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## Living Labs as a navigation system for innovative business models in the music industry.

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**Abstract:** Media industries and other rapidly evolving, complex, uncertain markets have a hard time to survive if they do not optimize or radically change their business models. This paper analyses the potential of involving all relevant stakeholders of the value network in the development of a business model by means of a panel based multi-method Living Lab approach. Using an in-depth case study analysis, a critical analysis of both the potential value and the weaknesses of such an approach are being assessed. Although some difficulties exist, opening this innovation process and involving external actors in a structural way has the potential to increase the value creation and sustainability of the business model. This paper also stresses the importance of multidisciplinary research on multi-stakeholder involvement in business model innovation.

**Keywords:** Living Lab; User centric design; Open innovation; Business model innovation; Music industry.

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### 1 Introduction

Digitalization and the rise of the internet have put heavy pressure on most traditional (media) business models in the past decade. As a result, these rapidly evolving markets need to redesign their value chains in order to tackle the threats and to harness the opportunities they are being faced with. In most cases, however, new business models are being developed internally by one or more organizations on the supply side of the market.

Only when they have been fully developed, they are being introduced to the end-users (Ortt & Duin 2008; Griffin & Hauser 1993). These innovations, however, do not necessarily align with the point of view, nor with the habits, attitudes, use-context and daily practices of the end-users and other stakeholders in the value network, and are therefore more likely to fail. This paper analyses the usefulness of a Living Lab approach to learn and co-develop or optimize new business models in the music industry together with all relevant stakeholders, especially the end-users. Such user-centric approach could provide valuable information and reduces the chance of failing in a highly uncertain market (Chesbrough 2003; Følstad 2008).

In order to provide a deeper understanding of living labs when it comes to their potential to co-develop innovative business models and to contribute to the lack of academic research on this matter, this paper makes a critical analysis of both the potential added value and the potential weaknesses of such an approach. In the next section of this paper we briefly elaborate on the changes and challenges in the music industry. In the third section we present an overview of the origins and theoretical benefits of a living lab approach and some insights on business model innovation. We then translate the Living Lab framework to a hands-on methodological flow and apply it to a business model innovation project in the music industry. In the fourth section we make a case-study analysis of this innovation approach. In the fifth and final section we discuss the results of this research project and propose some suggestions for future research.

## **2 The music industry under pressure**

For a long time, the music industry was flourishing due to large profits on the distribution of recorded music. Although it was always facing a rapidly changing technological environment, it always managed to turn technological innovation to its advantage. What is more, these technological innovations barely had an impact on the traditional value chain of the music industry. By re-selling music records on new media formats, the music industry even benefitted from these innovations and the traditional, linear, relatively simple value chain kept relying on the same vertical and fixed foundations (Schultz 2009). For over 50 years, major labels have dominated the creation, distribution and consumption of music, relying on a brick-and-mortar strategy (Graham et al. 2004; Beer et al. 2012; Alexander 2002). However, the technological evolutions of the past decade have had a very disruptive impact on the traditional value network. Due to digitalization and ultra-fast networks, new forms of distribution came into existence, for the first time affecting the traditional business model of the music industry. Music sales are suffering huge losses (IFPI 2011), live performances are becoming more important (Koster 2008), revenue streams are changing (Schultz 2009; Leyshon 2001), etc.

As a result, the sector needs to think about new business models. The traditional value chain is no longer able to adapt to the latest technological changes. While most companies are used to innovation of their products, innovation of their business model, the core of an organization, is much harder (Chesbrough 2010). While tools such as Osterwalder's business model canvas (Osterwalder & Pigneur 2010) or Porter's (1985) value chain analysis are helpful, they are not sufficient, especially in complex, uncertain, multi-stakeholder value networks. What is needed is discovery, experiment and 'controlled failing'. The music industry is a high pressure market facing rapid technological innovations, high demanding users, high failure rates and high market risks.

These elements make it ever more important to open up the innovation process, and to search for knowledge outside the organization. It is of utmost importance to understand and involve both end-users and other relevant stakeholders in this innovation process. All stakeholders within the value chain have a different point of view, different habits and different stakes. It is important to take all of these into account and to bring all of these worlds together in order to be able to integrate this in the business model. This needs confrontation, discussion and different ways of thinking. Besides a mental shift towards this kind of open innovation, instigators of such projects also need a structured way to tackle these challenges.

### **3 Living Labs in rapidly evolving markets**

Traditionally, innovation was viewed as an inherently closed process with most operations running inside the boundaries of the company. Company knowledge, business ideas and technologies were protected and kept safe from external influences. This view on innovation management can be characterized as 'closed innovation' or the 'vertical integration model' (Chandler 1977). During the past decades, these traditional innovation development processes are being challenged by a new framework, which emphasises the benefits and need of involving stakeholders outside the organisation. This so-called 'open innovation' paradigm (Chesbrough 2003) has its roots in the late 1970s to the early 1990s, as a more market oriented approach was taken as a reaction to the traditional dominant closed 'top-down' or 'technology push' paradigm. Factors that have favoured the shift towards a more open innovation model include an increased job mobility (Cooper 2001), the recognition of decentralized knowledge (Evans and Wolf 2005) and shorter product life cycles (Van de Vrande et al. 2009). Open innovation can provide valuable information for the industry and reduce the chance of failing in a highly uncertain market situation (Chesbrough 2003; Følstad 2008b). Another reason for this paradigm shift is the increasingly important role of end-users, which are becoming ever more demanding and empowered (Levén & Holmström 2008). Whereas the initial open innovation approach was mainly focussed on a business to business collaboration, recent evolutions adopt these principles and apply them on user involvement as well. When the end-user is considered an equal stakeholder in the innovation process, innovation can be referred to as 'open innovation with users'. This paradigm holds the belief that end-users can make relevant contributions to the development process of innovative products and services. Therefore, they are being actively involved in the ideation, design and development of solutions to their own needs and problems (Matthing, Sanden & Edvardsson 2004; von Hippel 1976, 1986 & 2001).

One approach within this 'open innovation with users' paradigm is the Living Lab approach (Schoorman et al. 2011a). However, when studying the different setups and conceptualizations of Living Labs, the concept appears to be used in multiple ways (Eriksson et al. 2005, Ballon et al. 2007). Although the Living Lab concept is being used for about 10 years at the moment of this writing, this fuzziness is still one of the main issues dealt with in the academic literature in this domain. Despite the semantic discussion, most authors agree that it is an ecosystem in which end-users and other relevant stakeholders are involved in the development of an innovation over a longer period of time using a combination of different research methods, following an iterative process (Schoorman et al. 2012). So, an important aspect of Living Labs is the collaboration and knowledge transfer between the different stakeholders of the value network. Feurstein et al. (2008), e.g., define Living Labs as a systemic innovation approach in which all stakeholders in a product, service or application participate directly

in its development. This definition stresses the multi-stakeholder aspect of the Living Lab. The interactions and collaborations between the various stakeholders in the Living Lab infrastructure are also stressed by indicating the importance of an innovation ecosystem (Pasman et al., 2005).

Although this interpretation does not restrict the application of Living Labs to the development of innovative products, most of the Living Lab research is focused on these types of innovation. Whereas the Living Lab approach itself is a reaction on the technology-push paradigm, the cases that are being developed within Living Labs are usually technology-driven. On top of that, most academic work on this topic covers the nature, the set-up, the definition and the process of Living Labs (Ståhlbröst 2008). This paper focusses on the application of the Living Lab methodology for the development and optimization of innovative business models. This is a context in which the involvement of all stakeholders is even more important, but it is far less covered by academic research.

#### **4 Value creation and business models**

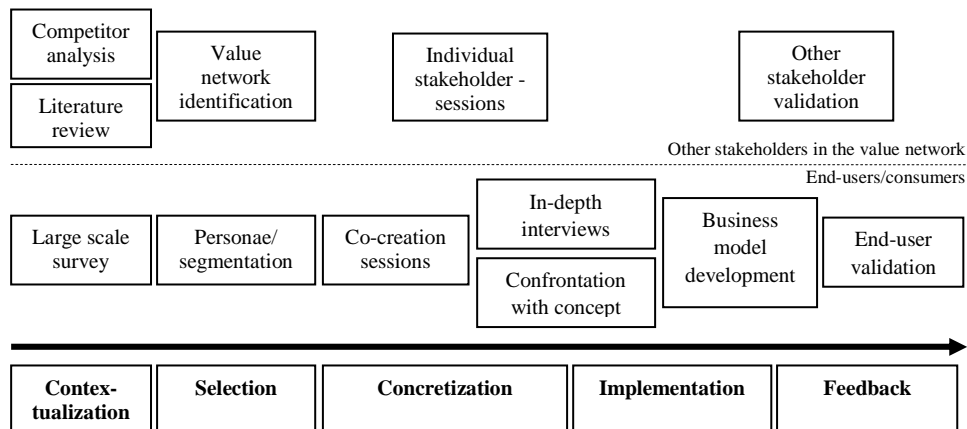
In today's economic reality it is hard to rely solely on internal resources. Increased costs and shorter product life cycles force companies to rely on each other and collaborate where possible. In this context, it is ever more important to innovate business models, the core of an organization, as well, and not only the technology and R&D (Chesbrough 2007). However, developing new business models is challenging (e.g. disruptive shifts in power in the photography, computer and mobile phone industries) and creates, especially for established firms, a high level of uncertainty. Similar to Living Labs, the actual definition of the business model concept also is highly debated (Zott et al. 2011). Nevertheless, most authors agree that a business model describes the way an organization is able to create and capture value for and from all actors in the value network (Amit & Zott 2001). Because a business model is mostly being developed by one organization only, it mainly consists out of assumptions on the value perception by the other actors in the value network. This is also being illustrated by the academic focus on analytical firm-centric business model frameworks such as the business model canvas (Osterwalder & Pigneur 2010). Sometimes, market analysis provides insights on the willingness to pay and adoption potential (Teece 2010), but the involvement of value network stakeholders could go much deeper. When developing new business models, thinking from the point of view of only one organization can be detrimental for an organization. For following only one logic makes it very likely that potential value generation, which does not fit this logic, is being lost, underestimated or overseen (Chesbrough 2010). So, when developing new business models it is not only important to shape your value network, but also to allow your value network to shape your organization and your business model.

Business model innovation is emerging as a new frontier in innovation as it is becoming increasingly important for the survival of organizations. Nevertheless, there is a strong need for more interdisciplinary research on this domain. As is being discussed in the previous sections, innovations are no longer being developed internally by one company, from a firm-centric point of view. This is not different when it comes to the development of a new business model. A lot of academic research is focussed on business model innovation but true interaction and true involvement of the different stakeholders in the value network is often neglected in this process. In a way, business model innovation is following the same evolution towards a more open approach, but at a slower pace.

The goal of this paper is twofold. First of all, we propose a framework that can be used when developing an innovative business model in a complex, uncertain, multi-stakeholder value network, based on the principles of open innovation, user involvement, Living Labs and business model innovation. Besides the construction of this exploratory model, we also analyze the outcomes of this approach and provide an evaluation by means of a SWOT analysis and an overview of the most important lessons learned.

## 5 Living Lab operationalization

Based on the work of Pierson and Lievens (2008), we configured a methodological research flow according to the five stages of a Living Lab research: (a) contextualization (b) selection (c) concretization (d) implementation and (e) feedback. These stages are being operationalized using a multi-method approach and are focused on closing the funnel of ideas from a long-list towards a central concept. Using a panel based approach, the first step is to activate a panel which is then being involved in the business model development process from start to finish. The intake survey in the contextualization phase allows to identify the most interesting end-user profiles for this project (selection phase), based on existing insights on user typologies in open innovation (Schuurman et al. 2011b; von Hippel 1986; von Hippel 2005). The contextualization and selection phases also involve mapping the ex-ante assumptions of the project instigator and the shaping of the value network. In the concretization phase, raw ideas are being generated and iterated between all stakeholders and fine-tuned. A second goal of the concretization phase is to understand the needs, habits, opinions and differences of all stakeholders within the value network. In the implementation phase, the funnel closes until a central concept remains. Finally, the feedback phase allows a validation of the outcomes of this research project and a post-research assessment of the assumptions of the project instigator.



**Figure 1** Operationalization of the Living Lab project.

### *Research context*

The project that is being analysed in this research is called “Sonic Angel”<sup>1</sup>. Sonic Angel is a company which is investigating and experimenting with new business models in the music industry, mainly inspired by “crowdfunding” (Hemer 2011). The core idea of crowdfunding is to put the fans in a central position by outsourcing the tasks of a traditional manager/producer to the crowd (Aitamurto 2011). This means the end-user (or fan) assists in selecting the artists that should be supported and also finances the production of a record through micro-payments. The central element is an open call, mostly through the Internet, for the provision of financial resources either in form of donation or in exchange for some form of reward and/or voting rights (Belleflamme et al. 2010). This rough idea, however, is only a starting point for the development of a new business model and needs fine-tuning, implementation and integration in a larger value network. The Living Lab research on the Sonic Angel case took place from October until December 2011 in the Living Lab called ‘Mediatuin’<sup>2</sup> (Media garden), a Flemish Living Lab focusing on the optimization, co-creation and validation of media and ICT innovations. This research setting allowed a long-term panel-based iterative multi-method Living Lab approach. The focus in this Living Lab project was to find an optimal match between the point of view of the end-users, the point of view of other stakeholders in the value network (artists, record label companies and concert promoters) and the point of view of the instigators of the Sonic Angel project themselves. Throughout the project, there was a strong focus on the exchange of knowledge and insights between both stakeholder groups. Other key elements in this research were the importance of multiple iterations and the combination of multiple methods. Besides the role of the Living Lab as an innovation intermediary, connecting all relevant stakeholders, it was also approached as an incubator of ideas. The Living Lab acted as a “greenhouse” in which the ideas and opinions of all stakeholders could pollinate each other and steadily grow towards a concept which comprised everyone’s interests.

## **6 Research method**

In the remainder of this paper, we will validate this approach and investigate its benefits and challenges. Because of the long-term nature of Living Lab projects, the exploratory nature of this research and the scarcity of business model innovation projects in a Living Lab context, an in-depth case-study analysis is the most suitable approach to answer our research questions (Yin 1984). Case study research excels at bringing an understanding of a complex issue or object and can extend experience or add strength to what is already known through previous research. On top of that, case-studies are most suited for processes which are poorly understood and lack a (solid) theoretical foundation (Eisenhardt 1989), allow to analyse the process open-ended and on multiple levels (Yin 1984) and gains deeper insights of a qualitative instead of a quantitative nature. Yin defines the case study research method as an empirical inquiry that investigates a contemporary phenomenon within its real-life context; when the boundaries between phenomenon and context are not clearly evident; and in which multiple sources of

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1 <http://www.sonicangel.com/>

2 <http://mediatuin.be/>

evidence are used. Given the complexity of the studied phenomenon, the multiple levels of analysis and the participation of the author team in the Living Lab itself, this research design seems most appropriate. Besides these methodological advantages, Living Lab projects which focus on the development of new business models are scarce, since Living Labs are mainly perceived as an ecosystem to fine-tune and develop innovative technologies and applications. This also means there is a gap in academic literature concerning this domain, implying that research at this moment has to be of an exploratory rather than a validating nature.

As a research partner in this project, we were able to make this analysis based on both the research results (documents), as well as our own experiences (participatory observation) and lessons learned (soft data). Following hard data sources were being used in this analysis: (a) meeting reports of all steering committees (b) the initial project proposal and all project reports (c) all deliverables from the Living Lab operations and of the Living Lab cases and all Living Lab-cases (c) all data from user research regarding Living Lab operations (intake surveys, interviews, report of the co-creation sessions, vox pops, ...) and regarding the Living Lab cases and (d) the evaluation of the project instigator (Sonic Angel) at the end of the research project.

In order to analyse the potential of Living Labs in the development of new business models we will use the key Living Lab impact assessment elements of Anna Ståhlbröst (2012) as an analytical framework in our case study analysis. Ståhlbröst distinguishes 5 key principles to assess the impact of a Living Lab:

- Value creation
- Sustainability
- Influence
- Realism
- Openness

Besides this structured analysis, we also provide an overview of the most important lessons learned, a SWOT analysis and an overview of the added value and the limitations of this approach.

## **7 Results**

### *Structural elements*

The end-user research used a Living Lab panel, containing data of 7238 respondents, of which 2057 were willing to participate in future research activities as a starting point. Besides the usefulness of this data for quantitative research, it also allowed for the development of a typology of different end-user profiles regarding music consumption. Next, a core panel was selected from this panel. This core panel was evenly distributed along these 5 user segments and consisted of 25 respondents. Of this 25, 18 participated in one of the three co-creation sessions and 9 participated in one of the in-depth interviews and concept confrontations. All 25 participated in the end-user validation. These respondents were evenly distributed along age and gender.

For the business side research, a core panel was selected in which every type of actor within the value chain was represented. The panel consisted of 14 respondents representing the roles of a concert organiser, a record label owner, a club owner, a radio producer, a music promoter, different kinds of artists (musicians, singer-songwriters and a DJ, both large and smaller ones), a producer, a policy maker and a record store owner (some of the respondents fulfilled multiple roles). All 14 respondents participated in both the individual in-depth sessions and the business side validation.

### *Value creation*

As was being discussed earlier in this paper, the creation of value is an essential element of the business model. The results of this Living Lab project show that the assumptions that were being made by the project instigators were not in line with the needs of the sector itself. Although there was a common agreement that it could be an opportunity to bypass major record labels and managers by getting funded by the crowd, the Sonic Angel model was being perceived as too closed, since once an artist got funded, Sonic Angel acted as a traditional 360° record label. Other insights revealed a low willingness to pay for most of the user segments. Therefore, the end-users and other stakeholders created a mental flow which would lead one to make a micropayment to support the artists he wants to support. The value of a so called ‘fanshare’ was being perceived differently than was being assumed and should preferably be bought right after a live performance. While Sonic Angel adopted the principles of crowdfunding to a traditional record label approach, the music sectors has a bigger need for ‘tools’ to help them with their, often DIY, projects. This also meant the possibility of bypassing certain actors in the value chain, which made coming to a central business model quite difficult. For the instigator, these outcomes provided a deep understanding of the value network. This allowed to fine-tune the business model and target the most interesting segments differentiating different kind of opinions and habits. This also enables to co-create the business model only with a specific user segment, eliminating ‘redundant’ user input. With this information, the instigator could further develop and implement its business model, knowing that it was being supported by all the stakeholders within the value chain it deemed to be relevant.

For the end-users who participated in this project, one of the outcomes was that the user segments that were much engaged in music are actually very willing to support these artists and to buy their music legally, but the current technology and pricing models force them towards illegal alternatives. For these user segments, the outcome of this project meant an easier way for them to support the artists they like and to stay connected to them. For the other stakeholders in the value network, this project allowed to empower their day to day frustrations and creative ideas. Because the music industry has so much challenges to deal with, these topics are frequently debated within the sector, but it often lacks the time, engagement, belief and organization to actually transform those ideas into real projects. By involving the business side stakeholders, the Sonic Angel project served as a vehicle for all these ideas and beliefs. The resulting business model and its practical implementation also met their needs and would benefit their cause.



### *Sustainability*

By involving all stakeholders in the most early stages of the innovation development process, the project is heading in the right direction from the start. This allows to close tracks that are not interesting right from the beginning. Because the Living Lab is panel-based, it is possible to make a segmentation of the end-users and only select the profiles which are being targeted by the new business model. It can be seen as a form of selective crowdsourcing. This way, user input is much more relevant, which lowers the costs of processing and eliminating redundant user input. By bringing all stakeholders of the value chain together to think about new business models, the result of this project was compatible with all (or as much as possible) interests of the different stakeholders, which lowers the acceptance rate and reduces failure. Because the Living Lab research was being conducted over a longer timeframe, it allowed for all stakeholders to 'grow towards each other', which means the involvement of all respondents is much deeper. While both the end-user demands and the demands of the business side were very high and seemed to be hard to combine in the beginning, confrontation with the opinions of the other stakeholders led to a better understanding and empathy of the ecosystem as a whole. That way, the users and other stakeholders transformed into 'innovation experts' over time. On a higher level, the lessons learned and the developed engagement models within this project can be transferred to other (media) industries as well. Within the same Living Lab environment a second project is now running which applies the same principles to the movie theatre<sup>i</sup>.

### *Influence*

Although the different stakeholders were being involved in the early stages of the innovation process, it was not always clear to which extent the input of both the users and the other stakeholders was being coped with by the instigator. Because of the exploratory nature, this project was part of the 'fuzzy front end' of the innovation process. Although the project resulted in an interesting model, supported by both the end-users and the industry, it was unclear whether this was in line with the ideology of the Sonic Angel team. The involved stakeholders had no decision making power whatsoever. Although the project instigators listened with great interest, they followed their own course, picking up from the project what they found interesting and leaving behind what did not fit their vision. When it comes to developing business models, it seems to be very hard to actually consider the respondents of a Living Lab project as an equal partner with equal decision making power and influence.

### *Realism*

Because business model innovation is exploratory by nature it is not easy to test this in a real world environment. The real world testing seems to be more fitting for the products or services itself rather than to the business mechanisms. The real world testing in this stage of the innovation process was limited to a demo video of the use of the resulting model in realistic use cases. The embryonic state of the business model did not allow for, e.g. A/B testing of several alternatives within a realistic ecosystem, including all relevant stakeholders, in a realistic setting.

### *Openness*

Whereas the input from the involved stakeholders is very high and valuable, the project instigator also has to provide some information itself. Because part of their business model was already on the market, this openness was not that problematic. The lack of openness regarding the future plans or what would be done with the input of the participants of the Living Lab project, on the other hand, seemed to be bothering the participants. Similar to what was being mentioned concerning the influence, this was a one way interaction as well. Consumers and business side actors revealed their opinions and attitudes towards each other, but there was little to no real interaction between the stakeholders and the project instigator.

**Table 2** SWOT analysis of the use of a Living Lab approach in developing and fine-tuning business models.

<i>Strengths</i>	<i>Weaknesses</i>
<ul style="list-style-type: none"> <li>• Early user involvement allows heading in the right direction from the beginning</li> <li>• User segmentation and selection avoids redundant stakeholder input</li> <li>• By opening up the innovation process the result aligns with the interests of the whole value chain revealing true value perception and increasing sustainability</li> <li>• The multi-method approach gains deep insights in the different attitudes, habits and needs</li> <li>• The iterative process allows different stakeholders to grow towards each other (becoming innovation experts)</li> <li>• The Living Lab acts as an innovation intermediary, bringing all actors within the value chain together</li> </ul>	<ul style="list-style-type: none"> <li>• High level thinking requires time</li> <li>• A business model in itself is hard to test in a real world context</li> <li>• The results are difficult to validate</li> <li>• Merging different interests is hard and requires time</li> <li>• It is hard to develop a business model as such, a basic guiding idea is needed from the instigator</li> <li>• It is hard to focus only on the business model instead of the services because of its abstract nature</li> </ul>
<i>Opportunities</i>	<i>Threats</i>
<ul style="list-style-type: none"> <li>• Integration of A/B testing of different models (in a real world environment)</li> <li>• Giving the different stakeholders more decision making power</li> <li>• More cross-disciplinary co-operation between user research and business model research</li> </ul>	<ul style="list-style-type: none"> <li>• Openness and willingness to change course can be hard when the instigator has a 'golden idea'</li> <li>• Limited knowledge of the stakeholders</li> <li>• Selecting the wrong user profiles (following outliers)</li> <li>• Not being able to narrow the innovation process</li> </ul> <p>Stakeholders' beliefs do not always align with the point of view of the instigator (danger of cognitive dissonance)</p>

## 8 Discussion

The main contribution of involving all relevant stakeholders of the value network in business model innovation is that it reveals true value perceptions. Whereas traditional business model innovation starts from a firm-centric point of view, this approach allows to integrate the business model in the value network by incorporating actual needs, attitudes, habits and opinions of all stakeholders. Only when the balance between the stakes of all relevant stakeholders is correct, the business model can be successful. When taking this into account, the business model has an increased sustainability and is more likely to generate and capture more value. Nevertheless, bridging the world of the end-user and the world of the supply side of the market is a challenge. An iterative, multi method, panel-based Living Lab process helps to overcome the different points of view by confronting both parties with the outcomes of the previous research stages, gradually feeding and maturing both the concepts and the respondents. Using the same Living Lab panel throughout this research turns these end-users and business side stakeholders into user experts.

This case study confirms that Living Labs can be beneficial for the development of a solid, end-user supported business model. Although it didn't create a new business model as such, it is very useful for the fine-tuning, re-development and optimization of the business model. That is why we rather consider a Living Lab approach as a navigation system for new business models. With this paper, we contribute to the growing literature on Living Labs and business model innovation. It confirms the importance of the involvement of the end-users as stated by Levén & Holmström (2008). The conclusions also support the need for open innovation, meaning collaboration with actors outside the company or organization (Chesbrough, 2003).

When developing new business models, it is interesting to take the academic insights from the open innovation framework into account. This also means involving the end-users, which is in most cases forgotten in business model innovation. This paper presents an in-depth, qualitative, but nevertheless explorative research. Therefore, it would be very interesting if our findings would be validated in future research and to investigate whether this approach is also beneficial in other contexts. Finally, there is a strong need for more interdisciplinary research, bridging research on user involvement, open innovation and business models. Only by deeply understanding the mechanisms of all three of these domains, it is possible to fully grasp the optimal business model development processes.

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<sup>i i</sup> <http://www.iminds.be/en/research/overview-projects/p/detail/icinema-2>