Individual People as Champions in Building an Emerging Software Ecosystem

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Abstract. An increasing amount of software service providers tend to evolve their platforms into business ecosystems. In the mainstream of extant literature, the ecosystems have been seen as an interconnected system of organizations, mainly ignoring the individual level. However, some previous studies have suggested that collaboration—such as building a new ecosystem—may be depending on individual key persons who are development-oriented and capable of seeing the ecosystem's value potential already in its early phases. Based on the results of a single-case study, this short paper proposes a new conversation on an unexplored area of key persons as enablers—'champions'—for a new ecosystem creation. The empirical analysis was based on a single case study on a recently launched new software business ecosystem. As a result, four different capability areas and six, partly overlapping, roles for a champion, were identified. In future work, the findings on individual's roles and required capabilities may provide fruitful research avenues to understand better the process of emergence of new ecosystems.

Keywords: Business ecosystem · Software ecosystem
Emerging ecosystem · Champion · Strategic management
Role · Capability

1 Introduction

Software ecosystems are complex socio-technical constructs involving often hundreds of companies and persons from different fields. For example, in the case of mobile application ecosystems—i.e., Google Play for Android devices and Apple App Store for iOs devices—the number of involved organization is counted in hundreds of thousands (e.g. [1]). Yet, individual people, their skills and competences might be crucial for an ecosystem during its life-cycle.

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In his seminal work, Moore [2] identified four distinct stages in the life-cycle. In Moore's life-cycle model, the phases are: *(i)* Birth, *(ii)* Expansion, *(iii)* Struggle for Leadership, and *(iv)* Renewal or Death. During an emergence of an ecosystem, i.e., in its birth and expansion phases, individual persons might important role in the development of the ecosystem. That is, commitment to the ecosystem in its early phases by promoting it and by innovating new content by individuals might be a vital condition for the ecosystem as a whole.

The extant ecosystem literature has highlighted some unexplored observations of different individual behavior and its potentially crucial impact on building a new ecosystem. Some researchers have recognized that relational attributes such as trust and commitment are different at company and individual level (e.g. [3–5]). Such key persons ant their amount have seen as an important factor in different collaborative contexts [6] Nevertheless, the importance of individuals and their skills in the emergence of an ecosystem are still mainly unexplored area.

This short paper aims to uncover what kind of role an individual might have in an emergence of an ecosystem and, furthermore, what kind of mindset is needed. Thus, we focus on the following research question:

RQ What are the roles and characteristics of individuals that boost the development of an emerging ecosystem?

This study introduces our findings at individual level mindset differences when building an ecosystem forward from the birth phase. The paper is based on a single case: an ecosystem connecting public and private sector actors. The primary data consists of 15 interviews of users working in private sector and using the services of the core platform. We analyzed the data and outlined four themes the key persons typically emphasize.

On one hand, most individuals related to the emergence of a new ecosystem may not even recognize or see its benefits – or even drawbacks. On the other hand, key persons (hereafter labeled as *'champions'*) are development-oriented participants who might have a significant role in the emergence or death of an ecosystem. Champions rise from different parts of an emerging ecosystem. These kinds of champions are aware of the existing new ecosystem, might have better understanding of its benefits, and are more willing to develop the emerging ecosystems further.

The rest of this paper is structured as follows. Section 2 presents the empirical setting of this study and Sect. 3 goes through the results. Section 4 discusses on implications of the results and Sect. 5.

2 Research Process

This empirical inquiry is based on a case study research. In the following, we will first presents the case environment and then continue with research process.

2.1 The Case Ecosystem

COMPANY LTD (name anonymized due to confidentiality reasons) is a Finnish startup firm, that was established in 2017 as a spin-off of another software company. Its core business is to develop and orchestrate an ecosystem for digitalizing certain public administration processes, which are typically participated by companies and local authorities. The ecosystem is based on open source; the source code is available in GitHub platform (https://github.com/open-source). The product is delivered as a cloud service. Currently, there are also a few external data services integrated. By following the definition of a software ecosystem by Jansen et al. [7], the COMPANY LTD's ecosystem can be described as a software ecosystem. There are external actors, cooperation done between different parties and a software platform which is central for the ecosystem.

The ecosystem is aimed to generate new business to COMPANY LTD by implementing the digital processes on its business area. At the moment, they have approximately 200 public organization customerships and several business organization customers related to each public organizations. COMPANY LTD has a vision of creating and orchestrating an ecosystem around their core business area. Based on the ecosystem life-cycle model by Moore [2], the ecosystem seems to be in the expansion phase—it has bypassed the birth phase as it has stable business running and some customers. This study is based on COMPANY LTD's customer satisfaction questionnaire, conducted in May 2017, that was addressed to company's cloud service users.

2.2 Research Process

The study was conducted by interviewing 15 persons from companies using the cloud service. The data were collected by non-structured theme interviews. All the interviewees either use the service as part of their daily routines or they are system administrators of the service in their organization. The sample ($n = 15$) was selected by COMPANY LTD, as they wanted to get feedback from the most significant and active customers. Each interview lasted approximately for an hour. Afterwards, the interviews were transcribed and analyzed by the researchers.

The interview questionnaire was divided into two main parts. The first part gathered customer feedback for product development and marketing. In the second part, the interviewees were asked about the collaboration and ecosystem; for instance, do they see it beneficial, what kind of expectations they have for it, do they have some ideas about the future actors and services in the ecosystems, etc. Furthermore, their willingness and commitment to collaboration with other users and ecosystem orchestrator was mapped, also by offering a forum for that in the near future. Since the interviewees were not ecosystem specialists, the need emerged to replace the concept of 'ecosystem' partially with more familiar concepts such as 'networking' or 'collaboration'. This change was done in order to keep discussion going smoothly forward—and it was carefully considered when analyses were conducted.

3 Results

As the ecosystem is still in expansion phase, the most of the users did not recognize the ecosystem and they did not say that they have a relation to an emerging ecosystem. They were rather describing it in a terms of traditional customer-supplier-relationship. In their answers, the emphasis was on getting their daily work done and reaching some benefits of streamlining it. When asked, they considered collaborative innovation and user feedback as a critical factor for developing the ecosystem, but they still were not ready to invest their own time. They still were not able to see much advantages of the ecosystem. Also, they were not able to recall many services or actors they would see beneficial. They had only a minor communication with the orchestrator; the communication related typically to some specific problem of use.

However, a smaller group among the interviewees differed from the mainstream. They emphasized different issues in their answers when compared to other respondents. They showed more interest in the ecosystem and being active in developing it. They were seemingly more committed and agreeable to contribute the ecosystem although fast returns are not to be expected. In general, their mindset on the ecosystem is more development-oriented and more persistent. Due to this remarkable different approach these people could be considered as *'champions'*; persons who are important enablers and promotors for an emerging ecosystem.

Certain topics that sum up the champions' approach were convergent through the answers of all champions. They can be classified in four main themes, to the capabilities to understand:

1. *the long-term value creation*;
2. *the inherent nature and challenges of developing software for different users of the software development*;
3. *the insight of other user companies and a tendency to improve the practices of the whole industry*; and
4. *importance of communication* and information and best practices sharing.

While these abilities are not uncommon, they were found to be important for promoting the emerging ecosystem as well as supporting its development.

4 Discussion

This study contributes to the business and software ecosystem literatures by showing that there are more roles than currently characterized in the extant literature. Previous research has suggested the following four roles during ecosystem birth: the *'communicator'*, *'entrepreneur'*, *'regulator'*, and *'lobbyist'* [8]. In addition, several other roles were proposed, such as *'expert'*, *'regulator'*, *'ecosystem leader'*, and *'champion'* that may come to prominence more often than others in driving the genesis process [9]. It seems rather likely that champions may have a different focus in their ecosystem support activities, depending on their

position, job and personal characteristics. Based on our findings, we identified three different champion profiles:

Promotor provides the 'faces' for the ecosystem, markets and promotes the ecosystem and attracts actors to join.
Powerhouse keeps up the spirit, vision, motivates and supports towards ecosystem's targets.
Gatekeeper selects and guides ecosystem members as well as maintains (usually informal) 'rules of the game' in and for the ecosystem.

In the early phase of ecosystem birth a champion, in some of the above roles, may mainly work inside her own organization. The champion thus modifies the processes to fit the ecosystem wherever it is possible, communicates the ecosystem related issues as a positive manner and, at all, takes an active role in ecosystem-related actions and co-operation. As the ecosystem evolves further, these roles may expand and start to promote the ecosystem on the whole ecosystem level. Furthermore, we assume that three more champion roles may emerge:

Insulator protects the ecosystem from external disturbances, align external presumes.
Fertilizer fosters the growth of the ecosystem, and acquires more energy, money and resource for the ecosystem.
Evangelist promotes and fosters the ecosystem through blogging, vlogging, presenting and speaking of as well as creating demonstrations for the ecosystem.

These roles have been identified and described based on an expanding phase of an ecosystem. Even though some of those are same as previous works by [8, 9], previous works had firms as their level of analysis. Thus, this individual perspective suggested in this study is different and changes the definitions of above roles. The competences that were needed in the birth phase need to be changed and increased, since the requirements on next phase are different – as discussed by Moore [2] related to his ecosystem life-cycle model. The diffusion adoption process [10] has a similar idea where the needs of adopters change when adoption goes further in diffusion process. One possible way when an ecosystem grows is that instead of a single person as a champion, more individuals will be needed. In other words, the champion will not wear so many hats anymore but there will be separate persons for couple of those roles, for instance, Fertilizer's role will be time-consuming thus that may require rather soon more person-months and -years.

Another topic that emerges from our findings is that an ecosystem is different than a network. A network is characterized by its structural holes that affect on its formation and how linkages between actors are built. An ecosystem is biased to its outcome - an ecosystem is *"the alignment structure of the multilateral set of partners that need to interact in order for a focal value proposition to materialize"* [11]. This distinction is crucial for people working in business ecosystems. The way how the champion considers ecosystem fits well on this perspective, and

in accordance all other individuals should see the entire ecosystem and understand the possibilities and obstacles that current and future ecosystem will need.

There are certain limitations worth of notion. This study was based on the empirical investigation of one emerging ecosystem. The case ecosystem, as almost all of the ecosystems, is unique and thus the results should not be generalized but instead they offer insight on individuals' roles. Further, the investigation may be biased based on the research setting (i.e., interview query, also conceptual mixing, for instance some interviewees seemingly mixed ecosystems and networks in their perceptions). This bias has been attempted to avoid with exposing the data and analyses for careful analyses of three researchers. Finally, typical case-based research limitations apply to (e.g. small sample, single country) that further research may tackle.

5 Conclusion

By studying an emerging software ecosystem, we were able to identify a new kind of group among the ecosystem. We labeled these individuals as 'champions' as they are individual persons in the organizations who are able boost the development of the ecosystems. Based on the interviews, we also identified some capabilities that may be needed for being a successful champion. This study contributes to the ecosystem literature by adding more details in the previous studies of roles in ecosystems especially at individual level. Most of previous ecosystem studies focus on at organizational or industry level. Thus, this study is among the first ones to emphasize individuals and relevance of their actions for the ecosystem's development. Nevertheless, this study is requesting further work to analyze the impact of individual persons as well as the role their skills and competences in the business and software ecosystems.

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