

The Four Faces of Creative Industries: Visualising the Game Industry Ecosystem in Helsinki and Tokyo

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Abstract

Research on creative industries has been gaining momentum during the last few decades with contributions coming from diverse fields. This said, there is a paucity of studies to specify how and why companies in the game industry cluster. In this paper, we inquire into how individuals visualise

perceptions of their game industry ecosystem in Helsinki, Finland, and Tokyo, Japan. Tokyo is one of the oldest game industry hotspots, whereas Helsinki has entered the picture only during the 21st century. Utilising drawings and their analysis and interpretation as our research method, in this paper we highlight the contested nature of ecosystems as arenas for collaboration and co-competition, shedding light on the diversity of ways individuals conceptualise an ecosystem. Our analysis yields four faces of ecosystems that help in understanding perceptions of clustering in the creative industries.

Keywords: cluster, creative industries, ecosystem, game industry, visual methods

Introduction

Research on creative and cultural industries has been gaining momentum during the 21st century (Berg and Hassink, 2014; Caves, 2000; Dalpiaz, Rindova, and Ravasi, 2016; Drake, 2003; Hesmondhalgh, 2002; Hesmondhalgh and Pratt, 2005; Lazzeretti, Capone, and Innocenti, 2017; Lazzeretti, Innocenti, and Capone, 2017; Peltoniemi, 2015; Pratt, 2008), and contributions have come from a diverse set of research domains such as marketing (Addis and Holbrook, 2010), organisation and management studies (Cohendet, Grandadam, and Simon, 2010; Cohendet et al., 2018), economic geography (Foster, Manning, and Terkla, 2015; Komorowski, 2017; Maskell and Lorenzen, 2004; Power and Hallencreutz, 2002), and sociology (Hirsch, 1972; Jones and Thornton, 2005). More specifically, questions focusing on why firms in the creative industries agglomerate have attracted scholarly attention, and we now know that clustering has an impact on reviving urban spaces (He and Gebhardt, 2014), creative and artistic practices (Ballico, 2017), and innovative capabilities. Especially within the game industry clustering warrants further inquiries given that due to the digital distribution of games, companies no longer need to be close to their customers to ensure

adequate service experience. If this is the case, why are we then witnessing the emergence of game industry hubs in cities across the world?

This article contributes to this nascent body of knowledge by looking at industry dynamics at a city level. More specifically, we are looking at ecosystem¹ drawings as sense-making constructs that show how individuals working in or with the game industry cognitively describe their ecosystem dynamics, and as such this study extends the current body of knowledge on clustering in the creative industries (Balland, De Vaan, and Boschma, 2013; Berg and Hassink, 2014; Branzanti, 2015; Cohendet et al., 2018; Comunian, Chapain, and Clifton, 2010) by highlighting these agglomerations as sites not only for cooptation and collaboration, but also for future-making and competition.

Research on game industry has focused on creative processes (Kultima and Sandovar, 2016; Sapsed and Tschang, 2014; Tschang, 2007), competition (Schilling, 2003), open innovation practices (Corona, Geum, and Lee, 2017; Nucciarelli et al., 2017; Parmentier and Mangematin, 2014), production practices and employee treatment (O'Donnell, 2009; 2014; Vesa et al., 2016; Young, 2018) and industry dynamics and restrictions (Aoyama and Izushi, 2003; Banks and Cunningham, 2016; De Vaan, Boschma, and Frenken, 2013; Hanzawa and Yamamoto, 2017; Storz, Riboldazzi, and John, 2015). Our aim here is to contribute to the latter by looking at the game industry at a city level. To this end, this paper looks at two cities – Helsinki, Finland, and Tokyo, Japan – from the company perspective, by asking the following research question:

¹ Whereas clusters are often understood as coordinated and non-random agglomerations of firms with complementary or similar capabilities (e.g. Maskell and Lorenzen, 2004; Porter, 1998), literature on ecosystems has highlighted intentionality, future-making, and agency (e.g. Lewin, 1999; Peltoniemi, 2006; Stam, 2015).

How do individuals embedded in a local ecosystem make sense out of it, and what does this tell us about the perceptions of and connections within the ecosystem?

Our purpose here is to contribute to studies looking at creative industries from the clustering perspective (Grodach et al., 2014; Lin, 2017, 2018). Research has shown that drawings have the potential to make the subconscious tangible (Bryans and Mavin 2006), explore identities and identity work (Butler et al. 2014), as well as stimulate interview settings (Comi et al., 2014), but to the best of our knowledge, and apart from the literature on network pictures (Henneberg et al., 2006, 2010), drawings have not been extensively utilised when investigating various organisational forms and phenomena. At the same time, however, a recent study (Boix, Hervás-Oliver, and De Miguel-Molina, 2015) on clustering in the creative industries highlighted the importance of studying clustering by drawing on novel research methods, and as such, one of the aims of this paper is to illustrate how visual methods can increase our body of knowledge on creative industries.

Although we are looking at the game industry, we believe our study contributes to other cultural and creative industries as well, in that the more digitalized an industry becomes, the less important it is to be physically close to the customers. Instead, what becomes increasingly relevant is focus on local resources and knowledge how to utilise them: what kind of resources do companies have, what can they acquire from external partners, what can they offer to others, and how they transmute existing ones and create new ones (e.g. Malmberg and Maskell, 2002; Porter, 1998). What is more, building on studies on visual research methodologies, we argue that drawings are well suited for opening up concepts and ideas usually taken for granted in the research context since they enable us to access diverse

ways of knowing (Ewenstein and Whyte, 2007; Feeney, Hogan, and Donnelly, 2015; Höllerer et al., 2018; Ramírez and Mannervik, 2016).

The rest of the paper is structured in the following way: first, we will turn to discuss ecosystems and industry clusters, after which we will briefly describe the dynamics of the game industry. Building on this, we will cover the methodology devised for this study, followed by findings and discussion. The paper is concluded by summarising our contributions as well as offering avenues for further inquiries and implications for practitioners and policy-making.

Creative ecosystems and clusters: current views

Below, we will cover literature on clusters and ecosystems to further illustrate their conceptual differences and similarities. Building on this, studies investigating these phenomena specifically in creative and game industry are discussed in order to explicate on the contributions of this study.

Clusters and ecosystems as explaining why firms and other actors agglomerate

Literature on connections between firms have conceptualised these relationships as clusters (Bathelt, Malmberg, and Maskell, 2004; Lazzeretti, Boix, and Capone, 2008; Maskell and Lorenzen, 2004; Menzel and Fornahl, 2010), constellations (Normann, 2001), networks (Håkansson and Snehota, 1989; Ramírez and Mannervik, 2016; Walker, Kogut, and Shan, 1997), ecosystems and systems (Adner and Kapoor, 2010; Moore, 1996; Stam, 2015; Yun, Cooke, and Park, 2017), or communities (Hirsch, 1972). Despite the multitude of different,

usually overlapping, definitions of firm agglomerations what they do have in common is their quest to analyse and theorise why firms decide to be located close to similar actors.

Studies in firm agglomerations have argued that there are several reasons why firms tend to form such clusters. Several scholars have emphasised the open innovation paradigm (Chesbrough, 2010; Enkel, Gassmann, and Chesbrough, 2009; Rohrbeck, Hölzle, and Gemünden, 2009; West and Lakhani, 2008), whereas others (Meyer et al., 2011; Schotter et al., 2017) have claimed especially multinational organisations to establish subsidiaries or research centres in local clusters in order to generate knowledge for the parent firm's global network or simply because costs related to clustering are much more optimal than dispersing activities. Chesbrough (2006, 2010) has argued that this also serves as a catalyst for firms to reevaluate how their value chains are structured and how do they position themselves in various networks or ecosystems. Moreover, from a knowledge perspective it has been found that physical proximity can contribute to new knowledge being created based on the proximity of different actors (Nonaka, Toyama, and Konno, 2000; Porter, 1998; Tallman et al., 2004). Physical proximity with a firm's clients or suppliers, for example, can enable and promote cross-pollination (Bathelt et al., 2004; Porter, 1998).

Ecosystem as a metaphor for describing firm networks (Adner and Kapoor, 2010; Basole, 2009; Iansiti and Levien, 2004; Mars, Bronstein, and Lusch, 2012; Mele et al., 2018; Peltoniemi, 2006) has been recently gaining currency. Drawing on studies looking at ecosystems in biology (Costanza et al., 1997), management scholars have borrowed many of these elements: firms and their products as species (Iansiti and Levien, 2004); firm networks as 'complex adaptive systems' (Basole, 2009; Lewin, 1999); firm networks as evolving systems (Moore, 1996); and interdependence of different actors (Peltoniemi, 2006; Stam,

2015). Building on this stream of research, business ecosystems can be categorised into three different groups: firm-centric (Basole, 2009), product or service-driven (Ceccagnoli et al., 2012), and location-specific (Aage and Belussi, 2008; Cohendet et al., 2010; Drake, 2003). Furthermore, Iansiti and Levien (2004, 74) describe additional three approaches for categorising actors in ecosystems: niche players, keystones, and dominators. The two categorisations above are not mutually exclusive, but more often than not co-evolving as we analytically move between global and local ecosystems.

Thus, studies on firm agglomerations have vastly increased our understanding of why firms flock together, but, as Cohendet et al. (2010) and Lazzeretti et al. (2008) have pointed out, firms operating in the creative industries do not seem to fit these frameworks as the basis for value creation lies not in scientific knowledge, but mainly on the production of aesthetic and cultural signs and symbols (Lash and Urry, 1994; Makkonen, 2014; Ballico, 2017). That is to say, physical proximity with the customers or competitors, for example, does not fully capture the myriad reasons why firms and actors in the creative industries come together (Protogerou, Kontolaimou, and Caloghirou, 2016).

The importance of spatiality in the creative industry: inspiration and information exchange

Firms operating in the creative industries differ in various aspects with regards to more 'traditional' industries (Higgs and Cunningham, 2008; Peltoniemi, 2015). Due to the fuzzy and vague nature of creative or cultural industries (Hesmondhalgh, 2002; Peltoniemi, 2015), there has been a lot of discussion on the conceptual borders of the term. One of the seminal and most cited works in this discussion has been the DCMS (2001) classification, although it

has also been criticised as being overtly excluding in this definition on what is considered as a creative industry and what is not (Banks et al. 2000).

Within this context, the importance of locality and spatiality has received a lot of attention (Cohendet et al., 2010; Drake, 2003; Lazzeretti et al., 2008; Rekers, 2016; Virta and Lowe, 2017), and not without a reason: as the outputs in the creative industry are based on individuals' creative talents and skills (Hirsch, 1972), such creative talents and skills often relate to the spatio-temporal spaces in terms of their manifestation (Godart, 2015; Lee, 2015). To further illustrate this: Shigeru Miyamoto, one of the most influential contemporary game designers, has been said to have been inspired by the Japanese nature when he created *The Legend of Zelda* videogame series (deWinter, 2015). While this example is of anecdotal nature, many academic inquiries on spaces and their meanings in the creative industry have also hinted at similar findings (Brandellero and Pfeffer, 2015; Drake, 2003), which is precisely why more systematic inquiries are required.

As Cohendet et al. (2010, 93) explain, 'a "fertile soil" for a creative city is thus a soil where the mechanisms, tools and devices that are needed to reveal, enhance, nurture, interpret and enact creative ideas are situated within the local milieu', and further elaborated by Grandadam, Cohendet, and Simon (2013), thus encouraging us to explore further how clusters are formed in the creative industries and what kind of connections there are between actors. In a similar vein, studies focusing on Japan (Aoyama and Izushi, 2003; Hanzawa and Yamamoto, 2017) have found that linkages between platform developers and game developers in the video game industry there have helped in facilitating information exchange and thus generating competitive advantages in comparison to their international competitors. Complementing the above by approaching clustering in the video game industry from an

industry life cycle perspective, Balland et al. (2013, 761) has found that between 1987 and 2007 geographical proximity increased in importance as the industry matured, and “local buzz” (Storper and Venables, 2004) was mentioned as one potential explanation.

Clustering in creative industries: building on what we know

To conclude, we now know that not only firms but also individuals tend to form localised clusters and communities (Aage and Belussi, 2008; Lazzeretti et al. 2008). Spatiality is one of the crucial elements behind creativity (Comunian et al., 2010; Drake, 2003), and the degree of institutionalisation in creative cities varies between what Cohendet et al. (2010) refer to as ‘upperground’ and ‘underground’. However, while extant literature has greatly advanced our understanding of clustering in the creative industry of video games in particular, there are two issues that require more scholarly attention and this study aims at exploring those: first, most studies on clustering have focused on either North America or Japan (see e.g. Jørgensen, Sandqvist, and Sotamaa, 2017), and second, clustering has mostly been explored from the perspective of directly interdependent firms (e.g. strategic partnerships or developer – publisher relationship).

Research context

Although the first computer games were developed already during the 1940s, it was only in the 1970s that the industry started to become commercially successful (Herman, 2017; Kerr, 2016). As the market for video games grew, new actors mostly from the United States entered the market and introduced their own video game console for consumers. With a rapidly growing number of firms releasing their console, and games being compatible with

only one system, the market was soon saturated with games and game consoles of varying quality, and eventually the market crashed in the early 1980s. Instead of withering away, the video game industry experienced a second renaissance – to a large extent – because of Nintendo, a Japanese toy manufacturer, having released its game console *Nintendo Entertainment System* in the US in 1983. From there, the industry has been steadily growing at an increasingly rapid pace (Newzoo, 2018).

What makes the game industry worth our attention is twofold: first, as mentioned earlier in this manuscript, it is the largest form of entertainment, and second, it has been one of the pioneers in distributing content digitally. Prior to digital distribution, value chain in the game industry was dominated by retailers, publishers, and distributors; it has been estimated that traditionally game developers (the firms developing the content) received approximately thirty percent of the revenues. However, the introduction of Apple's iPhone and App Store in 2008 dramatically changed the prevailing business model by diminishing the middlemen's role between the developer and the consumers, thus increasing the developer's share of the revenues from thirty to approximately seventy percent. This shift has not been unproblematic, as there is a sort of paradox at play here: on the one hand, it is easier than ever to release a game to global audiences, but at the same time hundreds if not even thousands of games are released on a monthly basis (Pocket Gamer, 2017). Because of the elimination of gatekeepers (Hirsch, 1972), game development companies have been pushed to acquire new skills ranging from marketing and management to user acquisition and community management or else face the danger of going out of business.

Tokyo: one of the earliest game industry hotspots

Historically speaking, the game industry has been shaped to a large extent by the United States and Japan since they have been the largest markets for video games and at the same time majority of the most influential game development companies and console manufacturers have come from these countries (Aoyama and Izushi, 2003; Izushi and Aoyama, 2006). Especially in Japan, its capital city Tokyo has been home to numerous game industry companies (e.g. Sony, Square Enix, Konami, and GREE), and for many game developers – both Japanese and foreign – working for these companies is seen as a sort of sign of prestige. But the game industry in Tokyo consists of more than just traditional and multinational game development powerhouses. With the proliferation of digital distribution, it is now easier for small game development companies or even solo developers (*doujin* or independent developers [Hichibe and Tanaka, 2016]) to release their own titles to the market. This, in turn, has exponentially increased the number of smaller game studios in the Tokyo game industry scene as well as made it more complex. Despite this, due to historical developments and the networked nature of established Japanese video game companies and platform providers (Aoyama and Izushi, 2003; Hanzawa and Yamamoto, 2017), small game development studios have not been able to move upwards from what Cohendet et al. (2010) refer to as the ‘underground’ sediment of the industry as their access to external funding or capital has been traditionally extremely scarce. What is more, due to linguistic and aesthetic barriers, most small game development studios in Japan have only focused on the domestic market, whereas in more open economies such as Finland and Sweden even relatively small game development studios (consisting of two to five people) have exponentially increased their revenues through catering for global audiences as well as increased their opportunities to grow and expand with the help of foreign venture capital.

Helsinki: an emergent game industry cluster

Helsinki, Finland's capital city, on the other hand is a relative newcomer in the global game industry setting (Cohendet et al., 2018; Jørgensen et al., 2017). The origins of the game industry in Finland can be traced to Nokia's heydays in the 1990s. Quite ironically, although Nokia produced numerous globally popular mobile and smart phones, one of their commercial flops – mobile phone called N-Gage (released in 2003) that focused on gaming – turned out to be a tremendous boost for the Finnish game industry. Since Nokia did not have the required resources and capabilities to produce games in-house, they instead opted for using local developers to develop titles for N-Gage. For example, Rovio Entertainment (company behind the globally successful Angry Birds franchise) was established in 2003 as Relude to develop games for mobile phones. Angry Birds' financial success in 2009 not only benefited Rovio itself, but it also attracted the attention of foreign venture capital, and ever since numerous Helsinki-based game development companies have either been acquired by foreign competitors or received considerable investments from venture capital firms outside Finland.

Most of these companies, in turn, had one of their key roots in the demo scene that emerged in Helsinki during the late 1980s and early 1990s as hobbyists started to experiment what they could do with computers (Saarikoski and Suominen, 2009). One of the most famous demo groups was called *Future Crew*, and many of its original cast are still active in the game industry (Jørgensen et al., 2017). Because of the shared root of having worked together in the demo scene, many of the founders, CEOs and other key figures in the local scene still retain connections that go far beyond company lines, and transcend boundaries that would in other countries be restricted by non-disclosure agreements (Heimo et al., 2018). According to a report describing the game industry in Finland, there were over 250 game companies in

Finland in 2016, and almost 40 percent of those were located in the Helsinki capital region (Neogames, 2017). Because of their tight connections and shared roots, the Finnish game companies exist in almost a textbook case example of coopetition, co-operating and competing on the market at the same time (as per Bengtsson and Kock, 2000). Their workers furthermore regularly party together (Branzanti, 2014), tightening the bond and feel of a shared community that has arisen from their superiors' shared past (Heimo et al., 2018). Furthermore, companies do not concentrate their connections around one offering, as a typical value constellation would (as per Normann, 2001), but are more akin to a loose affiliation of actors, each of which has a value constellation of its own. As will be shown later on, however, the individual network connections will still vary.

Methodology

Data for this study was collected in Helsinki, Finland, and Tokyo, Japan, during 2012-2014 as part of a larger research project titled Fluid business models in creative and cultural ecosystems. The main objective in this study was to understand how individuals working in the game industry or in organisations dealing with the game industry would visualise, and thus perceive, their ecosystem through the means of drawing. Previous studies (e.g. Davison, McLean, and Warren, 2015; Feeney et al., 2015; Henneberg, et al., 2006; Meyer, 1991; Meyer et al., 2013) have shed light on the analytical and methodological potential drawings have as a source of data, and Vince (1995), for instance, has pointed out that drawings and visual expression in general can stimulate the respondent's emotional and unconscious dimensions. In a similar vein, Bryans and Mavin (2006) also utilised drawings as means to invite their respondents to 'talk' about research and researchers, while Lugosi (2017) drew on photo-elicitation to explore hospitality as an abstract concept. According to Bryans and

Mavin (2006, 14), thinking through drawings can serve as a catalyst for reflecting on the given activity, and this was also evident in our research. While Bryans and Mavin (2006) designed their study so that the respondents were first asked to draw and then elaborate on their drawing through talk, we decided to reverse the order to give more primacy to the drawing to see how ecosystem as an abstraction connects to our respondents' own experiences (Lugosi, 2017). Moreover, Venkatraman and Nelson (2008) argue for the benefits of conducting visual research by drawing on recent advances on neurological research; that is to say, justification for their photo-elicitation study is grounded on the assumption that visual methods can probe deeper into the subconscious than interviews (Zaltman, 2003), and in a similar vein the ecosystem drawings covered in this study enabled the respondents to probe their subconsciousness. Drawings furthermore assist in separate research projects later on, by highlighting the connections, but not explicating on the expected value of those connections per se – which in the case of a larger company can vary from one employee position to the next significantly (e.g., O'Donnell, 2014). The drawings, while subjective, are therefore in fact more value neutral than a combination of drawing and interview would be (Samuels, 1993).

As mentioned above, the starting point for this study was to focus on understanding the concept of 'ecosystem' and how individuals visualise it from their perspective as means to evoke beyond-words meanings and experiences related to their immediate surroundings (Powell, 2012). To this end, we asked our respondents the following question:

'Could you draw the game industry ecosystem in Tokyo/Helsinki from your perspective?'

The task was done after an interview, except in cases 2, 4, 6, and 13 (see Table 1 below) in which the respondent only completed the drawing task. The drawing task was not mentioned at any point beforehand, as we initially thought it might put off some of the respondents or make them feel awkward about their drawing skills (Arnheim, 1972a, 1972b). However, to our surprise, no one turned down the drawing task (in line with Meyer [1991]), and the respondents expressed delight towards breaking away from the ‘traditional’ interview format by becoming active producers of research data through drawing (Bryans and Mavin, 2006; Höllerer et al., 2018).

To further elaborate on why we decided to focus on the word ‘ecosystem’, it seems that it has become part of the lingo, so to speak, in the contemporary digital business, one that recognises wider sets and types of actors than e.g., “cluster” or “network”. When used in connection to smartphones and applications the structures are somewhat unproblematic to visualise or comprehend, but when used to illustrate companies working within the same industry with no explicit transactional relationship to each other (e.g. supplier, contractor, client, etc.) matters become somewhat complex. However, our aim was not to uncover the ‘real’ definition of an ecosystem, but instead to explore what kind of – if any – novel insights drawings could bring to the table.

Initial informants were contacted through our personal networks, but the consecutive ones were acquired through snowball sampling (Biernacki and Waldorf, 1981) by asking our respondents who we should interview next or by attending game industry events in Helsinki and Tokyo. By striking a balance between these two approaches we wanted to reduce bias from the snowball sampling method whilst at the same time tracing connections between actors in both cities. In line with the sampling method, we concluded the data collection

phase when the respondents no longer seemed to mention or draw new actors or connections between them.

We provided the informant with a pen and a piece of paper onto which they could draw their depiction of the ecosystem. If they had any clarifying questions related to the task we would answer, but otherwise we wanted the respondent to explore and interpret the task in their own way. Usually the drawings and the interviews were conducted in the interviewees' office or somewhere where they felt comfortable (e.g., a café, a bar, or outdoors), and during the drawing task we would not leave the location but remained on the spot.

The table below describes our respondents, the type of organisation they represent and their position, as well as their location and the date when the drawing was made.

*** PLEASE INSERT TABLE 1 ABOUT HERE ***

As the table above illustrates, we did not focus only on game developers or companies, but to various actors who explicitly mention that they are connected to the game industry. Thus, the only requirement we had for screening our participants was that they themselves had to mention that they are working in the game industry or with organisations from the game industry.

The drawings were scanned afterwards and uploaded into a cloud folder so that we all could easily access the drawings, as we have been mostly geographically dispersed while writing this paper. The first author collected the data while the second author was also a participant in the broader research project, and the third author played the role of devil's advocate by

approaching the data from an insider-outsider perspective as they have also studied the game industry previously.

Analysing the drawings

When looking at drawings of ecosystems, Kress and van Leeuwen (2006, 59) provide us with means to analyse them as dynamic illustrations or narratives: ‘narrative patterns serve to present unfolding actions and events, processes of change, transitory spatial arrangements’. Consider Figure 1, for instance: lines and arrows transform a seemingly static image into a dynamic system. What is more, the different technologies in the top part of the illustration (‘PC’, ‘Game console’) seem to suggest that technologies also shape the ecosystem (Orlikowski, 2010; Orlikowski and Scott, 2008), and this is something that recent studies on game industry networks and ecosystems seem to have not taken into account (Cohendet et al., 2010; Grandadam et al., 2013; Lazzeretti et al., 2008). What is more, most of the actors are connected with simple lines, whereas Level 5 and Konami (both game development companies) are connected to several other actors with one-directional arrows. This leads us to suggest that according to this illustration, the ecosystem is mostly static, but Level 5 and Konami are seen as moving to a certain direction.

Building on this, we decided to approach the drawings through three sequential steps that, we hope, will in the future serve as a starting point for analysing similar visual data (Vince and Broussine, 1996). The figure below illustrates our research process.

*** PLEASE INSERT FIGURE 2 ABOUT HERE ***

First, we studied the drawings one by one by focusing on crystallising our analysis of each drawing. We looked for commonalities in what kind of tactics were used in visualising the ecosystem. In fact, this approach turned out to be much more fruitful as we felt we were giving ‘voice’ to each drawing instead of trying to see them as representing certain categories (Davison et al., 2012; Samuels, 1993). What is more, although prior research (Bryans and Mavin, 2006; Butler et al., 2014; Comi et al. 2014; Vince and Broussine, 1996) seems to suggest drawings and visuals in general can serve as triggers for further elaboration through talk, here we are treating the drawings as their authors’ way of making sense of their local professional context (Ibarra and Andrews, 1993; Meyer 1991; Stigliani and Ravasi, 2012).

Second, we analysed the drawings separately by categorising them based on the open-closed and centre-periphery axes to build on studies on similar constructs (Henneberg et al., 2006, 2010). The table below illustrates how the drawings were distributed to these categories.

*** PLEASE INSERT TABLE 2 ABOUT HERE ***

This initial stage of our analysis illustrated the contested nature of ecosystems and similar constructs (Adner and Kapoor, 2010; Basole, 2009) in a sense that as concepts they are always on the move and their analysis or cognitive sense-making depends on from what perspective they are being portrayed. Furthermore, while we seem to take for granted the fluidity of such concepts as organisation and ecosystem, most research methods tend to pin down rather than open up meaning (Steyaert et al., 2012), which is why visual research methods are well suited for investigating phenomena in motion.

Finally, based on the analysis process described above, we were able to identify four archetypes of ecosystems that will hopefully create actionable insights for further studies, managerial implications, and policy making. Below, we will present and discuss our findings from the perspective of these four archetypes.

Findings

Our visual investigation into how individuals perceive their game industry ecosystem identified four faces of ecosystems: actor-centric, actor-driven, system-driven, and system-centric. These faces should not be understood as mutually exclusive or separate entities, but for clarity's sake we shall describe them separately below.

Actor-centric drawings

The first face portrays ecosystems that are characterised by spatio-temporally situating one actor in the centre. Research on creative industries and clusters (Comunian et al., 2010; He and Gebhardt, 2014; Peltoniemi, 2015) has predominantly focused on the physical conditions here and now, but our data reveals that temporality is also of importance especially in terms of connecting with the past legacy as well as envisioning where the ecosystem could be heading in the future (Heimo et al., 2018). Figure 3 illustrates temporal connections to the ecosystem's past. Here, the drawing revolves around the respondent's organisation – a game development company – but worth noting is the connecting arrow to 'Sulake' in the top left corner. As the cross above 'Sulake' shows, this organisation does not exist anymore, yet the drawing nonetheless highlights its importance in the ecosystem. Temporality can also be visualised through other symbolic means. Figure 4 shows an elderly gentleman in the top left

corner. Alone, it would not reveal much, but in relation to the two other figures, the barbarian and the bird, it becomes apparent that this gentleman ('Remedy') has been part of the ecosystem much longer than the barbarian and the bird. These two characters refer to Supercell (the barbarian) and Rovio (the bird); perhaps two of the most successful Finnish game companies that were established during the 2000s. 'Remedy', on the other hand, was established already in 1995, and its historical role in the Helsinki ecosystem is apparent also in the positioning of these three characters: both the bird and the barbarian are boldly looking to the right, towards the future, while the gentleman is guarding them, so to speak (Foster et al., 2015). Thus, stretching through time and space, actor-centric ecosystems give primacy to one actor to which all the other entities are somehow connected. In such instances, while we can identify a focal actor or intermediary (Foster et al., 2015), at the same time it is worth noting that these ecosystems are not actively shaped by the same actor, whereas this is the case in the next category.

Actor-driven drawings

Drawings in the second category were characterised by (trans-)local power relations that influenced how the focal actor could develop their ecosystem. Although the respondents were asked to focus on their physical location, several drawings transcended their setting spatially, thus highlighting the importance of global networks at a local level (Comunian et al., 2010; He and Gebhardt, 2014; Lin, 2017). In Figure 5 and 6, we can see both drawings highlighting how some actors exercised power or control over others. What is worth noting here is that there appears a seemingly clear hierarchy present in both of these actor-driven drawings. This subordinate – superordinate relationship (Kress and van Leeuwen, 2006) signifies and makes visible power relations in the ecosystem: it is as if the central actors in these two drawings are

seen as sort of overarching actors framing what is and is not possible. In the latter, hierarchy is visualised through three separate layers that do not signify movement between them, while in the former power relations are made tangible by utilising circles of various sizes.

Regardless, the second face of the ecosystems is characterised by an active, focal actor that is shaping the ecosystem within a given framework. While the previous face regarded the borders as being porous, here the ecosystem has clear borders that to a large extent enables the focal actor to shape the system.

System-driven drawings

Whereas the previous two faces dealt with drawings dominated by one actor, in this face primacy was given to a system. Movement and sense of direction were visualised in these drawings, thus suggesting the ecosystems were not regarded as static entities, but as systems with capability to develop over time. As the drawings in Figure 7 illustrate, arrows are especially suited for establishing connections as well as visualising a sense of direction. In both instances, the arrows themselves do not signify any specific actors, but instead they are utilised to portray a blueprint of the ecosystem. Primacy is not given to one actor in particular, since the drawings emphasise the system and how it is understood to operate.

What is more, although neither of these drawings explicitly visualise or signify geographical locations, these systems are seen as closed entities where each actor has a role to play. While individual arrows perform movement, collectively they resemble an ouroborian cycle that binds all the users to an endless cycle of various actions.

System-centric drawings

The fourth face of ecosystems, system-centric drawings, seemingly come closest to the definition of ecosystem in its biological sense. Ecosystems falling under this category highlighted both openness and self-sustaining capabilities. As such, these drawings understood ecosystems as developing over time whilst being open to new actors as well as acknowledging the possibility of some actors disappearing over time. Both of the drawings in Figure 8 portray the ecosystem in Tokyo, but whereas the one on the right adopts a positive stance (when combined, the industry will be bigger in the future), the one on the left is somewhat more critical towards some of the actors. What is more, based on the second stage of our analysis, these drawings are also of open nature, and as such acknowledge the possibility of external actors entering the picture. In a way, then, both of these drawings transcend their author's organisation by looking at the ecosystem from a bird's eye perspective, and from there projecting what it might mean for my employer.

In a similar vein, the two drawings in Figure 9 illustrate the openness characterising system-centric drawings. While the drawing on the left emphasises chaos and the one on the right order, they are connected in that their borders are not closed from actors entering and exiting the ecosystem. Although these drawings visualise their respective ecosystems in a similar fashion, it is the level of detail that sets them apart. The drawing on the left was drawn by a respondent working for a public organisation, whereas the one on the right was drawn by a respondent working for their own game development company, which explain the difference in the level of detail portrayed in the drawing.

Conclusion

In this paper, we have analysed thirty-three drawings of local game industry clusters in Helsinki and Tokyo, and the findings shed light on how and why individuals embedded in these clusters perceive organisations within the creative industries (Aage and Belussi, 2008; Hesmondhalgh, 2002; Hirsch, 1972; Lazzeretti et al. 2008; Lin, 2014; Maskell and Lorenzen, 2004; Peltoniemi, 2015) interact and cluster with other actors, and how the ecosystem as a practitioner concept is a contested one in that its understanding appears to significantly differ across actors. Insights arising from the data analysed in this paper are twofold: we have analysed perceptions of game industry ecosystem through drawings and explored clustering through novel research methods. First, studies on clustering in the video game industry (e.g. Cohendet et al., 2010, 2018; Grandadam et al., 2013; Hanzawa and Yamamoto, 2017) have generated rather unified analyses, while here our data shows that clustering is a contested phenomenon: as such, ecosystems can be regarded as arenas for power struggles (Hirsch, 1972) as actors attempt to harness local resources and knowledge to their full extent while at the same time engaging in cooperative practices (Porac, Thomas, and Baden-Fuller, 1989; Porac et al., 1995; Stam, 2007). Second, ecosystem drawings also highlight temporality; previously active actors can influence the ecosystem today, and similarly future also shapes the here-now (Lehtonen and Harviainen, 2016). As discussed in the methodology section of this paper, visual methods are especially suited for exploring such phenomena that are difficult to verbalise and bring together past, present, and future. Finally, the four faces of ecosystems – or clusters – provide a typology for exploring creative industry hubs outside the obvious and already established ones. As Cohendet et al. (2018) have argued, changes in the global video game industry dynamics and business models have given way for new hubs to emerge, which is why we need novel analytical lenses to explore both existing and emerging hubs.

In terms of methodological considerations and limitations, these drawings, while performing reality as visual artefacts (Steyaert, Marti, and Michels, 2012), also remind us of their power to deceive our eyes: just like maps can lie to us when they portray a forest with a single tree symbol (Monmonier, 1996), equally the drawings presented here ‘cut corners’ by highlighting some aspects and actors while fading away others. However, we do not wish to advocate cynicism with this argument; instead, this fluidity and performativity that these drawings possess actually reveals more than if we treated them as static representations of the reality, which is why future inquiries could better take into account the respondents’ background and how that influences what people include in and exclude from their drawing. In a similar vein, future research could also combine drawings and interviews to allow the respondents to talk about their drawings instead of only relying on the researcher’s interpretation: for example, events taking place immediately before the drawing could influence what the respondents decided to visualise for this study, and such issues could be explored through interviews.

Since creative industries are inherently built on symbols, artefacts, and processes that are fluid and mobile (Lash and Urry, 1994), it seems natural that also connections and ecosystems are constantly on the move. Having said that, while fluidity is an integral part of these drawings, above we have also covered perspectives that are somewhat more prevalent in a sense that they stick with the drawings albeit with a different intensity over time.

Furthermore, the analysis process in this study has been highly subjective with us generating meaning in and across the drawings. As such, future inquiries could draw on more systematic analytical processes to allow for larger data sets to be analysed at once. This approach could also mitigate potential biases stemming from the use of snowball methodology, as then data collection would be less reliant on respondents’ connections in the industry.

With regards to managerial and policy-making implications, findings presented in this paper can contribute to more customised policies and better-informed decision-making (see Skavronska, 2017 for a similar insight). When injecting public funding to creative industries, our paper questions the one-size-fits-all approach as ecosystems and their actors have divergent needs. A better understanding of the local scene and its actors' needs would help policy-makers to test and develop more customized funding policies and mechanisms, while for managers, better ecosystem awareness would enable them to tap into resources they otherwise would not know existed. At the same time, however, if the drawings seem to highlight one or several actors as being in a dominant position, should public funding be geared towards these actors in the hopes of spill-over effects? In a sense, this prioritization was previously experienced in the case of Nokia: after Nokia's downfall in the 2010s, former employees went on to utilize their knowledge and expertise to establish new companies, thus participating in developing the ecosystem. While public funding was not injected to Nokia in order to advance its demise, policy-making could take a more contextualized approach towards identified dominant actors. Here, ecosystem drawings could reveal what stage the ecosystem currently is, and this has an influence on whether dominant actors should be supported by public funding or not.

In terms of future research avenues, we analysed the drawings as finished artefacts, but it would be beneficial to investigate the drawing process itself. To the best of our knowledge, such sequential analyses have not been carried out in organisation studies, although they would, perhaps, reveal fruitful insights on what was drawn first and why. In addition, longitudinal studies and asking the respondents to talk about their drawings would also yield insights that would help us in better theorising on how and why actors in the creative

industries cluster (in line with Berg, 2014; Skog, 2016). Also, and in line with Wu (2017), exploring how consumption and production of cultural goods are interwoven in clusters would most certainly yield interesting insights as most of the drawings covered in the study at hand did not address the consumption side. Furthermore, exploring industry clusters from the perspective of the four faces identified in this paper also holds potential for future contributions as discovering similarities and differences in how actors in the cluster perceive the current state can have significant repercussions for future development. At this point, however, we hope our findings inspire further inquiries into creative industries through the four faces we have conceptualised and discussed above.

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