A Collective Action Perspective on a Healthcare Service Platform Development Project

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Abstract
The population of elderly people and their need for wellbeing and healthcare services is rapidly growing. At the same time, the supply for these services is not increasing at the same pace due to increasing costs and shortage of trained personnel. Therefore, many organizations are developing modern wellbeing ICT-enabled devices to assist the elderly people to live at their homes independently as long as possible and enabling the care providers to work more effectively. However, isolated attempts have led to emergence of countless devices and services with proprietary service platforms which have made this domain more complex. While collective action between actors for developing common service platforms may solve the complexity and foster adoption of these services, the challenges of cooperation hinder many actors from joint attempts. In this paper, we study how and why inter-organizational cooperation emerges in the home-care domain. Specifically, we study the impact of heterogeneity of interests and resources on the likelihood of collective action among participants in the healthcare domain. We do so by conducting a single case study on a unique collaborative elderly-care platform development project in Finland. The case was critical as it had all the required conditions (i.e. collective action for a common platform development project in the healthcare domain) to test our propositions. The results present the importance of resource heterogeneity for the emergence of collective action, especially in a business ecosystem of small companies with limited capitals and technical resources. We also found that heterogeneity of interests is not really problematic when the project is in the development phase (R&D) and especially in the presence of selective incentives that motivate participation of companies.

Keywords: Service platform, Collective action, Smart home, Business ecosystem
1 Introduction

The population is becoming older in Finland, in Europe and across the world (World Health Organization, 2011). For instance in Finland, within the next 15 years, the number of elderly people grows dramatically (Statistics Finland, 2011). Simultaneously the number of people in the working age is declining, so there will be fewer people, less resources and less tax money to be paid for the services and obviously there will be more elderly people that demand for health and care services. Therefore, there is an increasing need to generate innovative solutions to deliver health and care services for the growing population to respond to the new situation in the well-being market.

Currently, several organizations and service providers are becoming more aware of the tremendous opportunities and needs in the health and care domain. In addition, evolving ICT technologies and increasing number of smart appliances and sensors now enable truly adaptive and intelligent services for health and elderly care. Accordingly, there are several attempts from assistive-device vendors to offer different types of health or care devices and services to enable elderly and patient live independently and longer at their home. Such assistive services or devices, each addressing a niche in the market, often run on different service platforms using proprietary standards, which have created several interoperability issues both on home level and on system level (Carroll, Cnossen, Schnell, & Simons, 2007).

While actors in this domain could continue offering their solutions in isolation, they could choose to collaborate to integrate their services on a common service platform. Such a common service platform can then be used for multiple services offering, and thus providing more comprehensive solutions to customers (i.e. elderly and disabled people as well as care service providers). However, igniting collective action between parties for establishing such a common service platform involves several organizational challenges, including the issue of trust between parties (Kahan, 2003), motivating actors and creating incentives for collaboration (Wright, 2009). While many studies address the technical aspects of developing integrated health systems (e.g. Kaelber et al., 2008; Korhonen, Parkka, & Van Gils, 2003; Mikalsen et al., 2009), little attention has been devoted to the organizational challenges for cooperation in this domain. Specifically, issues like participation of actors from different sectors (i.e. IT and health), a lack of technical and organizational interoperability in operational contexts, the complexity in designing and procuring systems, the unadapted legislation, data protection and licensing issues (Antunes, 2011) have created several barriers for collective action in the healthcare domain.

In this paper, we focus on organizational issues and aim to answer the question of how and why collective action for developing a common service platform emerges between several actors in the healthcare domain. Specially, we focus on how heterogeneity of interests and resources in a business ecosystem (i.e. a network of organizations) influences emergence of collective action. We do so by conducting a single-case study on a unique cooperative platform development project in Finland, which has all the essential conditions (i.e. a collaborative platform development project in the health and elderly care domain) to further explore our propositions. The aim of the project is to offer a combination of health and elderly care services on a common service platform to be used by elderly people and their care service providers (Active Life Home Project, 2012).

This paper continues as follows. The next section provides the theoretical background and propositions to be analyzed in the case study. Then, in section 3, we explain the
A Collective Action Perspective on a Healthcare Service methodology used for this research. After that, a description of the case and results of the case study will be provided in section 4. Finally, we discuss findings and conclude by sketching limitations of the study and suggesting topics to be explored in future research.

2 Theoretical Background

Definition of core concepts
To ignite a common service platform, a group of actors including platform providers, service providers and applications developers need to work collectively to develop a platform and complementary products and services around it. Typically, a service platform can be seen “as building blocks (they can be product, technologies or services) that act as a foundation upon which an array of firms can develop complementary products, technologies or services” (Gawer, 2009, p. 45).

The network of interacting organizations that cooperate and compete with each other around a service platform can be seen as a business ecosystem (Moore, 1996). The members of a business ecosystem often fulfil different roles based on their specific resources. For example, platform providers provide the platform, complementary providers offer complementary products and services around the platform and application developers develop applications running on the platform. As such, a service platform coordinates interaction between two or more groups of participants in a business ecosystem and creates innovation opportunities for complementary providers in the ecosystem to create value-added services around the platform.

Of several theoretical perspectives, we choose collective action theory to study the cooperation between platform providers in a business ecosystem for developing a common service platform. Literally, the term ‘collective action’ means to do something jointly as a group with a common goal (Olson, 1971). In fact, the theory focuses on conditions that cooperation for a collective goal or interest (e.g. developing a common service platform) emerges between organizations (Markus, Steinfield, Wigand, & Minton, 2006).

In the following section, we relate insights from platform theory and business ecosystem to collective action theory and drive propositions that explain our research question. Each proposition is supported in the three literature branches of platform theory, business ecosystem and collective action theory.

Propositions
The literature on platform theory suggests that when capabilities of platform providers are comparable to complementary providers, the threat of entry from platform provider into complementary market tend to hinder third-parties to develop complementary services around platform (Gawer & Cusumano, 2002).

Similarly, Den Hartigh and Toll (2008) state that comparable parties within a business ecosystem are more likely to compete rather than to cooperate. This suggests that differences between platform providers in terms of capabilities and resources in a business ecosystem are more favorable for collective action to emerge.

In collective action literature, resource differences between actors have been viewed as heterogeneity of resources and it has been widely argued as an advantage for collective action (Marwell, Oliver, & Prahl, 1988), specifically argued to augment collective
action in the early stage of collaboration (Heckathorn, 1993). Therefore, we propose that:

**P1** The more heterogeneity of resources in a platform providers’ ecosystem, the more likely that collective action for development of a common service platform emerges between platform providers.

To be more specific about resource heterogeneity, following Barney (1991), we consider resource heterogeneity as differences between individual organizations in terms of their physical (technology and equipment), human (experience, intelligent) and organizational (planning, coordinating and controlling systems as well as inter/intra organizational relationship) capitals. We also consider differences between organizations in terms of their size and financial capitals.

Despite the heterogeneity of resources that has been mostly considered to be favorable, heterogeneity of interests may appear problematic (Baland, Platteau, & House, 1995). This is because each actor may have distinct interests or desires, apart from the collective interest, from the outcome of collective action and such interests are sometimes conflicting. Therefore, it is more challenging to create consensus among actors when there are heterogeneous interests in a business ecosystem. Accordingly, we propose that:

**P2** The more heterogeneity of interests in a platform providers’ ecosystem, the less likely that collective action for development of a common service platform appears between platform providers.

We view heterogeneity of interests as differences between individual companies’ motives for participating in development of a service platform. The wide range of motivations for participation in an innovation process can be generally categorized into extrinsic and intrinsic motivations (Boudreau & Lakhani, 2009). This category then can be further divided into new business motives (i.e. access to market, technology and customers), solidarity motives (i.e. cooperation-oriented purposes like enlarging network, access to more partners and projects) (Lopes, Santos, & Teles, 2009) as well as strategic motives (i.e. build up public status of organization, obtaining strategic position in a market) (Knoke, 1988).

The opportunistic behavior of actors often reduce motivations of individuals to participate in a collective action because of the fear that others may free-ride or because
they prefer to free-ride on the contribution of others (Olson, 1971). Accordingly, selective incentives has been discussed as an effective mechanism to promote contribution and eliminate the free-rider dilemma (Hardin, 1982; Knoke, 1988; Oliver, 1980). Selective incentives may appear in forms of awards or punishments to encourage participation in collective action. According to Von Hippel & Von Krogh (2009), the nature of selective incentives for organizations are often material and tangible benefits. Clark & Wilson (1961) recognize material incentives as financial benefits and values that organizations can achieve from their contributions in collective action. However, we consider both tangible and non-tangible incentives and propose that:

\[ P3) \text{In the presence of selective incentives in a business ecosystem of platform providers, it is more likely that collective action for the development of a common service platform happens between platform providers.} \]

Figure 1 illustrates the conceptual model of this study.

3 Methodology

This research deals with the main question of: ‘how and why collective action for the development of a common service platform emerges (or not) within a network of organizations (i.e. a business ecosystem) in the smart living domain’. The case study method helps to provide a holistic and meaningful understanding of such a complex social phenomenon and to answer questions of ‘how’ and ‘why’ (Yin, 2009). Moreover, it is a well-suited method to study a contemporary phenomenon in a natural setting where the knowledge of practitioners in the field is critical for developing and /or testing theories at their early stage of forming (Benbasat, Goldstein, & Mead, 1987; Cavaye, 1996).

Case study selection

We opted for a single case study design for this research to test our propositions. Typically, finding a collaborative common platform development project in the smart living domain is quite challenging as not much collaboration is going on in this domain. Therefore, a single case that meets all the conditions for testing the propositions would help us to determine whether the propositions are correct and whether there are alternative explanations for the propositions (Yin, 2009). The conditions for choosing the case were: 1) the main focus on a collaborative platform development at least for a specific type of smart living services 2) More than five companies involved for the common platform development 3) The key informants of the case should be accessible for interviews.
Active Life Home is a collaborative common platform development project for elderly and healthcare services, which are a subset of smart living services. The main purpose of the project is to enable the care and assistive systems and services of various companies to work coherently together. The project aims to solve two major problem areas for the users of assistive devices and information services: 1) To integrate the devices and related customer data into one common service platform and 2) to set up a marketplace where solutions of multiple companies are presented so that the right combination can be selected based on each customer's individual needs.

Fifteen companies, developing assistive devices and related service packages, including medicine reminders, alarms, notifications, activity and sleep quality trend analysis and location tracking, participate in this collaborative platform development project in an attempt to integrate their specific services (currently running on separate platforms) into a common service platform to be used by care service providers and end-users. Furthermore, three departments of Aalto University are involved in this project.

**Data collection**

In this study, we triangulated multiple sources of data including interviews and documentary information. Interviews are the main source of data and documentary information (e.g. emails, announcements, written reports of events, proposals, progress reports) is the secondary source of data in this study. We did not merely rely on the resources available in the cases, but also consulted related documents and information available online, like news or scientific publications by other researchers.

**Interview protocol**

We interviewed 10 people, mainly decision makers and/or project managers who are involved in making strategic decisions for the companies. We also interviewed people with a technical background to discuss the issues of collaboration from technology architecture and infrastructure point of view. The semi-structured interviews were guided by questions tailored to propositions P1, P2 and P3.

**Data analysis**

First, we taped and transcribed all the interviews. Then, we open coded the transcripts using Atlas.Ti software; having theoretical concepts in mind and paying attention to other possible explanatory factors. Atlas.Ti helped us to improve the rigor of data analysis (Kelle, Prein, & Bird, 1995). However, we avoided too much relying on the software as it may lead to a quantitative data analysis rather than qualitative analysis (Seidel, 1991). In addition to coding, we used several memos to document our interpretations of the case. We also drew causal network diagrams to understand the causal relationship between codes to better explain the core concepts. After all, we fairly elaborated our findings through constant communication and discussion with one of the board members of the project. In this paper, because of page limitation, we mainly used quotations from the interviews to illustrate our findings from the case.
4 Results

4.1 Background of the case

In Finland, as in many other countries, the share on elderly people in the population is increasing and the need for their wellbeing and healthcare services is rapidly growing. At the same time the supply for these services is not increasing at the same pace due to increasing costs and shortage of trained personnel. Modern wellbeing ICT technology can assist in creating smart services which enable independent living for elderly people and assist care providers to work more effectively.

Active Life Village Ltd. (ALV) is a non-profit company which has been founded by the municipality of Espoo, Aalto University and Laura University to promote the creation and commercialization of innovative ICT technology assisted wellbeing services. The Active Life Home project is one of the main projects that ALV is currently working on. The project, which is in the research and development phase, has been funded by Tekes (the Finnish Funding Agency for Technology and Innovation).

ALV is the leader of the Active Life Home project. The other participants have the following roles: 1) Vendors of devices, which monitor the health status of the person, create data and store it into their servers and display it for analysis, 2) the vendor of Active Health Record, Playground, which has a key role as an integrator of the data from other companies’ servers, 3) three departments of Aalto University, developing the ALH portal and the home gateway and modeling the overall platform architecture and business model of the ALH portal.

Figure 2 simply illustrates how the value exchange between organizations looks like in the business ecosystem (Allee, 2000).

Figure 2. The Value exchange in the business ecosystem
4.2 Findings from the interviews

Heterogeneity of Resources

To explore our first proposition, we analyzed the resources that each group actively contributes to the Active Life Home project, based on the existing documents about the case. Furthermore, we asked the interviewees how different they perceive their organization to be of the other organizations in terms of core business, resources or capitals. Table 1 shows a summary of resources of each group of participants.

From the table, it appears that each group of participants contributes specific and dissimilar resources (i.e. Finance, Technical assistive devices and services as well as technology and market knowledge) to common platform development. Although most of the participants are non-profit organizations or small companies with little resources, without contributions of all the participants the final common goal (i.e. developing a common service platform) will not be achieved; as one of the interviewees noted: “Basically, most of the companies in the Active Life Home project are small companies with limited capabilities. As such, our production line is a niche product”.

<table>
<thead>
<tr>
<th>Participants</th>
<th>Resources for the Active Life Home Project</th>
</tr>
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<tbody>
<tr>
<td>Tekes</td>
<td>• Finance</td>
</tr>
<tr>
<td>Active Life Village</td>
<td>• Business and market knowledge</td>
</tr>
<tr>
<td></td>
<td>• Planning and coordinating capabilities</td>
</tr>
<tr>
<td></td>
<td>• Inter-organizational relationship with potential customers that encourage participation</td>
</tr>
<tr>
<td>Integrated Assistive Device providers</td>
<td>• Assistive devices and equipment</td>
</tr>
<tr>
<td></td>
<td>• Web-based care services</td>
</tr>
<tr>
<td>PlayGround</td>
<td>• Technical resource for integration platform</td>
</tr>
<tr>
<td>Aalto University</td>
<td>• Technical knowledge</td>
</tr>
<tr>
<td></td>
<td>• Business modeling knowledge</td>
</tr>
</tbody>
</table>

Table 1. Resources of Participants in Active Life Home Project

Although they are all small to medium companies with limited capital resources, they have dissimilar technical solutions for the common goal (i.e. the common service platform) as one interviewee said: “the companies involved in this project have certain solutions for specific customer needs, but not for all needs”. Furthermore, a number of them have more organizational resources (i.e. relationships with potential customers) to contribute. For instance, the strategic position of ALV and its relation with the city of Espoo makes ALV an attractive partner and leader for cooperation. One interviewee noted that “ALV is a magnetic channel because they have a direct connection with the municipality of Espoo and that really makes ALV different from somebody else as a coordinator, in terms of extending the network and accessing to customers. In this sense, ALV is absolutely the company that everyone would like to cooperate with because of its strategic relationship with Espoo municipality. Once the results of development project come out, ALV has access to potential customers (i.e. municipality) for the products and the platform”.

Regarding to the impact of resource heterogeneity on emergence of collective action, one interviewee put that: “the fact that most of the companies are pretty small probably make them to understand that they need collaboration in the long term”. Similarly,
another interviewee said that “I would say that we need to have different elements of the total solution and that is important […] everyone must have different partial solutions for the final solution (i.e. common service platform)”.  

**Heterogeneity of Interests**  
To analyze the second proposition, we asked interviewees why they are participating in this project and they provided a range of reasons (see Table 2).  

We found broad differences of interests across different groups of participants. For example, the primary interests for assistive device vendors were to add up to their portfolio, have a wider range of offering, obtain a strategic position in the market and access to new customers. They were mostly interested in business opportunities that the project can create rather than other types of motives (i.e. knowledge creation, solidarity and cooperation-oriented motives or being good for society). However, one interviewee (out of four in this group) also showed personal interest (i.e. individual rather than organizational interest) for knowledge creation and knowledge exchange in the consortium.  

*Active Life Village*, ALV (i.e. the leader) and *Playground* (i.e. the integration platform provider) were the only companies that expressed real interests in solidarity and cooperation-oriented activities. According to one of the interviewees from ALV “the whole company was established for this purpose” i.e., establishing a collaborative service platform for elderly care services. Another interviewee from ALV emphasized that the main goal of Active Life Village is to solve the issue of isolated service offering by bringing companies together. Playground, on the other side, needs participation and cooperation of other companies to provide the final integration solution. Regarding to the latter, the co-founder of the company stated that “the project is not going to be successful if there are only one or two companies”.

The interviewees from Aalto University were particularly interested in the project to apply their research in real use cases, solve technical problems in home environment, providing innovative solutions and in last but not least publishing papers.  

Despite the interests’ diversity among participants, when we asked them about any conflict of interests in cooperation, we didn’t find any major concerns or conflicts. In fact, at this point of time, each group is benefiting from the project in different ways. However, one interviewee put that this is more a research project than a commercial project, as there is not any customer involved at the moment. This issue of lack of customers for the project was also raised by other interviewees.  

**Selective Incentives**  
Regarding to the selective incentives, we only found financial motivations for the university. Although Tekes provides the funding (as a selective incentive) for all the participants in this project, according to device vendors and Active Life Village, the fund is not that much considering the large scale of the project and even companies may need to invest money for the development. For Aalto University, the fund covers 70% of research costs, according to the financial manager of the university. Not surprisingly, one interviewee from Aalto University said that “we can’t choose what we do. There is funding available for this project, so we do this”, however, “what makes this project
interesting is that it is also not very expensive to study; all we need is just some PC’s and components to keep the project up and running”. As research costs are not covered by the fund, the university could only do these types of projects only if there are other similar projects that they could spend some resources from them, as said by two interviewees from Aalto University.

Although the financial incentive seems not to be an important encouraging factor for companies, except the university, we often heard from the interviewees that the added value of the platform to their separate offerings gives them a competitive edge compared to companies with no integration into the platform. Therefore, a competitive advantage of the platform is a non-tangible and stronger incentive for companies compared to the financial incentive.

4.3 Conceptual Analysis

Table 2 is aimed at understanding the impacts of resources and interests heterogeneity as well as the effects of selective incentives on collective action. The plus, minus and zero scales have been used to illustrate the qualitative findings, although no measurement scale has been predefined.

Obviously, the development of the common services platform requires the participation of all relevant actors (i.e. platform developers, assistive device/service providers) to provide the needs for final solutions. Broadly speaking, the interviewees had different perspectives on resource heterogeneity in the business ecosystem. Most of them saw each other as similar in terms of being small with limited capital resources and dissimilar in terms of providing disparate technical solutions. However, there are also a few companies providing comparable solutions, which was a concern for those companies.

The analysis shows mixed effects for impacts of companies’ size on collective action. Some interviewees believed that having a big company in the ecosystem might benefit the collective action as it would attract more companies to join. However, others believe that this could also have a demotivating impact as a dominant company would force others to adopt its technology and this is not in the interest of technology providers.

On the other side, dissimilar solutions were found to positively influence collective action as companies especially with small resources and niche solutions need resources of other companies to complement their offering. Therefore, we conclude that the heterogeneity of resources increases the likelihood of collective action.

Proposition 1: Supported

The results indicate a considerable heterogeneity of interests among participants in the Active Life Home Project. Although the majority of the participants are especially interested in marketing and business opportunities, there is a strong interest from the university and also Active Life Village in knowledge creation and innovation opportunities. Such focus on technology development and innovation was a common concern for the companies. That is because the lack of real customers in the project to really define users’ needs and requirements may lead to an impractical technology push solution. Furthermore, the companies cannot get what they want from the project (i.e.
business opportunities). It could also be related to the fact that there is no real role, in this ecosystem in which one actor would be specifically responsible for selling the developed common service platform.

We primarily observed interests in solidarity and cooperation-oriented activities from Active Life Village and Playground. Obviously, the interest of Active Life Village in cooperation is aligned with the mission of companies (i.e. fostering collaborative and innovate solutions in healthcare and the elderly domain). For Playground, as the company is not selling any products or services in the elderly market, probably this collaborative project is a practical way to get involved in this demanding market.

Despite the considerable heterogeneity of interests, the project is still going on. However, if members do not solve those conflicts of interests (i.e. especially research and innovation vs. market and commercialization), then adoption and commercialization phases of the platform would be problematic. As the project is still in the development phase, we cannot draw a hasty conclusion that heterogeneity of interests increases or reduces the likelihood of collective action. This also heavily depends on the phase of the project (i.e. development, pilot and commercialization). However, we could conclude that collective action for a common service platform emerged despite the heterogeneity of interests between the participants in the development phase. Thus, our second proposition is not supported.

Proposition 2: not supported
Discussion and Conclusions

The findings from this case study reveal the importance of resource heterogeneity in a business ecosystem for the emergence of collective action. It is especially critical when participants in collective action are mainly small companies with limited financial and technical resources. In that case, they would need the resources of each other to achieve their common goal.

Table 2. How heterogeneity influences participation in Collective Action

<table>
<thead>
<tr>
<th>Impact on Collective Action</th>
<th>Types Provided</th>
<th>Interviewees’ Statement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resources</td>
<td>++/-</td>
<td>1. Same size companies</td>
</tr>
<tr>
<td></td>
<td>-</td>
<td>2. Similar solutions</td>
</tr>
<tr>
<td></td>
<td>++</td>
<td>3. Dissimilar solutions</td>
</tr>
<tr>
<td>Interests</td>
<td>+</td>
<td>1. Knowledge</td>
</tr>
<tr>
<td></td>
<td>++</td>
<td>2. Marketing</td>
</tr>
<tr>
<td></td>
<td>++</td>
<td>3. New Business opportunities</td>
</tr>
<tr>
<td></td>
<td>+</td>
<td>4. Strategic</td>
</tr>
<tr>
<td></td>
<td>+</td>
<td>5. Solidarity</td>
</tr>
<tr>
<td></td>
<td>+</td>
<td>6. Innovation</td>
</tr>
<tr>
<td>Selective Incentive</td>
<td>+</td>
<td>1. Financial</td>
</tr>
<tr>
<td></td>
<td>++</td>
<td>2. Competitive edge</td>
</tr>
</tbody>
</table>

Table 2. How heterogeneity influences participation in Collective Action
(++): very positively influence, (+): positively influence 0: Neutral, (-): negatively influence, +/-: mixed effects)

Finally, financial incentives have not been found that much important for the companies. We found it mainly important for the university as not surprisingly the business model of a university is to get subsidy for research projects. Regarding the other companies, although the interviewees from ALV assumed that funding is important to encourage companies to participate, none of the interviewees from the companies considered funding as a really stimulating factor for collective action. However, we found that a competitive advantage of belonging to the platform ecosystem is an important non-tangible incentive for the companies. Therefore, our last proposition about selective incentives is supported.

Proposition 3: supported

5 Discussion and Conclusions

In that case, they would need the resources of each other to achieve their common goal.
The heterogeneity of interests appeared to be less problematic for collective action in the development phase. However, we cannot generalize this finding to other cases. One underlying reason for this result might be the funding opportunity (i.e., selective incentive) that more or less motivates participation of companies. Apparently, governmental funding could stimulate collective action even in the presence of interest heterogeneity. However, such an effect is on the short term and we expect that conflicts of interests, especially research vs. business orientation and a lack of real customers, might become a major source of conflict between participants later in the pilot or commercialization phase. When the funding is over, companies may lose their interests in collaboration and participation in continuing the project. One way to solve such an issue could be to include a for-profit organization (instead of ALV as a non-profit organization) that takes the responsibility of attracting customers and running, supporting and commercializing the platform; because at the moment the platform is only a prototype.

Moreover, there should be agreement on the business model of the platform, which is currently open and needs to be finalized when the unfilled roles have been filled and the project gets to the commercialization phase. The questions then would be how the revenue from the customer should be shared between ALV and the companies. If such questions are left unanswered too long, then it might lead into conflicts and discontinuance of collective action and thus of the project.

This paper contributes to the organization science concept of collective action by applying the theory of collective action into the IS domain of platform theory. While the concept of collective action has been previously applied to adoption and diffusion of information systems (Markus, 1987; Rogers, 1991), it has not yet been widely applied to analysing the providers of IS platforms (Exceptions: Markus, et al., 2006). Moreover, this paper provides insight about factors that need to be taken into account by practitioners in the healthcare domain when planning to start cooperation for developing common service platforms for healthcare and elderly care services.

Nevertheless, this study suffers from two limitations. First, we did not study characteristics of service platforms and the business ecosystems, like platform boundary (Na, 2008), resource interdependency (Sheppard, Barnes, & Pavlik, 1990) and leadership strategies (Gawer & Cusumano, 2002). Any of such characteristics can influence motivations and interests of companies to participate in a collaborative platform development project. As such, the three propositions in this paper may not be the only explanations for the likelihood of collective action. We suggest future research to explore other explanations of collective action for common platform development. The second limitation, which is the weakness of all single case studies, is that we cannot provide a generalized conclusion from our findings (Yin, 2009). In fact, we cannot prove or validate our propositions studying just a single case and we need to find support for propositions in more than one case. This issue can be solved by doing multiple-case studies to have cross-case comparisons. Another suggestion is to study two common platform development projects in different countries to analyse the effects of cultural issues on collective action.
References


