Long-term development of an emerging field – the role of intra-field and cross-field institutional work. Evidence from the ICT entrepreneurial ecosystem in Japan.

Agata Kapturkiewicz
Oxford University
Said Business School
Agata.Kapturkiewicz.dphil2016@said.oxford.edu

Masahiro Kotosaka
Keio University
Faculty of Policy Management
kotosaka@sfc.keio.ac.jp

Abstract

We examine the long-term development of an emerging field of the ICT entrepreneurial ecosystem in Japan, and its relations with the mature field of large corporations in this process. We investigate interactions (the informal interactions in virtual and physical spaces), intersections (the more formalised and structural arrangements that govern resources and shared issues), and interfaces (the communication protocols that affect interactions among actors) related to the flow of resources of financing and labour, both within field and across fields. The data is based on qualitative interviews with selected ecosystem stakeholders (entrepreneurs, investors, supporters), supplemented by a long-term participant observation. We contribute to the study of organisational fields and institutional work, and the nascent scholarship on entrepreneurial ecosystems as fields. The findings show the key role of institutional work in the emerging field’s development. However, despite past scholarship suggesting that actors working to develop emerging fields need to tap into the resources from the outside, more mature fields (David, Sine & Haveman, 2013), we found that it was the work performed within the emerging field’s boundaries (which we call the intra-field institutional work) that was more important than the work performed across them (the cross-field institutional work). In fact, strengthening the emerging field through the intra-field institutional work was a necessary condition to start meaningful relations with the mature field. We explain the reasons for the intra-field institutional work being more important, which have to do with positions of the two fields in relation to each other, and with the ability of the actors doing the intra-field institutional work to create and continuously engage in the whole set of relational structures, not only formal arrangements. Finally, we show that the main underlying mechanism for the intra-field institutional work that lead to the field’s development across phases is the cross-generational networking related to financing and labour.
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**ABSTRACT:** We examine the long-term development of an emerging field of the ICT entrepreneurial ecosystem in Japan, and its relations with the mature field of large corporations in this process. We investigate interactions (the informal interactions in virtual and physical spaces), intersections (the more formalised and structural arrangements that govern resources and shared issues), and interfaces (the communication protocols that affect interactions among actors) related to the flow of resources of financing and labour, both within field and across fields. The data is based on qualitative interviews with selected ecosystem stakeholders (entrepreneurs, investors, supporters), supplemented by a long-term participant observation. We contribute to the study of organisational fields and institutional work, and the nascent scholarship on entrepreneurial ecosystems as fields. The findings show the key role of institutional work in the emerging field’s development. However, despite past scholarship suggesting that actors working to develop emerging fields need to tap into the resources from the outside, more mature fields (David, Sine & Haveman, 2013), we found that it was the work performed within the emerging field’s boundaries (which we call the intra-field institutional work) that was more important than the work performed across them (the cross-field institutional work). In fact, strengthening the emerging field through the intra-field institutional work was a necessary condition to start meaningful relations with the mature field. We explain the reasons for the intra-field institutional work being more important, which have to do with positions of the two fields in relation to each other, and with the ability of the actors doing the intra-field institutional work to create and continuously engage in the whole set of relational structures, not only formal arrangements. Finally, we show that the main underlying mechanism for the intra-field institutional work that lead to the field’s development across phases is the cross-generational networking related to financing and labour.

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Agata Kapturkiewicz (Said Business School, University of Oxford; agata.kapturkiewicz@sbs.ox.ac.uk)
Masahiro Kotosaka (Keio University; kotosaka@sfc.keio.ac.jp)

INTRODUCTION

Organisational field, defined as ‘a community of organizations that partakes of a common meaning system and whose participants interact more frequently and fatefuly with one another than with actors outside the field’ (Scott, 1995: 56), is one of the key concepts in organisation theory (e.g. DiMaggio & Powell, 1983). However, while over the past several decades numerous empirical studies extended our understanding of the mechanisms governing different field types, field conditions and pathways to field change (Zietsma, Groenewegen, Logue & Hinings, 2017), past scholarship mostly focused on a single type, episode-driven transformation of established fields (ibid.), with only limited attention devoted to long-term evolution of emerging fields (e.g. David, Sine & Haveman, 2013) and interactions between fields (e.g. Furnari, 2016).

This paper addresses these under-studied aspects of organisational fields through examining the development of the field of Information and Communication Technology (ICT) entrepreneurial ecosystem in Japan. We contribute to the scholarship on organisational fields by formulating propositions about the mechanisms of long-term field development of an emerging field (ICT entrepreneurial ecosystem in Japan), in relation to a mature field holding dominant position in the location’s economy (large corporations).

The study is underpinned by an empirical puzzle: in the 1990s, the emerging field of the ICT entrepreneurial ecosystem in Japan was very small, lacking in resources and legitimacy, and was in a disadvantaged and disconnected position in relation to the large corporations that are the dominant field of the mature Japanese economy. In the late 2010s, however, it became substantially resource rich, increasingly legitimised, and increasingly connected to the large corporations (Sako & Kotosaka, 2012; Kushida, 2016; Kapturkiewicz, 2016; Kotosaka & Sako, 2017). What explains this change? Past scholarship shows that although Japan had a developed economy and strong technological capabilities, this convergent pathway to change – that the ICT entrepreneurial ecosystem developed from an emerging to maturing field – was
not inevitable. Indeed, in Japan in the 1990s small firms and entrepreneurship were considered to be a ‘problem’ (Whittaker, 1997), large corporations held the overwhelmingly dominant position, and the country was only gradually adopting elements of the Anglo-American stock-market capitalism (Dore, 2000). Thus, one might have expected that the high-growth oriented ICT startup entrepreneurship will not take off in Japan in any substantial way.

To understand why this field has been successfully maturing, our study analysed data about the flow of resources of financing and labour – two of the key resources for the field’s development. The data consisted of a set of in-depth qualitative interviews with actors who are particularly central to the ICT entrepreneurial ecosystem in Japan and who are continuously active in the field since its early stages. Spanning over 20 years of ecosystem’s development, this data was supplemented with additional interviews and longitudinal participant observation in the field.

Given the dominant position of large corporations within the Japanese economy, the paper analysed the development of the ICT entrepreneurial ecosystem in relation to the mature field of large corporations. Using categorisation proposed for the study of fields by Furnari, Logue and Zietsma (2018), the data was coded for three types of relational structures: interactions (the informal interactions in virtual and physical spaces), intersections (the more formalized and structural arrangements that govern resources and shared issues), and interfaces (the communication protocols that affect interactions among actors), relating to the flow of resources of financing and labour.

The findings show the key role of institutional work – ‘the purposive action of individuals and organisations aimed at creating, maintaining and disrupting institutions’ (Lawrence & Suddaby, 2006: 215) – in the field’s development. However, despite past scholarship suggesting that actors working to develop emerging fields need to tap into the resources from the outside, more mature fields (David, Sine & Haveman, 2013), we found that it was the work performed within the emerging field’s boundaries (which we call the intra-field institutional work) that was more important than the work performed across them (the cross-field institutional work). In fact, strengthening the emerging field through the intra-field institutional work was a necessary condition to start meaningful relations with the mature field. Finally, we explain why the intra-field institutional work played more important role in the field’s development. This had to do with positions of the two fields in relation to each
other, and with the ability of the actors doing the intra-field institutional work to create and continuously engage in the whole set of relational structures.

THEORETICAL BACKGROUND

Although organisational field has been a long-researched concept, the dearth of systematic approaches made accumulation of knowledge problematic. Zietsma et al. (2017) recently proposed a common framework, which distinguishes between field types (issue or exchange), lifecycle stages (from emerging to mature), pathways to change (convergent or divergent), and field conditions (unsettled or settled logics prioritisations, and limited or elaborated institutional infrastructure), which we follow in this paper. We conceptualise the ICT entrepreneurial ecosystem in Japan as an exchange field that is transitioning from the emerging to maturing lifecycle stage, and that experiences convergent pathway to change by moving towards settled logics prioritisations and elaborated institutional infrastructure. Through studying the long-term development of such a case, we aim to contribute to the knowledge on organisational fields. Additionally, we hope to add to the nascent conversation on studying entrepreneurial ecosystems as fields, and using the tools of organisation theory to understand their dynamics and evolution (Thompson, Purdy & Ventresca, 2018; Auschra, Schmidt & Sydow, forthcoming).

Past empirical scholarship on fields consists mainly of episode-driven examinations of a single field, for instance a field change due to new regulation (e.g. Fox-Wolfgramm, Boal & Hunt, 1998), or due to emergence of new actors (e.g. Khaire, 2014). Prior studies allowed us to understand the importance of both exogenous shocks (e.g. Sine, Haveman & Tolbert, 2005), as well as active agency (e.g. Zietsma & Lawrence, 2010) in the transformation of fields, which points to the need to consider both when trying to understand what are the driving mechanisms of evolution of particular fields.

Nevertheless, as the vast majority of past empirical studies of fields look into transformations of mature and established fields, there is insufficient understanding of the evolution of emerging fields (Zietsma et al., 2017). Moreover, research of more than one field, such as comparisons or studies of field-to-field relations, constitute another under-researched area (Furnari, 2016).

Furnari et al. (2018) proposed that for the study of fields it is important to consider the interactions, intersections, and interfaces that may play a role in linkages between
heterogenous actors across fields. This paper proposes that if we simultaneously consider similar linkages within the field, it could allow better understanding of the long-term field transformations and possible field-to-field relations in these (Zietsma et al., 2017; Furnari, 2016).

**METHODS**

We consider the following research question: what drives the long-term development of an emerging field and what is the role of cross-field relations in this development? The question is addressed in an empirical setting of the ICT entrepreneurial ecosystem in Japan – an emerging field that functions within a Japanese economy where the mature field of large corporations holds the dominant position.

Methodologically, the paper uses a qualitative single case study research approach (Yin, 1994), and analyses, over time, the flow of resources key to the field’s development – financing and labour. The data centres on the set of 15 in-depth semi-structured interviews with prominent investors, entrepreneurs, professionals, and other ecosystem stakeholders, focused on their access to, and distribution of, financing and labour resources. Although the interviews were collected between the years 2014-2016, they encompass the long-term development trajectory of the field – majority of the respondents have been prominent and influential actors in the ecosystem since its early stages, and some held even multiple roles throughout the field’s development – e.g. transitioned from being entrepreneurs to angel investors (see Table 1). The main interview respondents were selected based on criteria of centrality and being continuously active in the field since its early stages.

This data is supplemented with additional interviews with ecosystem stakeholders who were active only in some phases of the field’s development, and with participant observations in the field – through a long ethnographic experience of one of the authors (1999-2004 as a founder of three companies, 2014-2018 as a board member of four companies), and multiple fieldwork visits of another (2016-2018).
Table 1: Key interviewees

<table>
<thead>
<tr>
<th>Code in the text</th>
<th>Type of interviewee</th>
<th>Description of interviewee’s organisation</th>
<th>Phase when active</th>
<th>Year of interview</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. ACC</td>
<td>Partner, Accounting firm</td>
<td>Reputable accounting firm, supports start-ups</td>
<td>early 2000s-present</td>
<td>2014</td>
</tr>
<tr>
<td>2. AUD</td>
<td>Partner, auditing firm</td>
<td>One of the top auditing firms, in charge of a start-up support program</td>
<td>late 2000s-present</td>
<td>2014</td>
</tr>
<tr>
<td>3. COM</td>
<td>Community manager</td>
<td>Influential independent community organiser</td>
<td>early 1990s-present</td>
<td>2014</td>
</tr>
<tr>
<td>4. CVC1</td>
<td>Corporate venture capital</td>
<td>One of the top CVCs</td>
<td>early 2000s-present</td>
<td>2015</td>
</tr>
<tr>
<td>5. CVC2</td>
<td>Corporate venture capital</td>
<td>One of the top CVCs</td>
<td>late 1990s-present</td>
<td>2015</td>
</tr>
<tr>
<td>6. ENT</td>
<td>Entrepreneur, start-up</td>
<td>One of the oldest surviving ICT serial entrepreneurs</td>
<td>early 1990s-present</td>
<td>2016</td>
</tr>
<tr>
<td>7. ENT-ANG1</td>
<td>Angel investor, former entrepreneur</td>
<td>One of the top angel investors and former entrepreneur</td>
<td>early 1990s-present</td>
<td>2016</td>
</tr>
<tr>
<td>8. ENT-ANG2</td>
<td>Angel investor, former entrepreneur</td>
<td>One of the top angel investors and former entrepreneur</td>
<td>early 1990s-present</td>
<td>2016</td>
</tr>
<tr>
<td>9. ENT-VC4</td>
<td>Venture capital, former entrepreneur</td>
<td>One of the oldest VCs and former entrepreneur</td>
<td>early 1990s-present</td>
<td>2016</td>
</tr>
<tr>
<td>10. FVC</td>
<td>Finance venture capital</td>
<td>One of the top financial VCs</td>
<td>early 2000s-present</td>
<td>2015</td>
</tr>
<tr>
<td>11. LAW1</td>
<td>Partner, law firm</td>
<td>One of the top law firms, specialises in start-ups</td>
<td>early 2000s-present</td>
<td>2016</td>
</tr>
<tr>
<td>12. LAW2</td>
<td>Partner, law firm</td>
<td>One of the top law firms</td>
<td>2008-present</td>
<td>2016</td>
</tr>
<tr>
<td>13. VC1</td>
<td>Venture capital</td>
<td>One of the top VCs</td>
<td>early 2000s-present</td>
<td>2014</td>
</tr>
<tr>
<td>14. VC2</td>
<td>Venture capital</td>
<td>One of the top VCs</td>
<td>early 2000s-present</td>
<td>2014</td>
</tr>
<tr>
<td>15. VC3</td>
<td>Venture capital</td>
<td>One of the top independent VCs (sponsored by a firm but operates independently)</td>
<td>early 2000s-present</td>
<td>2015</td>
</tr>
</tbody>
</table>
The interview data was analysed in the NVivo software. Using categorisation proposed for the study of fields by Furnari et al. (2018), the data was coded for interactions, intersections, and interfaces, relating to the flow of resources of financing and labour – both within the field and across fields.

**FINDINGS**

In the three ‘Is’ – interactions, intersections, and interfaces – that were observed by, or influenced by, the interview respondents during more than 20 years of field’s development, we found numerous instances of purposive institutional work that enabled the flow of financing and labour (see Table 2). It is notable that in our case we found that the intra-field institutional work happened much more often, and more comprehensively, than the cross-field work.

*Table 2: Institutional work in the three ‘Is’*

<table>
<thead>
<tr>
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<th>Intra-field</th>
<th>Cross-field</th>
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</thead>
<tbody>
<tr>
<td><strong>Interactions</strong></td>
<td>• Creating and/or actively participating in early communities of entrepreneurs – to create support networks that can help with access to key resources</td>
<td>--</td>
</tr>
<tr>
<td><strong>(informal interactions in virtual and physical spaces)</strong></td>
<td>• Actively exchanging information about other key actors in the ecosystem (reputation, attitude, past deals, etc.), also via SNS – to ensure good funding practices</td>
<td>--</td>
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<tr>
<td></td>
<td></td>
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<tr>
<td><strong>Intersections</strong></td>
<td>• Creating and/or actively participating in formal conferences – to provide spaces to find investment and connect people</td>
<td>• Engaging in corporate M&amp;As of startup companies</td>
</tr>
<tr>
<td><strong>(more formalized and structural arrangements that govern resources and shared issues)</strong></td>
<td>• Becoming an investor specialised in start-ups – to provide access to financing; to actively help create businesses; to provide relevant introductions to talent, based on intentionally cultivated networks</td>
<td></td>
</tr>
</tbody>
</table>
Our analysis of data showed that the accumulation of such instances of the intra-field institutional work was the dominant force behind the gradual maturing and development of the ICT entrepreneurial ecosystem in Japan. We checked for the potential impact of exogenous shocks (e.g. Dotcom Bubble of 2000-2001, financial crisis of 2008-2009) but did not find them to be decisive – they were characterised by the interviewees as ‘pauses’ for some activities rather than as strong triggers for change. At the same time, the cross-field institutional work with the mature field of large corporations began only once the emerging field strengthened itself – i.e. became more resource rich and legitimised – which could be observed by a noted increase in sources and amounts of funding or by elite labour wanting to join the ICT entrepreneurial ecosystem.

Following the examination of interactions, intersections, and interfaces over time, we identified three phases of the field’s development: emergent phase (1990-1999), developmental phase (1999-2008), and stable growth phase (2008-present). Each corresponds to a more established field condition, with the field gradually moving from emerging to maturing lifecycle stage. We found that transition between phases was driven by the accumulation of the intra-field institutional work performed by the actors of the ICT entrepreneurial ecosystem (see Figure 1).
The narrative below presents the trajectory of the field’s development over time:

**Emergent phase (1990-1999)**

In the emergent phase, the active intra-field work on interactions started, with some effects persisting in the long run. Several entrepreneurs and investors started to connect in frequent informal gatherings to exchange ideas and expertise, and “the gatherings that started in 1990s still generate new business or investment opportunities” (ENT1). “It was just drinking parties in the beginning. But some of the friends later established successful start-ups and were reconnected by the start-up conferences and the drinking parties after the official sessions” (ENT-ANG2).
The ICT ecosystem was in a disadvantaged position, as the Japanese high-skilled labour historically admired the career in large corporation much more than the career in start-ups. An angel investor recalled “as many know, in the 1990s when I was searching for a job, Japanese large corporations were very strong, and my friends went to Mitsubishi, Nissan, Sony, and a like. It was the common sense” (ANG1). The same was mentioned by a venture capitalist who was an entrepreneur in the early phase of the ecosystem: “We had no attractive (start-up) options at that time. We made start-ups attractive options now, [but in the past] people looked down upon those who quit Mitsubishi Corporation, Mitsubishi Bank, Nomura Research Institute, or Panasonic. By the standards of that time it was like being crazy or mad if one quit such prestigious companies” (ENT-VC4).

As the ICT ecosystem was still small and underdeveloped, the mature field of large corporations tended to ignore it, and for accessing financing “there was a distorted structure – entrepreneurs had to borrow money by indirect finance and had to take all the risk of failure” (ENT-ANG1). “The ICT ecosystem did not have cash, and therefore it was very difficult to be successful. Only those who had strong communication skills or great conception ability could succeed” (ENT-ANG2).

In response, the intra-field intersections started to be created: “observing that, when I was 19-20 years old running my own company, I decided to become an investor” (ENT-ANG1). While the government tried facilitating the intra-field work on intersections – by creating new exchanges and introducing regulatory changes enabling independent VCs – it did not attempt connecting the ICT startups with the large corporations or financial institutions, and entrepreneurs were finding their own ways to grow their business.

Developmental phase (1999-2008)

In the developmental phase, the informal communities that emerged in the first phase continued repeated intra-field interactions, helping the new generation of startups. They gradually accumulated certain way of conduct and the intra-field interfaces started to emerge. For instance, influential investors were “seldom disagree[ing] on the assessment of the business and the solution they propose to the entrepreneur” (ENT-ANG1). There were no predefined conditions to participate in the communities, but “salary men couldn’t participate because they had nothing to share with us” (ENT1). “People from banks and insurance companies were often neglected as they cannot understand how to enter into the inside”
Those who have the first-hand experience of successful deals can share useful and interesting stories in the events and will be recognised by the community as key persons” (CVC2). The credibility “is also enhanced by the social networks that enable information sharing online and developing social position in the community” (CVC2). “Actors have to repeat this again and again” and “the community consists of the actors who did this, at least to a certain degree” (CVC2). “Anyone who does not participate in the community does not gain visibility in the sector, is left alone, and their business does not grow” (VC2). Furthermore, “to be insider is not easy due to the unique word usages rooted in the Internet world, as well as the personality of the people who are often very assertive and aggressive” (VC2).

The intra-field interfaces that developed on the basis of intense interactions are rooted in the strong concept of community guiding the actors in the ecosystem. For instance, a person who manages a non-profit, invitation-only community of start-up professionals “wanted to create an environment where professionals connect without job description” and “such informal community helped creating new connections that in the end lead to new business opportunities” (COM). A lawyer also took extra effort to connect the people by “repeatedly saying “community” again and again”. He said “after I returned from the States, the first thing I did was to craft the atmosphere that we are in the same community” (LAW1). At least several of such communities were operated regularly, gradually replacing the people who participated in the gatherings in order to expand the network (ANG2). Such communities “may not give high-quality academic or scientific input, but they connect the people the most” (VC2).

The sense of community is important to access the resources and facilitate business growth. A venture capitalist elaborated: “probably others say the same. What’s important is to be able to nominate the best person for certain things and introduce that person. It’s important to know many people directly, and to be able to ask someone who you trust about the credentials of the person whom you want to meet” (VC1). In order to maintain such network, another venture capitalist “constantly meets various people and solves the issues for them, or introduces people facing the same issues, gathering people with the same interests” (CVC2). An angel investor does the same: “when a person wants to do something, if I like the person, I can say you should talk to this person and that person, because I have cultivated networks that work for this purpose” (ANG2).

The repeated intra-field interactions and interfaces also helped develop more intra-field intersections for financing. Established VCs “developed large horizontal network of
people and became capable of recognising the patterns of needs of start-ups, providing appropriate support to each start-up relatively faster than other actors” (VC2). “It was a very small community [of investors] in the past, only around 70 people in 2005 or 2004” (ENT-ANG1), but during this period, the first generation of entrepreneurs “obtained cash and experience from their own successes and became angels or capitalists to help the new generations” and “the ecosystem gradually emerged” (LAW1).

There were initial attempts at cross-field intersections with the mature Japanese business system, but with no cross-field interactions and interfaces, and continuing incompatibilities between the fields, these were very limited: “legacy people do not spend their efforts to interact with start-ups because the business cannot generate attractive profit. They lack experience of interactions, including failures, such as those experienced by Google or Facebook in the past” (VC2). Also, large organizations often take “three to four months to obtain approval for a deal, and that speed is not sufficient for the battle fields” (FVC).

**Stable growth phase (2008-present)**

In the stable growth phase, several intra-field intersections, supported by continued intra-field interactions, matured. For example, “as the conferences constantly attract excellent start-ups, new generation of entrepreneurs also want to participate, and the investors can identify good investment destinations there. This is almost like an ecosystem with a good circulation” (ENT1). As the ICT ecosystem started to attract larger amount of funding, the government also played certain role in facilitating the intra-field intersections. Equivalent of several billion USD was provided mainly via fund of funds (VC4). Although government initiatives “often behave irresponsibly and are not incentivised to follow up the start-ups to be successful”, several venture capitalists partially helped by the government policy formed a multi hundred-million-dollar fund (ENT-ANG1). Gradually the resources became more available and the cross-generational interactions within the field continued playing supportive role: “now the ecosystem has both the money and the people who can teach the knowhow to be successful, because the 1st generation of entrepreneurs, such as us, obtained cash by variety of means and is spending the money and giving the knowledge in the ecosystem” (ANG2). The Japanese ICT ecosystem developed a decentralised web of actors, in which “in each situation, investors and professionals with different characteristics are connected to form a party to full-fill the capital and support the needs of the start-ups” (VC1).
Also, as the size of fund utilised by start-ups is rapidly expanding, it helps with the flow of labour: “head hunters and TV commercials are increasingly employed by start-ups to accelerate growth, with the help of professionals who have employed the methods in the past and delivered results to other start-ups” (VC1). “As start-ups get larger amount of financing, they are now able to hire really capable law firms and head hunters who were outside of the scope of the start-ups in the past” (VC1). One of the key developments is that gradually “truly capable, visionary talent have started not to stay in the large companies but establish start-ups” (AUD). An entrepreneur said “from around after the subprime mortgage crisis, the so-called elite talent came in to the stage and the image of the ecosystem has changed” (ENT). I find many graduates of the University of Tokyo coming to the gatherings now. It was rare in the late 1990s, but the success of Google may have changed the image of start-ups and now highly educated, high career people started joining start-up community” (ENT). Further, “very young people start the business now. They start the business at university, and receive our investment in the early 20s like 24 to 25 years old. As the environment is ready, the timing of starting business has also changed” (FVC).

The dense intra-field interactions help substantially with the flow of resources. Venture capitalists often take a key role in the placement of top-level executives of start-ups in this ecosystem. A venture capitalist said “when it comes to business, often the case is that we are much faster than the management. Also, especially for the early stage start-ups, recruiting CxO is significantly helped by the fact that we invested large amount of money to the start-up, because that serves as an evidence of the good prospects” (VC2). Venture capitalists also “introduce new customers by organizing sales management and help recruiting key talent such as managers, senior engineers, admin professionals, and sales staffs, by utilizing their human network” (CVC2). The introduction and hiring seems to be closely linked, as a venture capitalist elaborated “when I am asked by a start-up how to improve the management of engineering, I introduce like five people and have dinner together. If the start-up can hire them that is great, but usually it’s difficult due to their current job commitments. But I also organize these meeting as the first step for the future possibilities” (VC1).

Finally, several cross-field intersections and early attempts at cross-field interfaces emerged in this phase. For instance, there is an increasing number of “new generation angel investors who are around the age of 30, earned 5-10 million USD by exit, and started supporting younger or the same generation of entrepreneurs” (VC1). Their emergence was
supported by “active corporate M&A, which was nearly zero for many years before” (CVC1). The shift was due to increased linkages with traditional large corporations, several of which “gradually learned what kind of deal is not good and what kind of deal is good, and increased the amount they bet in the deals” (CVC1). Corporate M&A is gaining momentum due to decreasing power imbalance between fields and increasing mutual resource dependence: “previous generations of start-ups became large, cash rich and in search for growth opportunities, and the traditional companies cannot hire good engineering resources” (ENT-ANG1). Furthermore, high-profile angel investors started organising gatherings with large corporations: “we don’t mean to neglect large traditional Japanese companies. (…) The gatherings are not for investment [now] (…) but the connections with a wide range of people in the long run will lead to business later” (ENT-ANG2). Large Japanese corporations have started to form joint projects with start-ups and venture capitals to narrow the gap in the culture or the way of doing business. For instance, a telecom company established a venture fund “whose decision making do not go through the investment committee of the headquarters and the president of the fund, with a support of a well-established independent venture capital, can decide the deal quickly” (CVC3). Also the mainstream mass media broadcasted or published special issues to legitimise new start-ups introduced by professionals such as auditing firms (AUD), and gradually improved the presence of start-ups in the society.

**Possible causes of the limited cross-field linkages**

It is notable that for the flow of financing and labour, the cross-field linkages were much weaker than the intra-field ones. There were several possible causes of such limited cross-field institutional work mentioned by the informants.

First, the job rotation system makes it difficult to have experienced managers who can deal with start-ups: “Large majority (...) took too much time to learn the way start-ups work, which meant that within the five years of their usual secondment they could not generate the IPO result, as it often takes more than three years to materialise” (FVC). The job rotation also discourages continuous efforts because “large firms tend to invest in new technologies when they are in boom, but when the boom finishes after several years, the people who were in charge will also have moved to different departments due to job rotation, and by that time nobody remembers why the company has invested in the technologies” (CVC2). As no one
knows the reason why, “they question why they have such a company without profit. Then they try to sell it but as they cannot sell at the desired price, they simply quit doing it. This sort of cycle happened many times in the past” (CVC2).

Next, large companies are not serious enough about relationship with start-ups: “they are typical Japanese “salary men” who just spend the budget given. They do not even think their company may go bankrupt and so they are only motivated to move large amounts of money [instead of gaining return on investment]” (VC2). Another venture capitalist added “legacy people [at large professional firms] do not spend their efforts to interact with start-ups because the business cannot generate attractive profit. The income per customer would be around one tenth of their average customers, and the costs of dealing with start-ups are also high” (VC2).

Concurrently, the value provided by large corporations can be perceived as insignificant and there is a skill gap: “they have no experience of creating and growing business, because they do not have such tasks. The Internet business is unique in a sense that one can design, implement, and execute by oneself. The talent at large companies only does one function [of a business] at a time” (ENT-ANG2). Traditional financial institutions “helped selling the unlisted stocks by leveraging the information gap between the customers and the stock brokers” or “they introduced the contacts from their business connections in the local regions” (VC2), but many ICT start-ups do not feel the value of this as they have alternative measures such as various social networks, online media, or TV commercials.

DISCUSSION AND CONCLUSION

The findings of this paper show that the emerging field of the ICT entrepreneurial ecosystem in Japan experienced convergent pathway to change in which the field strengthened and developed over time. The intra-field institutional work related to the flow of financing and labour played the key role in this.

As there were numerous incompatibilities between the emerging field and the mature field of large corporations, neither the government, nor the actors from the mature field were initially interested in fostering cross-field linkages, and the actors from the emerging field could not initiate such linkages. Several cross-field intersections started developing at the later stage, when the level of mutual resource dependence between fields increased and the power imbalance decreased, but this change in field-to-field relationship was largely due to the intra-
field institutional work that developed and strengthened the emerging field. Thus, a proposition is stated:

**Proposition 1:** *The actors in the emerging field put more effort into enabling the flow of key resources through the intra-field institutional work than the cross-field institutional work, and it is the intra-field institutional work that drives the field’s development.*

The somewhat isolated intra-field institutional work in the emerging field began with the work on interactions that led to unique intra-field intersections and interfaces. The field-specific interactions, intersections and interfaces strengthened the field, but their dominance and uniqueness acted as further barrier to the cross-field linkages. Thus, another proposition is stated:

**Proposition 2a:** *The early stage field development is driven by the intra-field institutional work on interactions, which become the basis of the interfaces and intersections of the field in the later stages.*

However, as the emerging field strengthened and became larger, the need to interact with the mature field increased. Simultaneously, the mature field recognised significance of the strengthened emerging field (also partly due to its own crises) and the cross-field institutional work intensified in the later stage. Although many early cross-field intersections could not deliver results, repeated efforts gradually forced actors to start developing initial cross-field interfaces, which improved the overall efficacy of the cross-field institutional work. Thus, a proposition is stated:

**Proposition 2b:** *As the power imbalance between fields becomes lower and mutual resource dependence becomes higher, experimental cross-field intersections emerge, but their success is limited without the complementary inter-field interfaces and inter-field interactions.*
Propositions 2a and 2b taken together show that institutional work on intersections alone is insufficient for development of comprehensive linkages between heterogenous actors within the field or across fields – the work on interactions and interfaces is also needed.

The development trajectory of the ICT entrepreneurial ecosystem in Japan showed particularly strong impact of the intra-field institutional work. A granular view of this intra-field work reveals an important underlying mechanism – the cross-generational networking that was very often present in relation to the flow of resources of financing and labour. This was facilitated by several key actors staying in the ecosystem continuously from the early phase onwards. The most notable example are ex-entrepreneurs who became angel investors and continued to actively provide financial and other help to the new ecosystem stakeholders. Thus, a proposition is stated:

*Proposition 3: The main underlying mechanism for the intra-field institutional work that leads to the field development across phases, is the cross-generational networking related to the flow of financing and labour.*

In sum, the propositions of this study contribute to the scholarship on organisational fields by empirically elaborating processes of the long-term development of an emerging field (Zietsma et al., 2017), as related to the cross-field linkages with a mature field (Furnari, 2016). In contrast to past scholarship suggesting that actors working to develop emerging fields need to tap into the resources from the outside, more mature fields (David, Sine & Haveman, 2013), we find that in some cases it might be necessary to first focus on facilitating the flow of key resources through the comprehensive intra-field institutional work. The cross-field relations can start only once the emerging field strengthens, the mutual resource dependence with the mature field becomes higher, and the power imbalance becomes lower.

Moreover, our study highlights the importance of the concept of inhabited institutions (Hallett & Ventresca, 2006) to understanding how fields develop. We show that the cross-generational networking and ability to develop comprehensive set of relations among actors, which were key to the emerging field’s development, were enabled by the fact that many key actors stayed in the field continuously (even if their roles changed). In contrast, due to the strict system of internal job rotation practiced in large corporations, actors in the mature field
could engage in cross-field institutional work only through a limited timeframe, and had problems developing more comprehensive relations underpinning formal arrangements.

Limitations of this paper include its focus on only one type of cross-field linkages – with the mature field of large corporations in Japan. For the case of the ICT entrepreneurial ecosystem other cross-field linkages – for instance with the globally influential mature ICT entrepreneurial ecosystem of Silicon Valley – might play an important role and potentially modify the propositions of this paper. Also, it would be advisable for future research to test this paper’s propositions in different settings – for example instead of looking at the development of an emerging field functioning within mature economy of a developed country, novel findings might be generated if the setting was in a developing country.

REFERENCES


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