the community to create mutual benefit supported by the actors themselves.	Libera Terra; DORV Zentrum; Urban Mediaspace Aarhus – Dokk1

Table 1. SIMPACT BCSs by social value generation.

* For further insight on the cases, please consult the SIMPACT website.

Lastly, scarcity of resources in SIs comes out in what we could define "the aesthetics of SI", where frugality emerges not only as an invisible ethical background, but also as a visible aesthetic character of the touch points of many of the analysed SIs. The idea of bricolage, first introduced in the social field by the cultural anthropologist Claude Lévi-Strauss, and subsequently applied to the behaviour and resource management of enterprises by Weick (1993), Ciborra (2002) and others (Baker & Nelson, 2005), has already been utilized to provide an understanding of the culture, the structure and the behavior of mission-driven organizations. In particular, the concept has been used to explain their attitude – particularly in the early

phases of development – of making use of the resources and capacities that are at hand and refusing to be constrained by resource limitations. According to this perspective, "(...) the lack of resources pushes the social entrepreneur to use all available means to acquire unused or underused resources that are capable of being leveraged in a different way to create social value" (Di Domenico, Haugh & Tracey, 2010: 699). In other words, mission-driven organizations primarily "utilize their governance and stakeholder networks to access and construct resources, and they deploy persuasive tactics to build legitimacy and financial sustainability" (Sunley & Pinch, 2012: 110).

Therefore, the capacity of mission-driven organizations to cope with a structural lack of resources turns into a two-fold reality: on the one hand, social innovators come out with frugal solutions and use their creativity to get the most out of what is at hand; on the other hand, they mistake gaps and structural lacks as potential motivations of errors and failure. Our empirical research shows that these gaps are tightly connected to the limited capacities and interest of social innovators in dealing with what goes beyond the sheer development and launch of their solutions.

There is a rather wide consensus around the idea that startuppers, in any field, tend to devote a large part of their efforts to the features of their products and services. As a real organization has yet to be built and as it can only be constructed on concrete products and services, the characteristics of the offering tend to become the major focus of the new entrepreneurs.

Product centricity was actually criticized as an overall (negative) attitude of enterprises:

> *"The customer rarely buys what the business thinks it sells him. One reason for this is, of course, that nobody pays for a 'product.' What is paid for is satisfactions. But nobody can make or supply satisfactions as such—at best, only the means to attaining them can be sold and delivered. (…) A corollary is that the goods or services which the manufacturer sees as direct competitors rarely adequately define what and whom he is really competing with. They cover both too much and too little." (Drucker, 1986, p. 94).*

In reality, the question goes beyond being customer focused instead of product focused (Galbraith, 2005): the new offering can be configured as a reaction to customer pains, as either a proactive search of unexplored opportunities, or more frequently as a combination of the two; regardless, devoting most of their efforts and resources towards giving shape to the

product remains the natural approach of innovators. The idea of the lean startup (Ries, 2011) and its connected concept of "minimum viable product" - a product with just enough features to gather insights for its further development - can be seen as a reaction to this approach.

Innovators furthermore tend to fall in love with their products and services, and with how they are developed. According to our empirical research, this attitude is even stronger in SIs: while in this field the outputs are usually intangible, social innovators look at them as concrete and meaningful responses to pressing social problems and are hence strongly motivated to deliver their services. In order to get the job done, they are in fact ready to overcome difficulties, gaps and lack of resources, even beyond what for profit businesses would do (Di Domenico, Haugh & Tracey, 2010). Being mission-driven paradoxically enforces the product-centricity of the new ventures: the bricoleur attitude of social innovators allows them to bootstrap and to react quickly to changing environments, but it does however present some dangerous qualities as less attention is paid towards constructing a sustainability strategy in the long-term. Resources are often tied to third party altruism (donations, volunteers, use of community assets, etc.) or are time-limited (public funds, seed funds, etc.). Furthermore, in order to invest in their mission, social innovators tend to keep overhead costs low and eventual surplus is often invested in the social mission as well. These factors are in line with their organizational values but could also deter the SI from becoming stable, as investment in structural and enterprise development remains low.

Lack of financial knowledge and assets; lack of transversal managerial knowledge, capacities and experience; lack of vertical knowledge of the industry where the commercial branches of the mission-driven organizations operate; lack of re-investment of surplus in the organizations; and the urge to achieve immediate social impact are among the main reasons for failure or for limited and suffering growth of SIs. Our cases moreover confirm the strong will of social innovators to bootstrap, sacrifice their own savings and time and adapt to circumstances. Nonetheless, we should distinguish the capacity of adaptation to circumstances and scarcity of resources from gaps in the construction of a sound organization that can be spotted, evaluated and bridged before its establishment. Here our empirical research clearly shows that specific development and evaluation processes and tools should be developed and adopted.

Social Innovation Business Models

Our empirical research confirms an expected result: social innovators are far from aware of the importance of business models and are most often not capable of designing a sustainability strategy for their organization. This demonstrates a clear difference between Social and Open Innovation, which are usually described as being similar (Chesbrough, Vanhaverbeke & West, 2008; Clay & Paul, 2012; Potter, 2014). Similarities and overlaps between the two forms of innovation include some core aspects that have been confirmed by our empirical study: social innovators do not operate in isolation, instead they usually engage with different types of partners and acquire resources from the external environment, and collaborative and co-creation processes involving citizens and beneficiaries are also common and rather similar to the principles of user engagement in other forms of innovation (von Hippel, 1988). Nevertheless, while Open Innovation is explicitly focused on giving shape to new business models (Chesbrough, 2006), SI is clearly not interested in business modelling.

The widespread idea that SI should not deal with business at all frequently leads to a manifested lack of knowledge and resources that social innovators place on the long-term sustainability of their ventures. Nevertheless, our research revealed the existence of a typology of SI business models (that we will not introduce here), different from for-profit business models, and the necessity to capture their essence by framing their features through different tools than the ones used to analyse for-profits.

In response to our findings, we decided to revisit the Business Model Canvas proposed by Osterwalder and Pigneur (2010) and remodel one better suited to the specific needs of SIs. The new model takes into account the peculiarities discussed above. The following SI Business Model Canvas (see Figure 1) is based on Osterwalder & Pigneur's (2010) and on Ash Maurya's Lean Canvas (2011), and seeks to create a framework within which to collocate SIs and visualize their specific features.

Figure 1. Adapted Social Innovation Business Model Canvas

The SI Business Model Canvas that we are proposing pivots on the creation of social value, which is produced on both sides of the canvas. We've added boxes to concentrate on the social problem that the innovator is facing, the found solution compared to existing alternatives and the governance structure that frames it. As most SIs present a divergence in allocation of cost, use and benefit and hence multiple value propositions, we separated the social value proposition from the commercial one, as well as the customer segment of beneficiaries from financing supporters (i.e. investors, funders, donors, paying customers, etc.). Lastly, we emphasized the role of in-kind supporters in SI Business Models as key promoters and resources.

To be sustainable, SI business models have to find the right mix between acquiring financing supporters and reducing costs through in-kind supporters; both of whom are acquired through the "sale" of the social value generated. In other words, the supporters may gain intangible goods (e.g. linking their brand to the social values of the organization) or tangible goods (e.g. the products or services offered by the organization) or a mixture of both by supporting the organization through donations or payments. On the one hand, financing supporters pay for the innovation, which allows the SI to capture value through direct monetization: fees, sales, grants, donations or investments. The state can also be a customer of SIs in exchange for more effective and efficient services for unsolved, and often pressing, social needs (i.e. public commissioning). In-kind supporters,

on the other hand, work on the other side of the canvas, or rather on the delivery of the created value through in-kind donations: resources, labor, know-how, etc. which allow for cost reduction and more efficient and effective social value delivery. In-kind supporters are key to social innovations, allowing them to cut down on costs and leverage inputs to maximize social value. In-kind supporters also embed the solution in the local community, creating an enlarged activity, actor and resource network that goes beyond the borders of the organization itself, accruing relational value that in turn allows the SI to better serve their mission.

In our research, we observed that most SIs excelled in creating networks of in-kind supporters but not in creating a customer base and a suitable value proposition. Thus, the current challenge for mission-driven organizations is to understand how to monetize social value: a question that is framing the innovation need in SI business models today. It was also observed that as most social innovations are able to find sustainability thanks to heavy in-kind support, replicating and scaling these innovations could prove more tricky as sustainability is based on the social capital, know-how and resources found in the local context.

Social Innovation Business Model as a Framework

Design Thinking recently emerged as the most suitable methodological approach to sustain the development of SIs (Brown & Wyatt, 2010), with particular reference to its growing adoption by intermediaries operating in this field. As social innovators are frequently not prepared to cope with the development of robust and economically sustainable solutions, the adoption of design tools (specifically service design tools) comes into play to help them set up, assess and refine solutions. Service design tools possess a set of features that make them particularly suitable to this purpose:

- they are frequently conceived within participatory design processes;
- their use does not call for relevant (economic) resources;
- they can be recombined and adapted to different development processes;
- they are (or seem) accessible to non-experts.

The last point is worthy of some reflection. We have seen a proliferation of studies that have tried to demonstrate how SIs can be described on the basis of user-centred design principles, but while there is much buzz about design for SI, our research proves that real practices are quite distant from

the application of basic principles of design, and that the real process of SI differs significantly from the one described in ideal models (Mulgan, 2006; Murray, Caulier-Grice & Mulgan, 2010).

We argue that the debate still lacks a serious elaboration: the involvement of users in ideation and the use of post-it notes in co-design sessions are frequently misinterpreted as introducing design in SI, but the idea that Design Thinking can be easily adopted and internalized is false. The initial exploration and development of multiple solutions; the clear assumption of constraints in their assessment; the application of detailed design processes and tools; and the use of prototyping to test and provide feedback quite rarely emerge as established practices in SI. On the contrary, no initial exploration is carried out; constraints tend to be underestimated; solutions are often drafted and applied before a sound development; and prototypes tend to be considered definitive solutions, rather than intermediate objects meant to give feedback and direct the refinement of solutions.

What happens in the real process of SI seems to also contradict the need of applying some of the lean startup principles. Social innovators do appear to need of producing a minimum viable product as soon as possible, which is what they do, but of also being more careful in developing their solution, considering its economic underpinnings and establishing a sustainability strategy.

This is the reason why we propose to not look at the development of the business model as one of the many tasks to be carried out to bootstrap a SI, but as the core objective that social innovators should target. Rather than attaching a business model to an existing solution, we thus propose to give shape to the solution together with the business model, and to use the business model as a framework to direct its development.

This perspective is not only in line with the core objective of our research (investigating and advancing the economic underpinnings of SI), but also with the empirical evidence gathered: the hybrid model is in fact emerging as a paradigm (Grassl, 2012) and the need of combining economic and social objectives, together with that of creating value through antagonistic assets, call for a keen attention to the business model.

Social Innovation Business Model as a Sustainability Guide and Toolbox Interface

Within our framework, the construction of a business model is connected to the use of a set of tools meant to sustain the development of each of its building blocks.

The tools primarily come from the field of service design, and are integrated with business and impact assessment tools. Tools are specifically connected to the building blocks of the SI Business Model Canvas, and their use is meant to provide a clear answer to the core question that each block poses to the innovators. Unlike other toolboxes for SI, the business model canvas is not simply one of the tools that can be used to support the generation of innovative solutions or the improvement of existing ones, but also the interface to access the whole toolset. The assembly of the building blocks and the construction of an overall coherent business model is the core objective of the toolbox. With the adoption of this toolbox, some of the major shortcomings that we observed in the process of SI can be tackled and overcome.

The sustainability of the SI can be implemented, assessed and refined together with the solution, rather than attached ex-post. In our framework, the solution and its business model are not conceived as two separate entities that will be subsequently brought together, but as pieces of the same overall picture.

Toolbox audience: from doing to evaluating

The toolbox is conceived to combine the traditional analytical perspective with a designerly approach: it can be used at the same time to generate new solutions and to assess and refine existing ones.

The toolbox is thus designed to give support to different actors, who may be interested in establishing, consolidating, providing support to and assessing a SI. We have described our target audiences with a "3Is" model: Innovators, Intermediaries, Investors.

Figure 2. Toolbox users and main objectives

Innovators can use the toolbox to start and/or consolidate their SIs, and to self-assess their solutions: the value they can bring and the impact they can create.

Intermediaries can use the toolbox to support the establishment of new solutions or the improvement and the assessment of existing ones.

Investors can use the toolbox to assess the value of proposals (ex-ante assessment) and the impact of existing solutions (ex-post assessment).

The toolbox thus combines a twofold perspective: a generative one, where it supports the creation of innovations; and an analytical one, where it supports the assessment of existing solutions. In the second case, the use of tools configures a sort of reverse engineering process, where the same tools meant to generate new solutions are used to analyse and assess the features of existing ones.

As the majority of SIs operate through the support of funders, be they public or private organizations, the toolbox can also be used to gain better funding opportunities.

Toolbox structure

The Toolbox structure (see Table 2) is conceived to offer the opportunity to access the tools by intersecting actors (I am …) and objectives, i.e. building blocks of the business model (I am interested in …).

		Innovators	Intermediaries	Investors
Building blocks of the SI Business Model	Block 1			
	Block 2			
	Block 3		TOOLS	
	Block 4			
	Block n.			

Table 2. Structure of the toolbox

By setting up each building block, users of the toolbox give shape simultaneously to the solution and its economic underpinnings: the canvas represents the big picture to be obtained as an overall result of the process.

The single tools were selected with two core objectives in mind: (i) their effectiveness in providing an answer to the core question that each building block raises; and (ii) the necessity to avoid resource-intensive processes. This second objective drove us to configure a double level of complexity: (i) a limited set of tools that innovators can use to easily draft the solution and assess its main characteristics, without the need of any external support; and (ii) a wider set of tools that primarily target intermediaries, who can use them together with the innovators, providing guidance and support for their correct adoption.

The toolbox has currently been drafted and the following tools have been selected:

Social Problem/Need and existing solutions

- Challenge Card
- SWOT Analysis
- Benchmarking

Solution

- Service Idea (Service Card)
- Customer Journey
- Service Blueprint

In-kind supporters and key partners

- Motivation Matrix (including Actors Map)

Key activities and resources

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- Activity Map
- System map

Social Impact Measurement

- Logic Model
- Social Reporting Standard

Social and Commercial Value Proposition

- Value Template
- VP Testing Card
- Value Map

Relationships and channels

- Touch Point Matrix
- Customer Journey
- Media Plan

Beneficiaries and financial supporters

- Personas
- Customer Profile
- Motivation Matrix

Cost Structure, Revenue Streams and Surplus

- Business Case

We have planned workshops to gather feedback from experts to test, assess and improve the toolbox before the release of its final version, scheduled for the end of 2016. For this purpose, we are currently organizing a workshop where a panel of external experts coming from five European countries will criticize our work and we are partnering with one of the analysed social ventures to experiment the use of the toolkit. This will provide further feedback on the assessment and improvement of the toolbox and will give us an opportunity to create a set of examples to be used as references on how to use the single tools, together with the templates and instruction.

Conclusions

Even though the design process is often described as a system of convergent and divergent ways of thinking (Design Council, 2008), we deliberately chose to focus our SI Business Toolbox on convergent thinking. This choice is based on the results of our research, and on the analysis of the kinds of problems that SIs try to tackle. In our empirical research, the phase of user need exploration that prompts the need for the new solution, typical of other forms of innovation, is not evident. We collected evidence that in SI the target groups' problems and needs are well established instead of being latent, as in other forms of innovation. Social problems are often chronic, but the need to intervene may sometimes be urgent, as other actors currently in charge of them are incapable of producing an effective solution due to structural or cyclical phenomena, which brings us back to the idea that SI primarily occupies a void left by both state and market failure. The recent migration crisis affecting the EU is just one of the many possible examples of such a situation.

While other forms of innovation are not only exploring needs, but also proactively building them to create space for new value propositions and business opportunities, this is not the case for SI. The point then is not capturing emerging needs as the ideal models of SI suggest, but rather understanding how clearly visible, long-standing and unmet needs can be tackled within a frame of resource scarcity.

In our toolbox we thus propose to replace the exploration of needs by the exploration of constraints, to come out with unprecedented but effective solutions, also through the use of creativity in convergent thinking. A general reflection that emerges in connection with this proposal is that creativity is often wrongly associated with the idea of "out-of-the-box" thinking. Managerial literature is fraught with this myth, which leads to confining the role of creativity to the front-end of innovation and sharpening the tension between exploration and exploitation.

Despite our effort to produce a simple framework and a handy solution, a major critical aspect bound to the results of our research must be mentioned. Our empirical analysis showed how initiators of SIs are quite often profound experts of the problems and needs they are willing to solve but in the same measure are frequently not at all experts of how to make their solution economically viable and sustainable in the long run. In our view, this condition calls for external support, and the same support is needed to use tools that are apparently simple and open, but that require specific competences and skills.

This demonstrates a difference between our toolbox and other already existing toolboxes meant to support SI. It also makes clear that it is not true that by just relying on the use of a set of pre-selected design tools everyone can easily be turned into a designer, just like it is not true that by just relying on the use of managerial tools everyone can easily become a manager.

Relying on intermediaries is surely an interesting perspective, as the ecosystem of SI is evolving and giving space to a growing support and intermediation system. It is also in line with other research streams carried out in SIMPACT and particularly with the work done in the area of policy making, which is coming to the conclusion that supporting SI at the macro scale is primarily a matter of establishing or improving SI ecosystems, where intermediaries play a relevant role.

Nevertheless, while relying on intermediaries, we must be aware of the criticalities that the intermediation system has already shown in other forms of innovation and particularly the risk of draining resources from supporting innovation to supporting the intermediation system for innovation, as it may become more keen on its own life and growth then on its raison d'être and core objectives.

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