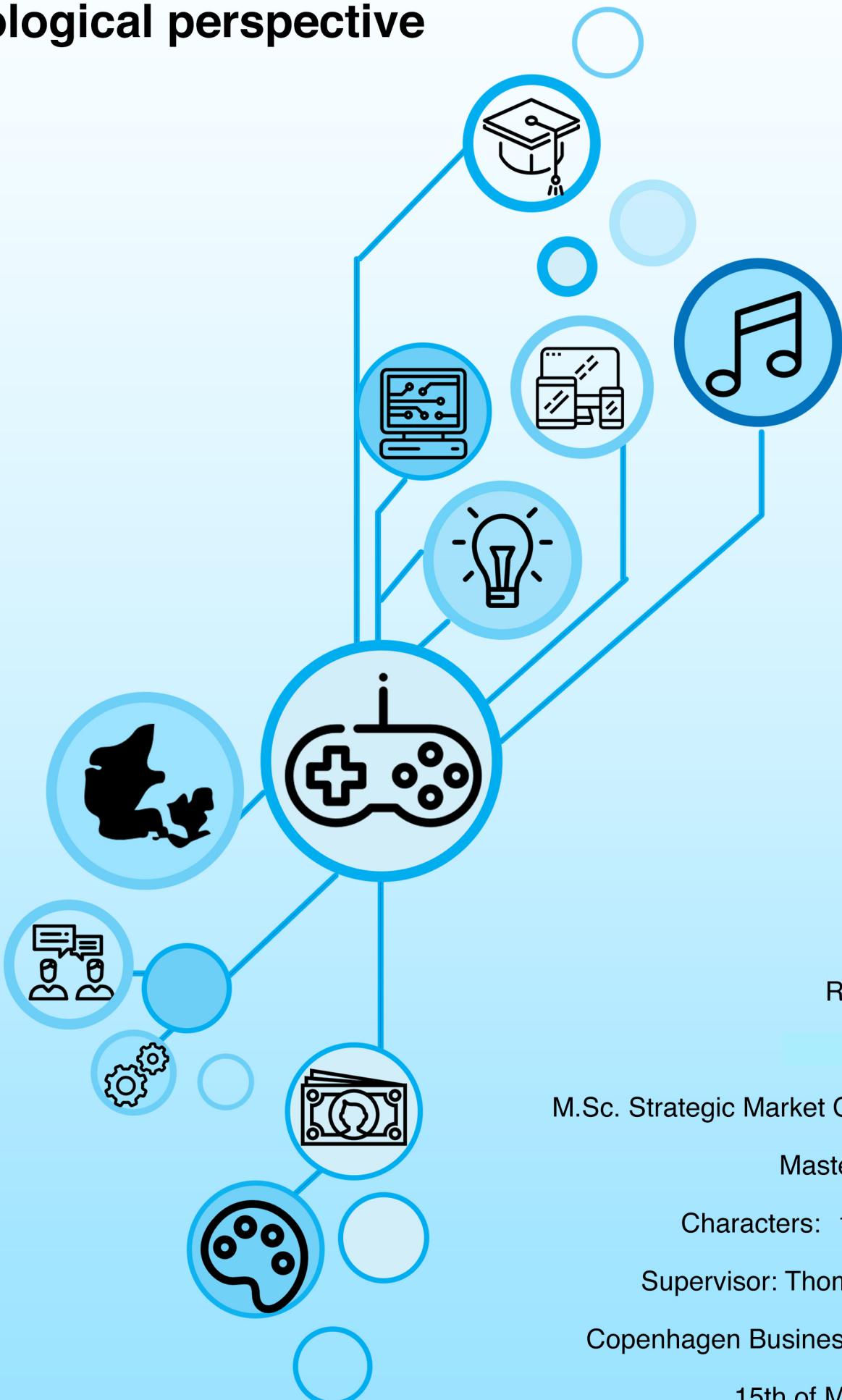


# Ecosystem Innovation in the Danish Gaming Industry

## - An ecological perspective



## **Abstract**

The dynamic and ever-changing nature of today's global economic system requires organizations, cities and nations to constantly reinvent themselves if they are to stay relevant and competitive. Furthermore, the move from an industrial society to a knowledge society has lessened the competitive advantage of raw materials and shifted the focus to knowledge instead. This has increased the demand for human capital and organizations that can perform knowledge-intensive work. If organizations, cities and nations want to stay competitive they need to attract skilled and knowledgeable creative that can facilitate innovation and economic growth. Furthermore, as more than 60% of the global GDP is generated by cities, it has become appealing for nations to build flourishing innovation systems that can nourish businesses and generate sustained growth.

This research endeavored into the field of innovation ecosystem theory and aimed at describing the contribution of such systems on innovation. This was carried out through a case study research of the innovation ecosystem revolving the gaming industry in Copenhagen. The empirical findings illustrated a young industry that is characterized by a strong network of relationships - relationships that contribute to the overall innovation performance of the ecosystem. Like living systems, the actors in the ecosystem share knowledge and resources to assist each other, and thereby assist the ecosystem as a whole. Overall there are two supporting factors that contribute to innovation ecosystem; one being the complete innovation ecosystem that works as a vital structure for enabling the emergence of innovation to happen, and the other being the different actualizations of what the system does. This means that the structures that make up the entire ecosystem function as supporting structures for the system's capacity innovate. The universities, non-profit organizations and funding/venture capitalist institutions serve important roles in contributing to the innovation performance, as they provide game studios in Copenhagen with essential resources to carry out their innovation processes.

**Keywords:** Innovation ecosystems, Clusters, Triple Helix, Innovation, Systems thinking, Diversity, Creative Class, Knowledge society

## **Acknowledgements**

This Master Thesis is the beginning of the end of my 5-year career at CBS. The inspiration for this thesis came through the interest in nature and how some of nature's most complex and intricate designs can be used to solve complex problems in the business world.

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Robin Sigl

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# Chapter 1: Introduction

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In today's increasingly dynamic and changing global economic biosphere, countries and their cities constantly aim to renew themselves in order to stay competitive and generate growth. Whether or not the Great Recession from 2008 is truly over, the economic decline severely impacted the global economy and the repercussions are still felt today. Global unemployment has increased from 170 million in 2007 to 202 million in 2012, and around 470 million jobs are needed globally for new entrants to the labor market between 2016 and 2030 (UN 2015). Furthermore, the past millennium has seen an increase in the world population by 22-fold, along with a life expectancy that historically has improved as well (Maddisson 2001). This has accordingly caused an increased expenditure on health care, as nations make an effort to take care of their elderly. All of this means that there is a significant need for economic growth and development if we are to alleviate some of the challenges faced in today and tomorrow's economy, while keeping a certain level of welfare within cities and nations. While governments are faced with many other challenges than just achieving economic growth, it certainly contributes to relieving a lot of the issues.

Another reality in this day an age is the increase of urbanization. Not only has the world population significantly increased, but people are also concentrating in towns and cities. As countries develop, the economic density in some places increase as more and more people move to the city in the hopes of better opportunities and a better life (see figure 1). More than half of the world's populations today live in cities and today's youth is 40 percent more likely than older generations to move from rural to urban areas (The World Bank 2009).

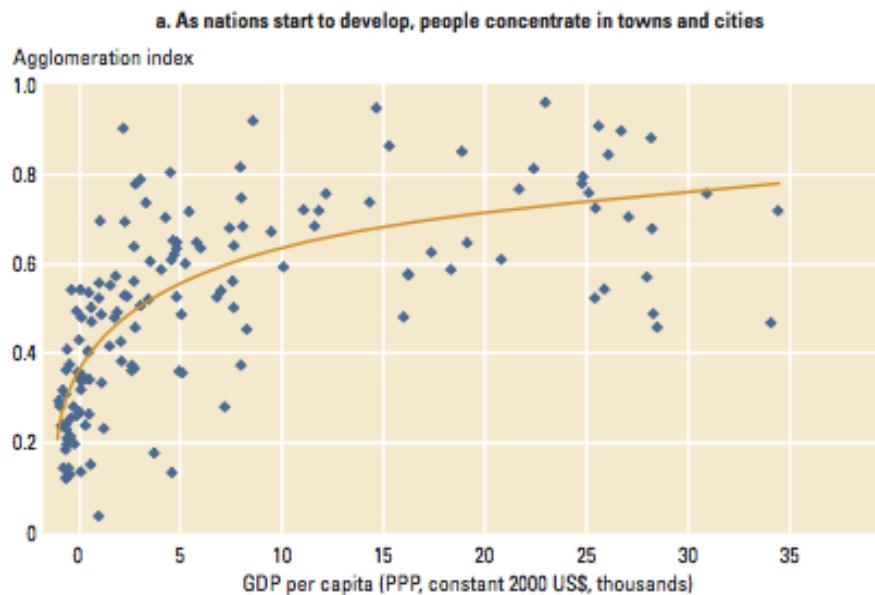


Figure 1 – Concentration of people in towns and cities

Fact is that cities and metropolitan areas are getting more and more concentrated and it has become more common for families to live in cities rather than suburbs and rural areas. While this causes significant challenges with regards to poverty and the build-up of slums, there is also remarkable potential in the urbanization of people. According to an economic report by McKinsey Global Institute, only 600 urban centers, with a fifth of the world's population, generate 60 percent of the global GDP. This outlook doesn't look to change, as McKinsey still expect 600 cities to generate 60 percent of GDP by 2025; however, the composition of those 600 cities will naturally change as companies and entrepreneurs strive to identify the cities with the biggest opportunities for growth and where their businesses are more likely to thrive (McKinsey Global Institute 2011). Furthermore, since the early 2000's, three quarters of cities have grown faster than their national economy (The World Bank 2015). This goes to show the clear benefit of establishing and nourishing competitive cities that successfully facilitate their firms and industries to grow jobs, raise productivity and increase the income and welfare of citizens. As a consequence of the economic growth outlook of cities in the future and the clear benefits, governments aspire to create more attractive cities for business and livability.

So how exactly do governments create competitive cities that generate growth and improve the overall well being of the national economy? As mentioned in the opening statements of

this paper, due to the present dynamic and constantly changing economic biosphere, governments and their national entities (organizations) constantly need to renew themselves in order to stay competitive and relevant. Due to this dynamic nature, governments need to rethink their underlying assumptions of how to operate in the economic system.

One of the widely known contributors to economic growth and competitive advantage is innovation. Innovative performance is a crucial factor in determining competitiveness and national progress, and it can be a key to alleviate some of the previously mentioned global challenges (OECD 2007). While the creation of innovation often is the result of a process within an organization, numerous different inputs go into the process before resulting in innovation (e.g. human capital, financial capital, intellectual capital, etc.). It is thus the government's responsibility to stimulate these inputs and build an ecosystem of innovation. An ecosystem where the inputs to innovation flow more efficiently through the whole system and where trust and collaboration is fostered - like nutrients in an interconnected network of roots.

In the pursuit of understanding the complex nature of innovation ecosystems, their functioning and their performance, I have chosen to focus this research project on the city of Copenhagen, Denmark; more specifically, the innovation ecosystem revolving the Danish gaming industry in Copenhagen.

Thus the following research question has been formulated:

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***How does the innovation ecosystem revolving the gaming industry in Copenhagen contribute to generating innovation?***

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In order to answer the above research question, the paper will cover two primary sub-questions:

- What components are necessary to potentialize an innovation ecosystem?
- How does the dynamics of the innovation ecosystem enable innovative performance?

## **1.1 Delimitations**

This research project will take its point of departure in the Danish gaming industry and the actors involved in generating innovation. More specifically, the research will be limited to the ecosystem around Copenhagen and the encompassing actors. The Danish gaming industry is a broad industry with many different products and sources of income – this includes sources such as eSport, betting, video games etc. Therefore, in this research, the Danish gaming industry (or the interactive entertainment industry) has been reduced to strictly to those involved in the development, marketing and monetization of video games. Furthermore, as it is the gaming industry within Copenhagen that is in focus, the research will not go on to investigate any phenomena relating to other ecosystems. Thus the innovation ecosystem of Copenhagen's gaming industry ought to be seen as a separate biota in a global biosphere – meaning that while the Danish innovation ecosystem has its own activity and function, it lives in a global biosphere of other ecosystems - these will however not be further investigated. Despite that, there may be cases where actors outside the ecosystem will be brought into the analysis/discussion in order to create a context. Another important delimitation of this research is that the ecosystems contribution to innovation is interpreted through interviews with four different individuals that are responsible for production in their separate companies (as 'head of production') as well as three industry experts (elaboration on interviewees can be found in section 4.3.1.2). This delimitation has been made due to the sheer size of the complete ecosystem and the time it would take to interview all the individual actors. Lastly, the research is entirely focused on the functioning of the ecosystem and how it contributes to generating innovation.

## **1.2 Objective of the research project**

In order for cities and nations to successfully establish flourishing innovation ecosystems, it is fundamentally crucial to understand the complex and dynamic functioning of systems. The object of this research project is to shine a brighter light on the functioning of innovation ecosystems and how they contribute to generating innovation and potentially economic growth. This includes elaborating on the supportive structures that make up the system.

### **1.3 Structure of the paper**

This paper is split into eight different chapters:

**Chapter 1** has introduced the area of research as well as the research question, setting the scene for the rest of the paper.

**Chapter 2** goes into detail about the theoretical framework of the research and helps ‘frame’ how different aspects of the phenomena are interpreted.

**Chapter 3** follows up and describes the city of Copenhagen and the Danish gaming industry as a case for researching the chosen phenomena.

**Chapter 4** elaborates on the philosophy of science and the methodology for the research project, along with the reasoning behind the chosen methods.

**Chapter 5** will serve as a narrative of the empirical findings from the data collection as well as analyze it in connection with the theoretical framework.

**Chapter 6** rounds up the paper and summarizes the research project and the main findings that were discovered.

**Chapter 7** rounds off the paper and elaborates on the main conclusions as well as the validity and reliability of the research project.

# Chapter 2: Theoretical Framework

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In order to properly investigate the innovation ecosystem revolving the Danish gaming industry, it is important to have a thorough understanding of the key concepts and theories that have previously been published on the subject/phenomena. The following section will serve to ‘frame’ the research and describe the theories and concepts relevant for the topic of this research paper and that relate to the broader areas of knowledge considered. The section will start off with a description of the concept of Richard Florida’s ‘Creative Class’, before going on to define innovation and entrepreneurship. Finally, the section will end with a characterization of the innovation ecosystem as well as its complexity and functioning through systems theory.

## 2.1 Notion of a ‘Creative Class’

The introduction of this research paper touched upon the global challenges today’s economy is facing and the growing need for economic growth and development to alleviate them. One of the ways in which economic growth can be created is through innovation. Innovative performance is an important factor in determining national progress and a major contributor to the creation of jobs through startups and entrepreneurship. In Richard Florida’s (2002) book *The Rise of the Creative Class*, he argues that there has been a shift in the factors for urban economic development and competitive advantage. This competitive advantage no longer lies in the raw materials possessed, but rather the amount of creativity/knowledge possessed. Florida thus argues for the growing need to attract what he calls ‘The Creative Class’ to cities in order to create economic growth. The creative class includes creatives working in knowledge-intensive industries, drawing on complex bodies of knowledge to solve problems (Florida 2002). Furthermore, creatives regularly think and reflect on their own knowledge and information to develop their knowledge further and generate new ideas. This creates a lot of value for companies, as it is combination of knowledge and creativity that potentially creates innovation and thereby competitive advantage and growth. Therefore, Florida argues that in order for cities and regions to thrive in today’s economy, it is vital to

attract these talented people that contribute to generating innovations and economic growth. For cities to attract this ‘creative class’, it is necessary to create an attractive city that they can thrive in. “Cities and regions that attract lots of creative talent are also those with greater diversity and higher levels of quality of place” (Florida 2002, p. 20). This means that talent seek a diverse place that is accepting of differences, regardless of ethnicity, sexual orientation, etc. Additionally, Florida claims that the creative class prefers an authentic city with historic buildings, established neighborhoods and cultural offerings.

Thus, it is the responsibility of government to create attractive places for creative talent and human capital to situate themselves. This in turn contributes to urban economic development, as the ‘creative class’ combines their knowledge and information to generate innovation creatively.

## 2.2 Innovation and Entrepreneurship

### 2.2.1 Defining Innovation

Innovation can be a very confusing concept with a wide variety of definitions, depending on whom you talk to - a term being overused to the point of meaningless. What constitutes innovation is generally susceptible to individual perspectives and can vary depending on the industry. This makes it hard to accurately measure innovation and compare it from product to product or company to company.

According to the famous author and management consultant Peter Drucker (1985):

*“Innovation is the specific tool of entrepreneurs, the means by which they exploit change as an opportunity for a different business or a different service. It is capable of being presented as a discipline, capable of being learned, capable of being practiced.”*

Thus, innovation doesn’t just happen automatically, but rather is driven by entrepreneurs with vision, passion, enthusiasm, energy, insight and hard work to enable good ideas to become reality (Tidd & Bessant, 2011). Similarly, Amabile et al. (1996) define it as the successful implementation of creative ideas. Joe Tidd and John Bessant (2011; 2013) describe it as a manageable process of turning ideas into reality and capturing value from them – much like

Drucker's statement about being able to 'practice' innovation. While Peter Drucker's definition is the more inclusive of the above-mentioned definitions, they all have in common that they describe a process of exploiting or implementing creative ideas and opportunities. A process which, according to Tidd & Bessant (2011) can take four different forms of change; product innovation, process innovation, position innovation and paradigm innovation.

An aspect that the previously mentioned definitions don't touch upon is the degree of novelty in innovation. In their 2009 article *Towards a multidisciplinary definition of innovation*, Baregheh et al. cover some of the definitions that embrace the element of novelty in their extensive literature review - ultimately to create a more complete definition of innovation. An early definition by Victor Thompson (1965, p.2) characterizes innovation as "... the generation, acceptance, and implementation of new ideas, processes, products or services." Another definition, where the scholars put emphasis on the aspect of newness, is Van de Ven et al. (1986) who describe it as a new idea, which may be a recombination of old ideas, a scheme that challenges the present order, a formula, or a unique approach which is perceived as new by the individuals involved. Thus, "as long as the idea is perceived as new to the people involved, it is an 'innovation,' even though it may appear to others to be an 'imitation' of something that exists somewhere else" (Van de Ven et al. 1986, p.592). As demonstrated above, innovation can be argued to be composed of an element of newness or novelty that ultimately should create value for the organization and its stakeholders – the novelty either being radical or incremental.

The comprehensive research and literature review by Baregheh et al. (2009) ultimately lead to a diagrammatic advancing in the definition (figure 2):

*"Innovation is the multi-stage process whereby organizations transform ideas into new/improved products, services or processes, in order to advance, compete and differentiate themselves successfully in their marketplace."*

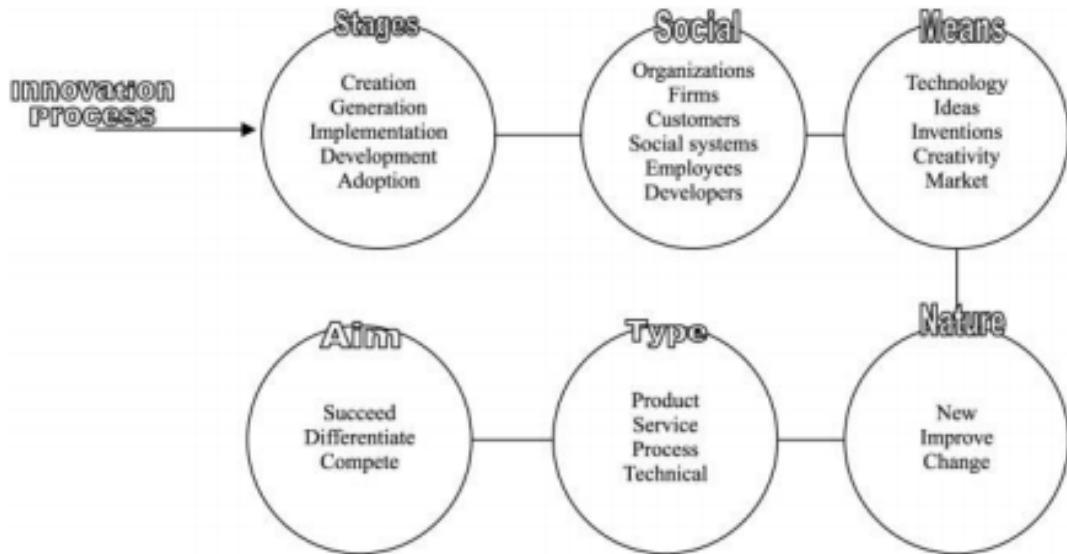


Figure 2 - A diagrammatic definition of innovation

Therefore, as previously noted, innovation is not a discrete act that just happens automatically, but rather a process driven by entrepreneurship and creativity. Furthermore, the common focus of innovation has often been on the internal process of creating innovation; however, as Baregheh et al. note, innovation also includes a social aspect that influences the process - this collates harmoniously with the analogy of an innovation ecosystem (which will be elaborated on in section 2.2).

### 2.1.2 Entrepreneurship

As mentioned above, innovation is a process that is carried out through entrepreneurship – the means by which entrepreneurs with vision, passion, enthusiasm, energy, insight and hard work enable ideas to become reality. Much the same as innovation, entrepreneurship can be a very fuzzy concept that varies in meaning depending on the context and whom you talk to. In some cases it may refer to startups and new ventures, and in other cases it might refer to corporate entrepreneurship.

According to Howard Stevenson (1999), considered the godfather of entrepreneurship by many, the concept should be understood as “the pursuit of opportunity without regard to resources currently controlled” (Stevenson et al. 1999, p.5). This means an entrepreneur taking on the risk of executing on an opportunity or idea, even without having the needed

resources. It is therefore argued that entrepreneurship is a particular approach to management, which Stevenson claims to consist of six critical dimensions of business practice; strategic orientation, the commitment to opportunity, the resource commitment process, the concept of control over resources, the concept of management, and compensation policy. These six dimensions of business practice will however not be elaborated on in this research. Donald Kuratko and Richard Hodgetts (2004) describe it as a process of innovation and new-venture creation through four major dimensions – individual, organizational, environmental, process – that is aided by collaborative networks in government, education and institutions. This description likewise collides nicely with the innovation ecosystem analogy (section 2.2).

Innovation and entrepreneurship can fairly easily be interpreted as two interchangeable concepts, as many of the various definitions can seem awfully identical. However, like Drucker's definition, innovation should be understood as the process in which innovation is created, whereas entrepreneurship should be seen as an approach to management – the pursuit of opportunity. Whether it is in a small startup or a large corporation, entrepreneurship is the mindset or behavioral phenomenon that drives innovation and creates economic growth (Howard et al. 1999). Drucker also concurs with this, stating that entrepreneurship is behavior rather than a specific personality trait. Therefore, people, organizations or governments strive to build up a culture and behavior around entrepreneurship, in order to create growth - which by no means is confined exclusively to economic institutions (Drucker, 1985).

## **2.2 Innovation Ecosystems and Systems Theory**

This section will start off by elaborating on the numerous different concepts of innovation systems, before going on to characterize the concept of an innovation ecosystem and how it functions through systems theory. This has been done in order get a better understanding of the complex and dynamic functioning of ecosystems. Furthermore, systems of innovation has been coined a variety of terms (including innovation ecosystems), therefore this section will serve as description of the different types as well as what characterize them.

## **2.2.1 Various concepts of innovation systems**

The following sub-section will go on to elaborate on the various different concepts of innovation systems and highlight their main characteristics.

### **2.2.1.1. Business ecosystem**

Whether it is coined a business ecosystem, cluster, national or regional innovation system or an innovation ecosystem, they all share similarities. James Moore (1993) was one of the earliest advocates for using the biological analogy of an ecosystem and transferring it onto a business setting. He elaborated on the idea of a business ecosystem in which “... companies co-evolve capabilities around a new innovation...” (p. 76) and work cooperatively and competitively to support new products and satisfy customer needs. Satish Nambisan & Robert Baron (2012) similarly use Moore’s interpretation and emphasize a hub-based ecosystem that involves a single firm taking ecosystem leadership and exercising considerable influence over the strategies and fortunes of the other members in the system. In their case they used the example of Apple’s iPhone as an ecosystem, which generated countless startups focusing on creating complementary products (e.g. apps, cases, etc.). In this case the concept operates on more of micro-level rather than a macro-level where the whole ecosystem revolves around a single firm’s innovation (Apple iPhone, Google Android, etc.) that drives innovation for firms that cooperate collectively.

### **2.2.1.2 Clusters**

Much the same as hub-based business ecosystems, Michael Porter (1990) introduced the idea of creating business clusters for national competitive advantage. Porter argues that in order for nations to consistently be capable of innovation and generate competitive advantage, it is up to the nation to establish and operate an attractive playing field for its industries. This playing field is made up of four broad attributes that both individually and as a system make up what Porter calls the ‘diamond of national advantage’:

1. *Factor Conditions*: The nation’s position in factors of production, such as skilled labor or infrastructure, necessary to compete in a given industry.

2. *Demand Conditions*: The nature of the home-market demand for the industry's product or service.
3. *Related and Supporting Industries*: The presence or absence of supplier industries and other related industries that are internationally competitive in the nation.
4. *Firm Strategy, Structure, and Rivalry*: The conditions in the nation governing how companies are created, organized, and managed, as well as the nature of domestic rivalry.

Porter contends that an effect of the diamond is that it promotes clusters of competitive industries, which enhances the industry's rate of innovation. Clusters benefit from the close proximity of individual companies to each other, as it creates a pool of expertise and easier access to suppliers (Porter 1990). This access to suppliers and expertise creates increased efficiency and a higher opportunity for growth and innovation.

#### 2.2.1.3 Regional ecosystems and the Triple Helix

Henry Etkowitz's (1993) concept of the 'Triple Helix' describes a university-industry-government relationship, as the economic development has moved from the Industrial Society (of a industry-government relationship) to a Knowledge Society and an increasingly triadic relationship between university, industry and government. As mentioned (in section 2.1) the shift to a more creative and knowledge-intensive society has made value of creatives that combine knowledge and ideas (innovation) the primary drivers for growth. This has increased the importance of universities and their connection with external institutions (such as industries and government), in order to shorten the gap between the knowledge creators and the knowledge users. However, in today's knowledge society, knowledge should not be seen as something that is simply produced by scholars and experts to be used by the general public, but rather something that needs to be reflected on and combined with other knowledge before creating value. Knowledge by itself doesn't create value, but it is how the knowledge is

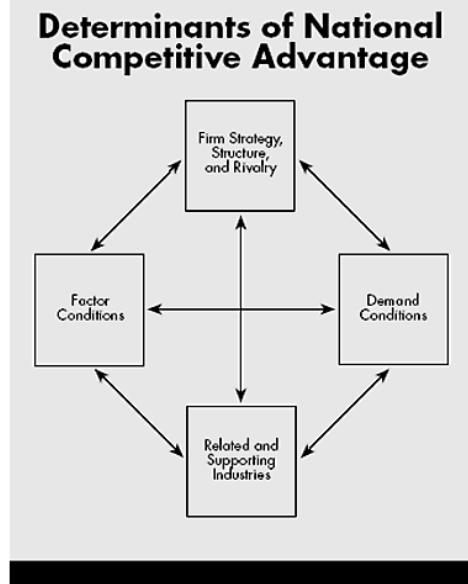


Figure 3 – Diamond of national advantage

transferred and used collectively that creates the value. This is what Etkowitz's seeks to describe with the Triple Helix – a heterogeneous and organizational diverse relationship between university, industry and government where: universities play a role in putting knowledge to use and broadening the input into the creation of academic knowledge, industries engage in higher levels of training and sharing of knowledge, and governments play a bigger role in setting up structures and regulatory measures (such as venture capital) in order to stimulate innovation (Etkowitz 2003).

### **2.2.2 Analogy of an ecosystem**

The concept of an innovation ecosystem comes from the analogy of biological ecosystems – a complex system comprised of all living organisms (biotic factors) in an area as well as its physical environment (abiotic factors) functioning together as a unit (Bear & Rintoul, 2013). Ecosystems are complex systems with many interacting parts that can be hard to analyze. Furthermore, ecosystems are often exposed to different disruptions or changes in the environment that affect the composition and balance of the ecosystem. This affects the ecosystems functional goal of sustaining equilibrium at a state where all organisms are in balance with their environment and with each other. In order to sustain this steady ‘equilibrium’, energy is constantly flowing through the system; plants absorb sunlight and energy is then passed through the system, as organisms metabolize, produce waste, eat one another, eventually dying off and decomposing. The ability of an ecosystem to maintain equilibrium in the face of disruptions is called *resistance* and the speed at which the ecosystem recovers from the disruption is called its *resilience* (Bear & Rintoul, 2013). This disruption may in some cases be destructive enough that the ecosystem loses its *resilience* completely.

Innovation ecosystems function similarly, but in contrast to the biological ecosystem’s functioning around energy dynamics, innovation ecosystem functioning revolves around economic dynamics of the complex relationships that are formed between *actors* and *entities* whose functional goal is to enable technology development and innovation (Jackson, 2011).

### **2.2.3 Defining the innovation ecosystem**

The various concepts of innovation systems described above all share similarities, as they describe a network of entities/actors that work both collectively and competitively to benefit from each other. The concepts of business ecosystems and clusters are largely focused on the market, whereas regional and national ecosystems (e.g. the ‘Triple Helix’) focus on an institutional approach by the government, with emphasis on the structural aspects of the innovation system (e.g. the ‘triple helix’). It could be argued that the institutional focus is of limited value for achieving a fully functioning innovation ecosystem, as it fails to take the complex social dynamics and interactions of the system into consideration (Jucevicius & Grumadaite 2014). Therefore it is necessary to factor both market characteristics and institutional characteristics into the definition, while embracing the complex nature of systems.

According to Erkko Autio & Llewellyn Thomas (2014, p.3) an innovation ecosystem is: “*a network of interconnected organizations, organized around a focal firm or a platform, and incorporating both production and use side participants, and focusing on the development of new value through innovation*”.

This definition includes the production side, such as clusters and industry networks, as well as the use side with user networks (users); however, the definition is still slightly lopsided, as there is a clear influence from Moore (1993) and the concept of business ecosystems. Thus the definition is still rather market focused and fails to include the aspect of government and regional development. Kaisa Oksanen and Antti Hautamäki (2014; 2015) on the other hand define an innovation ecosystem as “...a network of relationships through which information and talent flow through systems of sustained co-creation” (Oksanen & Hautamäki 2015, p. 25). The two scholars acknowledge that the notion of an innovation ecosystem has its roots in business ecosystems and clusters (Moore 1993; Porter 1990) in the conceptual emergence of innovation, and in the Triple Helix approach to regional and national development (Etkowitz 1993). Thus, they attempt to combine the different concepts into a broader definition of what an innovation system encompasses.

The most prominent example of an innovation ecosystem is Silicon Valley and the tech industry. So what is it that makes up an ecosystem like Silicon Valley and how does it

function? The ecosystem itself consists of local actors and dynamic processes that together produce innovative solutions in various ways. In order for the ecosystem to be thriving, a few different components are essential; this includes, top-level universities and research institutions, adequate funding for new companies, symbiotic combination of large companies and new startups, specialization and cooperation among firms, service companies specialized in the needs of the local firms, a local market for innovative products and global networking (Oksanen & Hautamäki 2014). The interactions within the ecosystem is an important means of gaining and transferring new knowledge, gathering relevant information about new businesses, and finding external support and services (Corsaro et al. 2012). This exchange of information, in turn, leads to increased efficiency and a higher potential for ideas to come to fruition in the form of innovations. Furthermore, high levels of risk taking and entrepreneurial culture, as well as a constant flow and movement of ideas and people characterize innovation ecosystems.

#### 2.2.3.1 The complex functioning of systems

In order to properly understand how innovation ecosystems function, it is necessary to elaborate on the concept of complex adaptive systems. As mentioned earlier, the ecosystem analogy comes from biology where a living system is an integrated network whose properties can't be reduced to the individual parts – thus the whole is more than the sum of its parts. This is also referred to as an emergent property in classical systems theory, where it means that by specific arrangement a system exhibits properties or behavior that neither of its individual components have (Sitte 2009). “Living systems are self-generating networks, which means that their pattern of organization is a network pattern in which each component contributes to the production of the other components” (Capra 2002, p.90). This arguably correlates with innovation ecosystems, where the different parts of the system contribute to the emergence of innovation. Emergence does however not only apply when it comes to innovation, but could just as well be the emergence of for example knowledge or competencies. Capra also talks about the concept of networks within networks, in which “... boundaries are not boundaries of separation but boundaries of identity. All living systems communicate with one another and share resources across their boundaries” (Capra 2002, cited in Kagan 2013).

Another factor in understanding the development of the living structures, the relationships, and the temporal flows of matter is the notion of autopoiesis. Capra argues that “living systems are organizationally closed [...] but materially and energetically open” (*ibid.*). Living systems are thus self-producing mechanisms that maintain their form, despite the inflow and outflow of material in the system. However, although the notion of an ecosystem is a biological concept that is being applied to social reality, we should not expect to completely transfer our understanding of the network’s material structure from biological to social domain (Kagan 2013). Capra (2002, p.82) explains that “social networks are first and foremost networks of communication involving symbolic language, cultural constraints, relationships of power, and so on.” Furthermore, he stresses that the ideas, values, beliefs, and other forms of knowledge generated by social systems constitute structures of meaning, which he calls ‘semantic structures.’ “These semantic structures, and thus the network’s patterns of organization, are embodied physically to some extent in the brains of the individuals belonging to the network” (Capra 2002, p. 91). Similarly, Niklas Luhman (1986) makes an effort to transfer the biological concept of autopoiesis (mentioned above) onto social reality. According to Luhman, “social systems use communications as their particular mode of autopoietic reproduction. Their elements are communications which are recursively produced and reproduced by a network of communications and which cannot exist outside of such a network” (Luhman 1986, p. 174). Therefore, communication becomes an emergent property of the systems interaction with each other.

The fact that the individual parts (species) in an ecosystem are reliant on each other, in order to be sustainable, means that there is a need for biodiversity in case of disturbances to the ecosystem. This was also mentioned in section 2.2.1 where *resilience* described the capacity of the system to adapt to changes coming from the outside. “Sustainable systems can only exist as long as diversity is preserved, so that the exogenous shocks of the unexpected may give way to the endogenous responses of resourceful (social or eco-) systems” (Kagan 2013, p.109). A lower diversity means a lower resilience, potentially risking the sustainability and survivability of the whole system. This means that innovation ecosystems necessitate the existence of human capital with diverse background and competences in order to sustain the ecosystem.

Since an ecosystem is considered a ‘living’ thing and not something static, there is a constant flow of matter through the system while it maintains its form (Capra, 2009). Capra states that “all living organisms must feed on continual flows of matter and energy from their environment to stay alive, and all living organisms continually produce waste” (Capra 2002, cited in Kagan 2013). However, Capra contends that an ecosystem produces no net waste, as one species’ waste is another’s food. For this reason, matter cycles through the system continually. Ecosystems run on something called feedback cycles, where a complex chain of reactions forms a feedback loop in the system either produces a virtuous cycle or a vicious cycle (Jackson 2011). Once a disruption or a change in environment affect the ecosystem, another mechanism steps in to contribute to the sustainability of the ecosystem - this is what Capra calls ‘Dynamic Balance’. “An ecosystem is a flexible ever-fluctuating network. Its flexibility is a consequence of multiple feedback loops that keep the system in a state of dynamic balance” (Capra 2002, p.231). The ecosystem doesn’t have a static steady-state, but rather a dynamic and flexible nature that is capable of balancing itself out in case of change or disruptions to the environment - where negative feedback loops allows it to self-regulate. This means that the innovation ecosystem has the ability to adapt to potential changes in the environment via multiple feedback loops, on the condition that it is diverse enough to balance out the deficiencies or disruptions of the system.

This notion of a living system with constantly flowing matter fittingly connects with the work of Jane Bennett. In her book *Vibrant Matter*, Bennett focuses her attention on the distributive and composite nature of agency and how everything is alive and interconnected; challenging the common conviction that materials and objects simply are stable and passive matters. She argues that the ability to produce effects or initiate action is distributed across an ontologically diverse range of actors – or actants. “Some actants have sufficient coherence to appear as entities; others, because of their great volatility, fast pace of evolution, or minuteness of scale, are best conceived as forces” (Bennett 2005, p.446). In this manner, sources of effect or action can either be human or non human. Bennett believes that while individual (human) and singular forces (non-human) each have agentic capacities, they group together to form a type of agency. This grouping is what she calls ‘agency of assemblages’: “the distinctive efficacy of a working whole made up, variously, of somatic, technological,

cultural, and atmospheric elements” (Bennett 2005, p.447). Thus matter such as non-human forces (e.g. objects) is considered alive because of its ability to generate effects or actions.

According to Fritjof Capra (2009, p. 245) “all the essential properties of a living system depend on the relationships among the system’s components” and thus systems thinking means shifting focus from objects to understanding relationships. This means that in order to fully understand an ecosystem and its functioning, a thorough comprehension of the inherent relationships and interactions within the system is crucial. It should be noted that this comprehension of relationships is not solely limited to the relationships between actors in the ecosystem, but also the relationships and linkages between different parts of the innovation ecosystem.

#### **2.2.4 Concluding remarks on innovation ecosystems**

The theoretical framework outlined above started off describing the growing importance of creativity and attracting talented creatives in order to generate economic growth and urban economic development. Richard Florida argues that the rise of creativity helps stimulate innovation through creative people utilizing their complex bodies of knowledge to solve problems. This ties with the fact that competitive cities have shown to be incredible contributors to the overall GDP and a key creator of jobs and productivity (chapter 1). The chapter then went on to describe the principles of innovation and entrepreneurship, deducing that innovation should be understood as the multi-stage process of turning ideas into new/improved products, services, and processes; whereas, entrepreneurship should be seen as an approach to management in pursuing opportunities – a certain mindset and behavior. Thereafter the theoretical framework went on to elaborate on the many concepts of innovation systems, eventually to draw a link to the notion of an innovation ecosystem.

Ultimately, what should be grasped from the theory on innovation ecosystems is that they are characterized by being complex and dynamic systems that are made up of intricate relationships and interactions. Each component of the system contributes to the production of other components, and the interaction and agency of assemblages play a part in the emergence of innovation within the ecosystem. Innovation in ecosystems is not an individual property but a property of an entire web of relationships involving large or small parts of the

community. Furthermore, they are open systems of communication where knowledge, ideas and values are created and transferred. Finally, since innovation ecosystems rely on the species (actors) within it, there is a clear need for diversity in order to create a resilient system that can endure disruptions from the outside.

# Chapter 3: Presentation of case/area of research

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The following chapter will act as an introduction to the case that the innovation ecosystem perspective will be applied to – the innovation ecosystem revolving the gaming industry in Copenhagen. The first part will consist of an introduction to Copenhagen and the development of the economy within the city. Thereafter the Danish gaming industry will be presented and key statistics from the industry will be elaborated on. This serves the purpose to introduce the reader to the area of study and put the research of the innovation ecosystem within the Danish gaming industry into context.

## **3.1 City of Copenhagen**

The idyllic and authentic capital of Denmark, Copenhagen, is probably most known for its design, new Nordic food, and the little mermaid; but, the city is in fact also located in a central and valuable geographic location in Northern Europe when it comes to business activity. Furthermore, the city is regularly rated as one of the most livable and green cities in the world, with a goal to be carbon-neutral by 2025 (City of Copenhagen 2015). As a consequence of urbanization, the development of the city has demonstrated a lot of the same tendencies as other big cities in the world. Population growth has increased by 23% since 1995 and the city is comprised of a rather young population with an average age of 35,9 (Københavns Kommune 2016). The population increase has to a great extent been caused by relocating internationals – especially American and Northern Europeans - under the age of 30.

While Copenhagen was significantly affected by the financial crisis in 2008, the economic development has shown visible signs of improvement. The GDP has increased by 11% since 2000, which is less than cities like Berlin (13%), Malmö (22%) and Stockholm (with a whopping 41%) (*ibid.*). The city has also seen a good amount of interest from international companies either expanding or establishing their companies in Copenhagen. Between 2009-2014, Copenhagen had 29 international companies expand their business to the city, along with 203 newly established companies (*ibid.*). In comparison, Stockholm had 25 and 196

respectively. However, while Copenhagen has seen slightly more interest from international businesses, Stockholm has managed to generate a lot more jobs from their new establishments. The 25 international expansions stimulated 2010 new jobs, while the 196 establishments generated 5646. This compares to respectively 1143 (29) and 4608 (203) jobs for Copenhagen. In order for Copenhagen to alleviate some of the challenges of an increased population, there is a significant pressure to attract businesses and talent to the city in order to generate new jobs and economic growth.

### **3.1.1 Future strategic initiatives**

The fact that more than 60% of the world's GDP is generated in cities is something that Copenhagen is well aware of, which is also clear from their recent 2015 report on the city's 'Business and Growth Policy'. By 2020 the capital intends to have a yearly growth of 5% in GDP as well as created 20,000 new jobs in the private sector. Furthermore, continuing to be at the top of the rankings on livability and sustainability remains a major point of emphasis for Copenhagen, in hope of attracting more businesses and talent. The city's goal of creating a business friendly environment and stimulate further growth are based on a series of strategic initiatives in different aspects/domains of the city. The eight domains and their associated initiatives are summarized as follows (City of Copenhagen 2015):

- **Sustainable city development & livable city:** By improving the functionality of the city as well as organizing an efficient infrastructure, Copenhagen aims at making it easier for businesses to establish themselves in the city. Furthermore, maintaining a sustainable and livable city serves the purpose of making the city more attractive for relocating.
- **Business services and costs:** The city of Copenhagen strives to deliver a high service level and engage in communication with businesses about their needs and challenges. This includes optimizing the administration services of Copenhagen, making them more timely and efficient, as well as minimizing the costs of business.
- **Education and employment:** This domain aims to improve the qualifications of the workforce and help businesses find the right employees. The city also wants to make innovation and entrepreneurship more visible in the education system and strengthen these competences in order for startups to thrive.

- **Sustainable job market:** Copenhagen wants to have an inclusive and sustainable work environment in which private businesses take part in building competencies and training their workforce. Therefore the city aims to make an effort in making it more attractive to hire and develop a diverse workforce.
- **Innovative purchasing and high growth in businesses:** Copenhagen is aware that businesses in the capital are lagging behind when it comes to innovation. Therefore, there will be a special focus on positions of strength within cleantech, health- and welfare technology and in the creative clusters. The focal point in this domain is collaboration between businesses and the city of Copenhagen and establishing investment options to accelerate growth.
- **Internationalization and international city collaborations:** Finally, Copenhagen aims to attract more international investor capital as well as international talent, by making the city more accessible.

All of the above summarized attention areas/initiatives illustrate that Copenhagen as a city is well aware of the advantages of creating a business friendly environment – both for national and international entrepreneurs and businessmen. The idea of improving the city's sustainability and livability can assist in attracting creative and innovative people ('Creative Class'), potentially leading to a higher rate of economic growth. Furthermore, the bigger focus on the creative clusters proves to be an advantage for the prospects of the Danish gaming ecosystem.

### **3.2 The Danish Gaming Industry**

The gaming industry in Denmark is a relatively young industry, but an industry that is growing and showing a lot of potential for the future. Since 2009 the industry has seen an increase in the number of established companies go from 72 to 151 in 2015 – with a 15% increase from 131 in 2014 to 151 in 2015 – see figure 4 (Interactive Denmark 2015). The overall turnover of the industry has also demonstrated a lot of growth. 2009 registered a total turnover of 376 million DKK for the game development as a whole - this number has risen to 1.16 billion DKK in 2015 (*ibid.*); turnover that contributes to creating growth for both Copenhagen as a city and for Denmark as a country. The rise in turnover has also given the industry the ability to hire more full-time employees (FTE). While a large majority of these

(131) companies operate with 1-9 FTE, the industry as a whole is continuing to generate jobs. From 516 FTE in 2009, game development now provides 770 people with a full-time job (*ibid.*). These numbers might not seem very outstanding compared to other industries in Denmark, a growth of 4,1% in turnover is more than three times the national average for the Danish economy. Furthermore, Danish game developers contribute to strong numbers in exports, as 65% of the total turnover is derived from exports.

	Game		
	2014	2015	Change
Companies	131	151	<b>15,3%</b>
FTEs	735	770	<b>4,8%</b>
Turnover (in 1000 DKKs)	1.115.549	1.161.143	<b>4,1%</b>
Export (i 1000 DKKs)	747.023	744.060	<b>- 0,4%</b>

**Figure 4 – overview of gaming industry numbers**

But although the industry has seen a lot of growth in generated turnover, the distribution of the turnover is rather lopsided. 66% (99 companies) of the total number of established companies in the industry has less than 1 million DKK in turnover - only contributing to 2% of the total turnover. The industry is held up by 14 companies that have turnovers above 7.5 million DKK, constituting 89% of the total turnover of the industry (*ibid.*). This could be interpreted in several ways, but the two most likely could be that; either the smaller companies in the industry don't manage to innovate and produce attractive games, or they simply don't have the capital and resources to properly bring their creative ideas and concepts to life.

Although all of these numbers are derived from the Danish gaming industry as a whole, a large part of the contributions come from companies based in Copenhagen. Creative industries tend to cluster in cities and the gaming industry has shown this tendency as well, as 65% of game developers are based in the capital.

### 3.3 Concluding remarks

This chapter served the purpose of putting the area of research into context, illustrating the current situation of both the city of Copenhagen and the Danish gaming industry. Copenhagen

has seen a large influx of people relocating to the capital, which has lead to a higher demand for economic growth and job creation. Although the city has shown signs of recovery from the financial crisis with an 11% increase in GDP since 2000, it significantly underperforms compared to cities like Berlin, Malmö and Stockholm. On the other hand, the performance of the Danish gaming industry has shown a lot of promise with a growth of 208% (from 2009-2015). However, 89% of the turnover in the industry comes from only 14 of the 151 established companies. Furthermore, there appears to be an imbalance in the relationship between established companies and full-time employees, as 99 of 151 companies merely have 1-9 employees. If the city of Copenhagen is to generate a sustainable urban economic development, there is a need to spread the ‘wealth’ slightly more and ensure that smaller companies have the necessary support structure to grow. The growth initiatives of Copenhagen coupled with the current state of the gaming industry could prove to be a good match in order to create a well functioning ecosystem for economic growth.

# Chapter 4: Methodology

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## 4.1 Research Philosophy

Research philosophy refers to a system of beliefs and assumptions about the development of knowledge (Saunders, 2016). It concerns how the researcher perceives the world and how we best can come to understand it. Furthermore, the research philosophy for the thesis helps the researcher specify the research methods used, as well as dictates how data is collected and interpreted, in order to answer the research question. This research takes its point of departure from the perspective of a pragmatic philosophy of science. The following section will describe the main elements that characterize the pragmatic philosophy of science, as well as what consequences this may have for the research.

### 4.1.1 Action and experience

Actions and experiences are core elements of the pragmatic philosophy of science.

Pragmatism focuses on studying how actions and experiences from prior situations affect and are put to use in current actions as well as the possible consequences of these (Egholm 2014); the actions being the result of a reaction to a specific sensation in a specific situation. Thus, the specific situation leads us to pull on our experience and expectations from previous situations, in order to deal with the current situation. According to John Dewey (1916), all sensations emerge as reactions to *something* that can only be explained through culturally and historically determined discourses, which in succession always must be based on a physically based sensation of *something*. Furthermore, learning is created individually, socially, and on the basis of the current situation.

In pragmatism the individual's intentions are considered to be procedural, relational and situational, and as a result, both individual and social all together. People are actively participating in the social world and are therefore influenced in their stored experience and how they handle future situations (Egholm 2014).

Finally, pragmatism aims to examine how individuals act in tangible situations, why specific situations happen the way they do and not so much on whether certain circumstances apply more generally (*ibid.*).

#### **4.1.2 Truth in Pragmatism**

Pragmatists acknowledge that there are several different ways of understanding the world and conducting research, and that no one single point of view or way can ever give the complete picture and that there may be multiple realities (Saunders, 2016). In this sense, all research is cumulative and yet incomplete, where preliminary judgments must be made with evidence at hand (Jacobs, 2012). This is also the reason why pragmatists often use several different research methods in order to create the most ‘complete’ understanding of the phenomena researched – (data collection methods for this specific research are described in section 4.3). According to Liv Egholm (2014), the consequence of the pragmatic perspective on truth is that the results at which a specific research arrives at shouldn’t be seen as final and unchangeable, but rather the most useful, probable and credible answer given the situation and information available. In addition, the usefulness must be determined based on whether the theories and conclusions describe the phenomena better than if they hadn’t been applied. This also means that it is important to be critical about the results of pragmatic research, as it is up to the researcher to interpret the phenomena studied.

##### **4.1.2.1 Abduction**

In line with the above-mentioned theory of truth, abduction is another key to pragmatism. Whereas deductive research goes from theory to result and inductive research from result to theory, abduction combines both deduction and induction in order to produce the most probable and credible result. The ultimate goal of abduction is therefore not to find a complete and true result, but rather creatively tell something about the world that reveals new or unknown phenomena (Egholm, 2014). This means that the researcher strives to arrive at the best ‘qualified guess’ to explain a phenomena.

#### **4.1.3 Consequences of the pragmatist philosophy of science**

Due to the nature of the pragmatist perspective to inquire about action and experience, this specific research will focus on the actions on both the individual actors in the innovation ecosystem but also on the specific actions of the system as a whole. Furthermore, research on systems also causes some consequences, as “systems thinking means a shift of perception from material objects to the nonmaterial processes and patterns of organization that represent the very essence of life” (Capra 2009, p.246). It should also be noted that the large emphasis on the use of abduction and coming up with the best ‘qualified guess’ of the researcher can lead to significant bias. Therefore it was important for the researcher to write down potential assumptions about the phenomena before starting the interview process. This ensured that what was said in the interviews didn’t affect the presumed assumptions.

### **4.2 Case Study Research**

This research makes use of a case study research based on four chosen cases. Case study research combines well with pragmatism, as case studies provide valuable practical details and contribute to growing social intelligence. Case study research is central to pragmatism as a method to evaluate the consequences of personal and social choices. It provides contexts in which to identify details of institutional development, distinctive features, and commonalities across cases through diligent examination of existing reality (Jacobs, 2012). Furthermore, the case study creates the type of context-dependent knowledge that research has shown to be necessary in order to allow people to develop from rule-based beginners to knowledgeable experts (Flyvbjerg, 2016).

For this specific research project the researcher makes use of a collective case study method based on four different cases. Unlike a lot of case studies that are carried out over a longer period, this case study will be cross-sectional and will therefore only look at the innovation ecosystem from present-day. The case study will be combined with ethnography in order to get a better understand of each individual case (ethnography will be elaborated on in section 4.3).

#### 4.2.1 Selection of cases

The four selected cases are made up of four different cases, characterized two indie game developers (Triple Topping Games and Triband) as well as two bigger game developers (Flashbulb Games and SYBO Games).

1. **Triple Topping Games** is an indie game studio situated in Copenhagen. The company is founded by the three co-founders Astrid, Simon and Andreas, and their main focus is on one-hand mobile games. The startup is still in its early stages but already have their first games releasing this year (2017). The person interviewed within Triple Topping Games was co-founder Astrid Refstrup.
2. **Triband** is also an indie game studio situated in Copenhagen, and similarly founded by three co-founders; Tim Garbos, Peter Bruun, and Rune Drewsen. Triband produce various types of indie games for different platforms. The person interviewed within Triband was co-founder Tim Garbos.
3. **Flashbulb Games** is one of the medium sized game studios in the Copenhagen, primarily funded by Nordisk Film. The company is founded by Ole Teglbjærg, Rune Dittmer, and Mikkel Thorsted. Flashbulb Games are currently focusing on their game *Trailmakers*, set to launch summer of 2018 on Windows 10, and the two major consoles (Xbox and PlayStation). The person interviewed within Flashbulb Games was co-founder and Head of Production, Ole Teglbjærg.
4. **SYBO Games** is one of the largest and most successful game developers in Copenhagen, Denmark, founded by Bodie Jahn-Mulliner and Sylvester Rishøj Jensen. The company produces mobile games and hit the jackpot with their game Subway Surfers, which is one of the world's most downloaded games to date. The person interviewed within SYBO Games was Head of Production, Thomas Lund.

The selection of cases were chosen based on a maximum variation sampling in order to reach a certain heterogeneity between the cases. As the researcher wanted to understand the complex phenomena of an innovation ecosystem, the maximum variation sample assists in examining the role of the ecosystem among different actors, in different situations and at different times. It should however be noted that the researcher will put a higher emphasis on the case of Astrid Refstrup and her company Triple Topping Games, as it is argued that the

case serves as an ideal example of the rest of the industry's reality in the innovation ecosystem.

#### **4.2.2 Generalizability of cases**

The argument of this selection of cases is that it is hypothesized that the ecosystem around the industry is rather divergent and that their individual realities therefore won't necessarily be identical. The chosen case selection provides the research with a broader lens in which to investigate the phenomena of an innovation ecosystem in the gaming industry - thus aiming to develop a more complete picture. Understanding each case and their relationships and interactions within the ecosystem helps to generate a more complex and valid analysis of the ecosystems functioning as a whole. Although the selection of cases weren't selected based on a random sample, it is still argued that they are representative in the context of the research phenomena.

### **4.3 Data collection**

The following section will elaborate on the chosen methods for data collection as well as how the methods were utilized in practice. Finally, the researcher describes the methods to analyze and interpret the empirical findings.

#### **4.3.1 Ethnography**

As previously mentioned, pragmatist research often use several different methods in order to reach a more complete and comprehensive understanding of the phenomena under investigation; however, pragmatism also embodies the belief that it is up to the researcher to determine when to end the point of inquiry and when there is enough data to say something about the phenomena. This means that while there are a wide variety of methods available to the researcher, it is up to individual judgment to determine what is most pragmatic in the specific situation and context. The following section will describe the research methods utilized in this research and how they are carried out.

As the entire ecosystem is made up of different actants and groups, this research makes use of an ethnographic approach to understanding the phenomena. Ethnography is a description and

interpretation of a cultural or social group or system, where the researcher enquires into the group's observable and learned patterns of behavior and way of life (Miller & Salkind 2002). This entails that the researcher exposes himself to the daily lives of the people and engage communication with them. It is ultimately the researchers objective to study the meanings of the behavior, language, and interactions of the culture-sharing group and make sense of it.

#### 4.3.1.1 Form of ethnography

Ethnography can be shaped in many different ways; however, the two most popular forms within social sciences are realist ethnography and critical ethnography. Realist ethnography is considered the traditional way of constructing an objective account of the situation and reporting objectively on the information learned in the field (Miller & Salkind 2002). This is usually done in a third-person narration of the situation. On the other hand, in critical ethnography the object is generally to study social issues of power, empowerment, inequality, dominance and victimization, and in the end advocate for a certain ideal or cause (*ibid.*). Critical ethnography is usually conducted by politically minded people, who seek to advocate against inequality and dominance.

This research project aims to make use of realist ethnography, as it is argued that it will help contribute to a better understanding of the behaviors and realities of the groups involved in the ecosystem. However, while it will be an objective reporting of the information from the field, as a pragmatic researcher, the narration will naturally lead to presumptions about how the different behaviors and realities play a part in innovation. Had critical ethnography been used, the study would have had a more advocating nature, arguing for how marginalized groups of the ecosystem could be supported to create a healthier innovation ecosystem.

#### 4.3.2 Observations

As ethnography is grounded in field work, it was important to investigate the activities of people in their natural 'habitat'. Part of this field work was completed through conducting observations. More specifically, observations were conducted at the gaming conference 'Nordic Game Jam', which is considered the biggest game jam in the world, and thus serves as a good example of the activity of people in their natural setting. The reason for conducting these observations was to understand "particular behaviors that can only be understood in the

everyday context in which they occur” (Bloomberg et al. 1993, p.125). Although the Nordic Game Jam only happens once a year and thus not am ‘everyday’ thing, it is argued that it still serves a great example of an event where a group of actors with similar mindsets and culture engage in activity and communication with each other. This holistic approach helps to understand how specific behaviors (e.g. at a game jam) fit into the larger whole (of the system). The observations were mainly conducted in order to better understand how the interactions and behaviors of actors in the ecosystem contribute to creating innovation. The researcher thus hypothesize that the interactions and the knowledge shared between the actors assists in solving problems creatively.

In carrying out observations “one must decide what to observe, when to observe, where to observe and when you’ve observed enough” (Whiting & Whiting 1970, cited in Blomberg et al. 1993, p.132). For this specific observation, the researcher chose specifically to focus on the interactions between people. This included informal interactions between people at the events, observing the nature of their interactions, as well as during workshops where interaction was absolutely necessary for the actors involved. One specific bit of the observations were done at a workshop where participants had to create a game, played with a controller, based on a wide variety of tools provided to the participants. In addition to the specific observations carried out at the game jam, the researcher combined them with informal discussions with various participants - this was strictly for done for the advantage of the researcher in understanding the participants’ motivations and interests in being involved in the event.

#### **4.3.3 Semi-structured interviews**

In order to thoroughly investigate the innovation ecosystem revolving the Danish gaming industry, the fundamental mechanisms and dynamics as well as how it contributes to creating innovative products, it was particularly relevant to make use of qualitative methods (such as interviews). The rationale behind this is that the emergence of innovation (both internally in an organization and externally through the ecosystem) is processual by nature and it is therefore necessary to understand how these processes function. Furthermore, as was previously stated (in the theoretical framework), in order to fully understand an ecosystem and its functioning, a thorough comprehension of the inherent relationships and interactions

within the system is crucial. An interview allows the researcher to get a more in-depth and detailed understand of the relationships and interactions that the interviewee engages in and how these affect the innovation ecosystem as a whole. Interviews can vary in structure, from highly structured interviews to informal conversations. This creates both advantages and disadvantages, as informal interviews make it possible to probe into many different things, but running the risk of not acquiring elaborate enough answers (Miller & Salkind 2002).

In this case the interviews followed a semi-structured format and were aimed at 30-45 minutes in length. This was done for few different reasons. First of all to have somewhat of a structure and thereby being able to compare and contrast the different cases up against each other. Second of all, the semi-structured format allowed for the researcher to deviate slightly from the questions and follow trajectories in the conversation that may have drifted a bit away from the interview guide, allowing the interviewee to elaborate on interesting topics (interview guide can be found in appendix xx). It also allows the interviewee to open up a discussion and raise topics or questions the researcher had not considered beforehand. Finally, the interviews were aimed at span of 30-45 minutes in order to avoid making the respondents bored and tired.

#### 4.3.1.1 Use of mind mapping

Along with the prepared questions in the interview guide, the interview included a mind-map drawing procedure where the interviewees were asked to map out their various relationships in the industry on a piece of paper. This allowed the researcher to open up for further questions about the nature of those relationships and which kind of contact they had with each other. As relationships can't be measured and weighted, they need to be mapped to make sense of them (Capra, 2009). Mapping the relationships helps in discovering repeated patterns within the ecosystem. Furthermore, mind mapping was a useful tool to stimulate discussion and make it easier for the respondent to open up, as it generates an illustration that the respondent can speak from.

#### 4.3.1.2 Interviewees

Apart from interviewing Astrid Refstrup (Triple Topping Games), Tim Garbos (Triband), Ole Teglbjærg (Flashbulb) and Thomas Lund (SYBO Games), the researcher also conducted interviews with three industry experts. These were:

- **Jan Neiendam:** Chairman for Interactive Denmark and Vice President for the Danish Producer Association.
- **Maz Spork:** Several years experience in the gaming industry and previously owned his own gaming studio. Spork also wrote an MBA thesis on innovation in the Danish gaming industry.
- **Mikkel Weider:** Several years experience in the gaming industry where he also owned his own gaming studio. Mikkel now works for Nordisk Film Games, where he invests in gaming startups within the Nordic countries.

#### **4.3.4 Data analysis method**

The main approach used in analyzing the qualitative data will be by the means of a narrative analysis. The narrative analysis will serve to make sense of the stories communicated by the interviewees. As the interviews have been conducted, the researcher will read and analyze each story and look for useful insights and meanings. Thereafter, the different stories of the interviewees will be compared and contrasted in order to create an understanding and being able to establish any form of conclusions. Finally, when the interviews have been interpreted and made sense of, the researcher will seek to create a narration of the empirical findings in an insightful manner.

## Chapter 5: Empirical Analysis

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The following section will be a comprehensive narrative of the findings from the research conducted. In order to present a thorough investigation of how the innovation ecosystem revolving the Danish gaming industry contributes to creating innovation, the empirical findings will be broken up as follows; the chapter will start off describing the actors (such as Astrid, Thomas, etc.) and thereafter move outwards and elaborate on the surrounding network of the game development studios (SYBO Games, Flashbulb Games, etc.) and subsequently the different other stakeholders that surround the production companies (educational institutions, investors, etc.) – see figure 5. The following narrative acts as a description for how the different actors and entities interact with the ecosystem, and how this relates to stimulating innovation.



**Figure 5 – layers of analysis**

### What is innovation in the gaming industry?

As already illustrated, innovation can be a very fuzzy and confusing concept. This confusion makes it hard to properly compare products up against each other and thereby judge the innovation performance. The confusion on innovation was also something that was apparent among the interviewees, who all acknowledged the wide-ranging interpretations of what can be defined as innovative. Like the theoretical framework suggests (section 2.1), innovation includes an aspect of novelty – this is not any different in the gaming industry. Astrid Refstrup and Thomas Lund both mentioned that games can be innovative in different ways; for example by introducing a new function/element in a specific game that hasn't been seen before or it could be the introduction of a new artistic and creative gameplay. The game 'Subway Surfers', that SYBO Games became successful from, had originally been seen before, as it resembled the game 'Temple Run'; however, the gameplay and the characters of Subway Surfers appealed more to the users/market and ultimately became the most popular mobile game. The ability to use technology was also mentioned as a big part of creating something new and innovative. New hardware (e.g. introduction of pc, phone, smart watch,

etc.) can often open up for new opportunities and lead to game studios producing innovative games specifically for the new hardware. Jan Neiiendam suggested a trilateral relationship between technology, creativity and users, where there is a dualism between technology and creativity in which users are utilized for feedback. This goes in line with Autio & Thomas' (2014) definition on innovation ecosystem – combining the production side of the network with the use-side of the users in the market.

In an interview with Maz Spork, he alluded to the mix between originality and performance as a way to assess innovation. Spork contended that an increase in originality would increase the performance accordingly; however, originality could also go too far towards originality, to the point of becoming too abstract for users to understand, thus causing the performance to decline. “If you have small budgets you have a tendency not to have the guts to move in the originality direction, because it takes too long: you have to test too many things and you have to spend too much time in that space where you get ideas” (Spork, 17:20). Then you end up with something that is unoriginal, and if it is unoriginal it is probably also not very innovative. So this is the challenge when there is a lack of talent and a lack of capital, then people are pressured over into something that in some way has been seen before, and in a market where 600 games are being released per day in the app store you are at an unquestionable disadvantage. The originality can be made up of different things, like the use of technology (do you use an accelerometer in a way that hasn't been seen before); it could be to understand the target group better (thinking outside-in).

## **Process of generating innovation**

An essential question to inquire about in the gaming industry is what exactly innovation looks like. When ordinary 18 year-old game-enthusiast goes down to the video game store to purchase a game, the video game experience is more than likely limited to the two stages of purchasing the game and actually playing the game. But what actually goes into creating the games that we play? Where do the companies get game ideas from and how are these ideas turned into something new, exciting and innovative? While it is argued that the innovation ecosystem contributes to the creation of innovation, the actual creation comes from innovation processes within the game studios. These processes can look vastly different from studio to studio, depending on their size and organization. In general terms, most companies

operate around a process that starts with a pre-production where ideas and concepts are brainstormed, subsequently moving into a stage of testing and prototyping, before the actual production of the game ensues. In order to shine a little more light on the actual process of creating an innovative product, a description of SYBO Games' innovation process will be expanded on below.

At SYBO Games, the game studio operates around a funnel-approach to their innovation pipeline. Due the company's size and budget it is feasible for them to run cycles of constant prototyping, where teams solely work towards new and innovative games. The process starts with a concept prototyping phase that runs over a period of 5 weeks. During this stage a team of two - a designer and a programmer – solely test concept prototypes to test whether it is fun play or not. Thomas noted that although it is smaller teams conducting these concept prototypes, everyone in the studio has a say and an opportunity to bring up ideas. If the concept has potential it has the chance of moving into the next step of the process called the pre-production phase. This phase is likewise a continuous cycle and conducted by a different team. The pre-production extends over 3 months and encompasses the attempt to figure out how the concept should be made into a game; the theme, visual style, monetization model and gameplay as well as the projected earnings on the game. Based on all of the pre-production projects, the studio then decides which projects to push into production. The production phase is an 8-14 month process, and is split into an Early-production phase before ending up with a final product. In this stage the same team who did the pre-production pick out the aspects that were worth picking from in the pre-production and then build everything else from scratch.

As this specific process illustrates, there are many moving parts in going into the innovation process of a company like SYBO Games. If we were to break down the inputs, the company first of all needs some money in order to have the necessary resources to function.

Furthermore, they need some facilities, human capital (game designers, programmers, etc.), physical equipment (computers, chairs, desktops, audio recording etc.), software (Unity platform, Photoshop, InDesign, etc.), office supplies (paper, pencils, markers, etc.), time, coffee, and an Internet connection. On top of that there is a large amount of creativity that goes into the process – both in form of the ideas that are suggested by the people in the organization, but also in the form of artistic skills and problem solving. However, it can be

argued that it is the interactions between all of moving parts and inputs that generates the creativity and innovation. The assemblage of different inputs in the process generates and agency from which innovation emerges. An example of this could be in the concept prototyping phase where the relationship between a designer, a programmer and an idea/concept causes an agency of something happening – it is in this interaction that creativity and innovation emerges.

It is however important to note, that these inputs can be broken down further. The group of human capital that makes up the different teams has a repertoire of skills and competencies that they have either acquired from a formal education or through previous work experience. Thus, the skills and competencies that they possess have been accumulated from their interactions with other parts of the ecosystem. Additionally, the ideas that end up being produced as games can likewise be a result of individual actors' interactions with other parts of the ecosystem.

## 5.1 Actors

The innovation ecosystem revolving the Danish gaming industry is comprised of numerous different actors that are needed in order to develop a game – this could be game designers, programmers, graphic designers, writers/story-tellers and so on. Collectively they all serve a vital component in the composition of the ecosystem, by functioning as the human capital that drives it – an indispensable resource for the industry as a whole. However, while they all may serve an important role in the ecosystem and contribute to the innovation performance generated, they all experience different realities from their existence and interactions in the system. As noted in section 1.1 this research looks at the ecosystem through the lens of the interviewees; actors who are all responsible for the overall game development in their respective companies. Therefore, their reality of the ecosystem may differ slightly from that of graphic designers or writers. Likewise the position/role an actor possesses and the company they work for can also alter their reality of the system. In the conducted interviews, with four different actors, it became apparent that the network around the gaming industry serves different purposes, depending on the actor and his/her position.



### **5.1.1 Social aspect of the industry network**

Everything in Astrid Refstrup's daily life revolves around games. In addition to recently establishing her own game development studio, Triple Topping Games, she plays a huge role in the whole milieu around game development – not only in Denmark but also all over the world. As chairman of IGDA (Danish chapter of the international game developers association) and extensive work for Interactive Denmark, Astrid not only works to further her own company, but also works to further the industry as a whole. She (and IGDA) is responsible for organizing Nordic Gam Jam - considered the largest game jam in the world - where +700 people take part in networking; engage in conferences, workshops, and group-up to create games over an entire weekend. Additionally, she is in the committee of the Danish Game Awards, judging and honoring game developers with prizes for their work. In short, Astrid's reality of the network is that of a person who lives and breathes games, and someone who is very passionate about the cultural and social aspect of the industry. Similarly, Tim Garbos (of Triband) shares a comparable reality of the ecosystem he is situated in. Like Astrid, he is also owner/partner of a game development studio in Copenhagen, producing indie-games that, according to himself, need to be different and something that has not been seen before. "We would like to create some wacky stuff that the others don't make. Not necessarily something that is better, but just different" (Garbos, 3:19). Tim is vice president at (IGDA), part of the Game Awards committee and enjoys participating in game jams as well. And while game jams can be considered a fun and community-based social gathering, these events are major contributors to innovation. Game jams - and social gatherings in general - are important sources for creativity and knowledge sharing; a whole weekend with passionate people interacting, sharing and creating new things. Tim highlighted this in his interview, describing that many of his company's products originated from ideas at game jams. Thus, the social nature of the gaming industry constantly feeds new knowledge, ideas and creativity into the heads of creatives, such as Astrid and Tim - potentially paving the way for innovative products through their individual studios.

Meanwhile, on the other end of the spectrum, Thomas Lund (SYBO Games) and Ole Teglbjærg (Flashbulb Games), both from more established companies, have slightly different realities of the ecosystem. To them, the network in the industry is strictly resorted to for social purposes. Game jams were not something any of them participated in; Ole stating that he was

simply “too old” for it. While age might be a justification, it seems more likely that already having proven themselves in the industry and working for established companies is a more sensible rationale. However, although both are not as immersed in the community as Astrid and Tim are, they do have a network that they pull on socially. “We have had these dinners once in a while, where we are a few key persons from the different companies that meet and talk business” (Appendix 4, paragraph 40). Both of them have been in the industry for many years and have built up their own personal networks of people in the industry that they can pull on, if need be – both socially and professionally. These interactions also center around knowledge, as they willingly share advice and thoughts on their businesses. There is a certain openness around the industry’s actors and they make an effort to help each other sincerely. As Ole highlighted, they share knowledge and advice on a regular basis, and “... there is rarely money involved, if I can state it like that” (Appendix 4, 38).

### **5.1.2 Accumulation of personal competences**

Not only does the ecosystem consist of a large social community, but the actors equally pull on the ‘professional’ community. Being so involved in the ecosystem, Astrid relies heavily on her network around the industry in her daily work. “I speak daily with people from all over the world who are also working on games, and that is probably the resource that I rely most on” (Refstrup Interview). She went on to talk about travelling to fellow game studios and working there for a couple days, either because the studio had experience with her current project, because she felt she could learn something, or simply because she wanted to work somewhere else. The inherent collaboration within the industry makes it possible for Astrid to learn from others and develop her skills further. Actors in the gaming industry have very different backgrounds and although it is not everyone who has an academic foundation when they enter the industry, it is more common in today’s society (and especially in Denmark) to have a formal education. But the competencies built up by individual people come from several different sources, and education is only one of them. As mentioned in section 5.1.1, the social nature of the industry makes it possible for actors to acquire new knowledge and competencies from the social settings they engage in. So for an individual like Astrid, she picks up on new knowledge wherever she goes, which ultimately creates better prospects for innovative products when she puts her creativity to use. Along with that, competencies are being developed through work experience; being part of different teams and being exposed to

different projects and situations contributes to new learning. These competencies are accumulated and eventually carried on to help other organizations or used to start up new companies.

This reality is the same for most actors. While Tim can be argued to have followed a similar path as Astrid, being that they both have a formal education, started their own indie studios and are heavily involved in the industry, their realities of accumulating competencies in the ecosystem aren't much different from that of Ole and Thomas. Ole likewise came from a formal educational background in Computer Science and started his first company while he was still finalizing his degree. After finalizing his degree, Ole and two friends from school (Mikkel and Rune) put their energy into their company, which eventually was acquired by Microsoft. Here they worked under quite different circumstances and an environment with more robust and structured processes. This is just one example of a learning experience that built up knowledge and competencies, which provided Ole with a foundation for his later career. Experiencing the working conditions under Microsoft exposed Ole to a stronger business focus and could be argued to have helped him in his current company (Flashbulb Games), where they reasonably fast were able to secure investments from several investors - including a +10 million DKK investment from Nordisk Film. Ole's exposure to a business environment basically taught him to think more like a business person and talk the language of investors.

Thomas' reality is a bit different based on the fact that he didn't finalize his degree in physics, computer science and astronomy at Copenhagen University. He made up his mind that he didn't want to end up as a teacher and instead chose to create his first company with some friends. He then went on to work within IT security, healthcare and finally ending up in gaming with two different companies before landing at SYBO. So although he doesn't have a formal degree, Thomas has acquired himself a variety of competencies through his previous jobs and business endeavors that he now exploits in the gaming industry, to help SYBO Games create innovative products. Moreover, coming from outside the industry could help him see things in a different perspective and thereby spot innovation opportunities easier.

All in all, the dynamics and the flow of people throughout the ecosystem is instrumental in building up competencies. These competencies then go on to play a part in creating innovative products for other companies or new startups - when actors pull on their built up repertoire of competencies and skills that they have accumulated throughout their careers.



## **5.2 Individual game studios**

The following section will add a layer to the analysis and go a little more into depth about the individual game development studios in the ecosystem as well as how their functioning and relations with other entities in the ecosystem contribute to the innovation performance. It should be kept in mind that this section concentrates on the cluster of game developers in Copenhagen, leaving out other organizations in the ecosystem (such as investors, non-profits, and educational institutions – those will be elaborated on in section 5.3).

### **5.2.1 Differences in realities and approaches to innovation**

The four case companies all have different realities in terms of how they operate in the industry and the challenges they face. Triple Topping Games is in its early stages of existing as a company and is run by three like-minded people. Being in this stage clearly creates a whole different set of challenges than that of a company like SYBO Games. In order for Astrid, Simon and Andreas to run a successful game studio, foster innovation, and make a living, they are required to occupy several different roles in the company and execute on different jobs. The founders have made a conscious decision to be more agile in their work and operate with a game production process of 3 months. Although the company functions around a smaller-scale operation and a shorter production process compared to larger players in the industry, developing a game still requires many different elements in order for it to be realized. While all of these roles and tasks may not be tackled by themselves, but rather outsourced to other companies, Astrid and the rest of the guys need to have regular contact and communication with external contributors. They are a lot more reliant on external actors of the system to carry out their work and produce a game. Additionally, the nature of a regular workday for a person like Astrid can vary greatly from that of a person like Thomas Lund (SYBO). No workday looks the same, as Astrid might carry out her work at the Triple

Topping Games' office one day, while another day she could be working on the road, at a game studio in Tel Aviv or Berlin another day. This is why Astrid's network, laptop, and mind serve as indispensable resources for her daily work. "You just bring your computer. My partner is for example not here right now because he is at a different place working – that is what is so unique" (Appendix 1, paragraph 40). Even though this is an example of Astrid's potential workday, it goes along the same lines for her co-founders Simon and Andreas.

On the other end of the spectrum, the reality of a company like SYBO Games is quite different. The growth of the company has naturally changed the way they operate and allowed them a certain amount of freedom. With a work force greater than 50 people and more than 17 different nationalities in the organization, SYBO is comprised of a diverse group of people – both in terms of competences and skills, but also in terms of culture and heritage. While SYBO Games still, to a large extent, ride on the success of their game Subway Surfers, there is still a need to innovate and constantly produce something if the company wants to stay ahead. The success has however given the company a certain degree of freedom and resources to play around and test different ideas. However, while it has given the company freedom in some areas of their operation, it arguably challenges them in other areas. The relation to time is significantly different for SYBO compared to a smaller company like Triple Topping Games; because while Astrid, Simon and Andreas strive to produce something innovative in 3 months, SYBO strives to produce something innovative in 1 year. The growth of SYBO requires more robust structures in place and a different approach to their innovation pipeline. The increased number of resources makes it possible to organize more teams, more projects, and more interactions – ultimately with the goal of increasing innovative performance. Thomas expressed his belief in the advantage of generating 5-6 different prototypes, eventually to pick the best one for production. "In the long run this should generate better games and better products than if you only have one idea and one release" (Appendix 2, paragraph 5). The company has become its own little ecosystem with all the necessary resources and departments to develop games. This means that the reliance on external actors and other parts of the ecosystem occur at a much smaller scale than that of indie-companies. Despite the fact that the company is less reliant on its surroundings for the actual game production, it interacts with the ecosystem in other ways.

### **5.2.2 Competing for talent & developing talent**

The main input that actually goes into developing games and generating innovation is the human capital. Although there is a general consensus that the numerous game studios don't regard each other as competitors, one area in which it is justifiable to talk about competition is in the search for talented human capital. This is more pertinent to larger companies than it is to smaller indie-companies, but overall, everyone is in search for talent to improve their business. As an example, SYBO Games, through their incredible growth has moved into a position in the industry where talent is needed in order to push the boundaries of innovation. Their initial innovation of Subway Surfers went viral and lead to a necessity of having talented employees. On top of that, the success has created certain expectations of reliability. While it might seem a bit rash to claim that it is essential to have a reliable game up and running, a game with 1.5 billion downloads has a huge influence on SYBO's profits and thus needs to be error-free and running in order for the company to make money. This requires having talented people with knowledge to properly manage the gaming platform and compute prospective improvements – talent that has shown to generally be hard to find in Denmark. The Danish education system within gaming is just not sufficient enough to satisfy large parts of the Danish industry. Having said that, Denmark has been well known for their creative expertise and competences – something that both Astrid and Thomas alluded to in their interviews being one of the clear strong points of the industry. Games like *Inside* and *Limbo*, by Playdead, serve as great examples of turning creative and artistic prowess into a successful game. The industry in Denmark does however lack a great deal of talented technical individuals (e.g. programmers). For that reason, bigger game studios such as SYBO seek to attract more technical professionals from other countries. This becomes a trickle down effect for the rest of the Danish industry, as the need for talented technical people end up going to the bigger companies where positions are more attractive and more profitable. Thus it becomes harder for medium-sized studios (Flashbulb) and smaller studios (Triple Topping Games and Triband) to acquire talented people, arguably decreasing the prospects for innovation. Due to this deficiency in the industry, the ecosystem can be said to balance it out by continuously recruiting technical people from other countries.

#### **5.2.2.1 Developing talent and competencies**

As was described in section 5.1.2, individual actors (employees) in the industry constantly accumulate knowledge and build competences from their interactions. One of these interactions is with the game studios they work at. The primary contributors to this knowledge build-up are the large companies in the industry. Game studios like IO Interactive, SYBO Games and Kiloo run such large and advanced operations that employees inherently accumulate a lot of know-how – both from the projects they work on and the interactions they have within the company. “We see that there are some extremely important competencies that are learnt by creating games and it is first when you’ve tried it 3-4-5 times that you really have that skillset that you can use” (Neijendam, 18:11). Game development is very much a process of ‘learning by doing’ and this is why senior developers are in such high demand in the industry. “The experience and knowledge that lie with some of those senior developers in the large studios, when they then depart to create a startup or go out and get hired at a different place, then there is a spin-off [effect] onto the rest of the industry, and that has a huge impact” (Weider, 11:10). Thus, the game studios are vital contributors to the transfer of knowledge and build-up of competences for the individual actors – competencies that potentially go somewhere else in the industry or contribute to starting up new studios. The smaller indie-studios also contribute to building up know-how, but more so in their interactions with other parts of the ecosystem. It could be argued that while large companies are heavy contributors to the build-up of technical know-how, smaller indie-studios and their activity in the community stimulate ideas, inspiration and creativity. All of this means that the presence of large and flourishing companies can be argued to play a big role in the sustainability of the innovation ecosystem, seeing that experienced employees potentially bring their expertise to another organization to innovate or start their own game studio. An example of this could be Tim Garbos and one of his co-founders Peter Bruun, who both worked on SYBO Games’ Subway Surfers before establishing their own game studio, Triband.

### **5.2.3 Sharing of knowledge and resources**

Depending on the individual game studios, the nature of their business and their approaches to game development, different challenges become apparent. Astrid (Triple Topping Games) and Tim (Triband) who own relatively small companies (with 3 and 9 employees respectively) need to be very versatile in their skillset and competencies. When Astrid started her company

Triple Topping Games with her two co-founders Simon and Andreas, most of their startup capital was funded by themselves. Apart from that, the usual process for indie-developers is to apply for funding through DFI (Dansk Filminstitut) or through investors such as CAPNOVA or Nordisk Film. Therefore, funding can be hard to come by and even the money awarded by DFI usually isn't sufficient if the game developers want to create something innovative. This is why the smaller game developers have to make the most of their resources and be versatile in the skills they have in order to have a functioning company. This also means that there usually isn't enough capital to have employees with specialized skills focusing on one specific part of the business (e.g. business model, marketing, etc.). Smaller companies compensate by banding together and pitching in with resources if needed. "We also cooperate with some other indie-companies – for example Triband and Lovable Hat – where we 'hire' each other if we are busy on a project, instead of hiring freelancers" (Appendix 1, paragraph 30). This way the ecosystem balances out by moving resources from one part of the ecosystem to the other. Furthermore, Triple Topping Games rely on outsourcing to make their business function. Services such as publishing, marketing and localization are outsourced to more specialized companies.

For larger companies such as SYBO Games (Thomas), the reality is a bit different due to their self-sufficiency. The remarkable growth of SYBO Games and their claim to fame with the game Subway Surfers has elevated the company into a different league when it comes to finances. What might have seemed like a simple game, with an endless runner, became so popular that the game recently reached 1.5 billion downloads. This has given SYBO Games a certain amount of freedom to completely change their product development process and not have to rely on external resources. However, while healthy finances and a degree of freedom make it easier to be self-sufficient, it doesn't exclude them from the ecosystem. When asked what the consequences would be of not having the surrounding network around SYBO, Thomas stated that they still use certain companies (MOOD) for visual things and still keep in contact with other companies to share knowledge and advice. But, it shouldn't be forgotten that in order for SYBO to get to the point they are at today, they have had to pull on resources from the ecosystem in earlier stages of their company.

For a company like Flashbulb Games (Ole), it can be argued that they lie somewhere in the middle of the spectrum between the realities of Triple Topping Games and SYBO Games. Securing several rounds of investments in relatively short time has likewise given the company some freedom; however, Flashbulb still relies on their surrounding players. As mentioned in section 5.1, the network in the ecosystem can be argued to consist of both a social characteristic as well as a professional characteristic. This can sometimes be hard to distinguish, as the social aspect might very well include the professional. The companies within the industry in Copenhagen as well as the rest of Denmark are so close to each other that most actors know each other. So while Thomas, Ole and a handful of other actors might meet for a social dinner, business is naturally a topic that will present itself at the dinner table, and the two aspects can thus easily get mixed together. Nevertheless, a distinction can be made between the personal relationships between actors and the professional relationships between the different companies. Ole mentioned 4 companies that Flashbulb had better a better contact/connection with than others. SYBO and KnapNok was due to social relations and friends, thus strictly using them for advice and professional sparring, whereas Cape and Freckle had been used for outsourcing jobs. Jobs that Flashbulb felt were better off being solved by more technical companies, stating that “I think they [Freckle] have the worlds best programmers” (Appendix 4, paragraph 36).

The companies within game production utilize each other in different ways depending on their situation. Large and self-sufficient companies such as SYBO are less dependent on the overall network due to their substantial budget and workforce. At the other end of the spectrum, smaller indie-producers such as Triple Topping Games and Triband rely more on their external network in order to produce games. Outsourcing is used either for tasks that they lack expertise in or tasks they don't have the resources for. Aside from supporting each other with resources, the gregarious nature of the network is instrumental in professional sparring and knowledge sharing.

### **5.2.3 Co-production**

Aside from cooperating inter-organizationally in the industry, there are also examples of complete co-productions. SYBO Games and Kiloo were both relatively unknown game developers before they hit gold with Subway Surfers. Well before the founders Sylvester

Rishøj Jensen and Bodi Jahn-Mulliner opened their SYBO Games studio in 2010, the idea behind Subway Surfers had already been envisioned. They had created a short animated film about a mischievous graffiti youngster escaping a guard and his dog (Unity 2012), which became the starting point to the most downloaded mobile game in the world. However, it wasn't until they shared their animation film with another Danish game studio, Kiloo, that the game became a reality. Kiloo CTO Simon Møller had given them positive feedback on the film and encouraged them to create the game. That was when SYBO decided to pursue the idea in a partnership with Kiloo as the publisher (*ibid.*). This match appeared to be just right, as Kiloo took care of all the technical backend elements while SYBO focused on the frontend elements – the art and look of the game.

This serves as an ideal example of two companies in the Danish gaming industry partnering up and jointly using their individual skills and competences to create an innovative product. “We release a new version every week, so there is a constant cooperation between the teams – all in all maybe 30 people are working on it” (Appendix 4, paragraph 22). Not only does it serve as an ideal example of collaboration, but it also illustrates how ideas and concepts constantly are shared within the ecosystem. Had SYBO Games not shared their animation film with Simon Møller from Kiloo on that specific day, the game might never have become a reality and both companies would not have had the success that they have today.

#### **5.2.4 Company-specific contributions and goodwill in the industry**

As previously noted, the industry is characterized by a tight-knit network of people and organizations that share a certain amount of goodwill - people willingly sharing knowledge and ideas. On top of the inherent knowledge-sharing going on around the ecosystem, companies actively contribute to giving back to the industry. This occurs in several different ways, but one of them is merely by actively being part of events and social gatherings in Copenhagen. One of these occurrences could be through Games Week Copenhagen, which is a weeklong ‘festival’ of events with games, creativity, technology, and innovation. Companies within the industry contribute to different degrees, but one example of giving back could be Flashbulb Games hosting ‘Tech Talks’ for everyone to take part in. “There is two sides to it – one of them is the philanthropic aspect of doing good. We have a great space here in the middle of Copenhagen and we have some talented people that can share some of

their knowledge, so we would like to be part of that” (Appendix 4, 48). Ole went on to say that the second part of it was the fact that every interaction with the environment and other companies was a virtual business card to attract new talent to the company. Thomas Lund (SYBO) also mentioned the willingness to give back to the community. This was both in terms of arranging events for the general gaming milieu in Copenhagen, but also in terms of hiring people from Denmark. One third of the people working at SYBO Games are from Denmark, of which the large majority is hired from Viborg Animationsskole. While Viborg Animationsskole can’t exactly be considered part of the ecosystem in Copenhagen, it is however part of the larger Danish gaming ecosystem. Thomas described that “... Bodie and Sylvester [founders] come from [Viborg] Animation school and we try to help them the other way around and try to pay back a little or help out the Danish gaming industry” (Appendix 3, paragraph 34). In this sense there is a certain emotional association and pride in giving back to where you come from; however, although this is merely giving back to a certain part of the ecosystem, there is a general intention to give back to the Danish industry. “The way I see it is, that it is more that we have a certain solidity that make it possible for us to arrange things for others, more than it is us having a need for it” (Appendix 2, paragraph).

While it seems more fitting or appropriate that larger companies have the necessary resources and thus and opportunity to give back, smaller indie-companies likewise play a part in giving back. Games week includes an open-house event at Spilhuset (House of Games) – an old office building that has nurtured countless ambitious and hopeful game startups – where people can drop by to socialize and meet numerous game studios that willingly share their latest game projects - projects that ultimately go on to inspire the participants and stimulate their creativity.

Another contribution the individual game studios perpetrate in the industry is to cultivate a fruitful internal environment for sharing knowledge and building competences.



## 5.3 External organizations

Moving out an extra layer in the analysis of the ecosystem, there is a range of organizations, external to the game studios, that function as support structures for the industry. These organizations and their interactions with both the actors and the game studios likewise play a role in stimulating the innovation performance of the ecosystem as a whole. These organizations include non-profit organizations, universities/academic institutions, and investors/venture capital firms.

### 5.3.1 Non-profit organizations

#### 5.3.1.1 IGDA

IGDA (International Game Developers Association – Danish chapter) is non-profit organization committed to supporting the Danish game development milieu. IGDA's primary purpose is to stimulate networking and the sharing of know-how between Danish game developers. This typically happens through the numerous events that the organization is responsible for. The two most significant events include Nordic Game Jam and Spilprisen (Game Award Show in collaboration with Danish Producers' Association), both of which are part of Copenhagen Games Week. On top of that, IGDA organizes various social events and 'Demo Nights' where people can interact and present their ongoing game productions with everyone.

Nordic Game Jam is a pivotal part of the Danish gaming scene and a significant contributor to stimulating interaction and fostering creativity and new ideas. The social characteristic of this event is the key to nourishing a highly spirited, playful and inclusive environment where everyone one is welcome – no matter race, ethnicity or sexual orientation. Game jams are the epitome of what the gaming industry embodies; social gatherings where passionate game-lovers meet, learn, drink some beers, and use their creativity to create something. Based on observations conducted at the 2017 Nordica Game Jam, the social environment and the different interactions jumped out as the key constituents of the event. The diverse and accepting setting embraced everyone, which seemed to act as a stimulus for an exuberant and

playful environment for creativity and innovation. The location for the event was rather large, but nevertheless, groups of people could be found every either playing on their computers or interacting and testing out ideas. One specific observation at the event that was illustrious was a game workshop, where participants had to create a game with a controller, based on an assortment of provided materials. Participants worked in groups of two and it was clear to see the playful nature of the interactions and how each participant proposed different ways of improving the design of the game. The interplay between the participants (team), the materials, and the time constraint creates an emergence of creativity and originality in the games they end up creating. Furthermore, the participants at the game jam naturally accumulate new skills and knowledge from their interactions with other participants, creating ‘aha-moments’ and occurrences of exploration and discovery of new ideas.

#### 5.3.1.2 Interactive Denmark

Interactive Denmark (ID) is likewise a non-profit organization, which is supported by municipalities and regions of Denmark as well as the Danish government. While IGDA can be argued to be more focused on the social aspect and fostering interactions between game developers, ID has a slightly more business-minded attitude in their endeavor to growing the industry and creating economic growth. The overall mission of ID is to accelerate, coordinate and support the development of the Danish game and interactive industries. ID can be argued to play a critical role in gluing the industry together through their various supportive efforts to better the ecosystem. Their primary functions are business development, raising capital, and internationalizing the Danish game industry. Providing startups with early access to a broad network of actors and events seeks to improve the incubation of smaller game studios and stimulate growth. One of the main initiatives ID has created to stimulate growth in startups is their series of ‘Growing Games’ workshops. These workshops function as educational spaces where game developers/studios can acquire knowledge on the business-side of running a game studio. There is a common incentive in the Danish gaming industry to create games for the fun of it as well as for the creative and artistic aspect. This is not a bad thing since it certainly serves as a vital source of innovation for the industry; however, the ‘Growing Games’ workshops provides the actors and game studios with an opportunity to expand their knowledge and take their company to the next level.

In addition to these workshops, they also play an important role in Copenhagen Games Week. ID contributes to planning various different events during the week, all of which serve different purposes. ‘CPH MatchUp’ is a 2-day event for investors, publishers, and Danish game studios, where the individual studios have the opportunity to pitch their products and company to international investors and publishers. This acts as an effort to bring capital and expertise to the Danish gaming industry and allow game studios the necessary assets to generate innovation performance. Furthermore, ID is responsible for ‘Game Developer Talks’ where representatives from the big game studios in Denmark share their knowledge and expertise, as well as ‘Roundtables’; a roundtable breakfast for peers in the game developer community to share and strengthen knowledge.

### **5.3.2 Universities/educational institutions**

The universities and educational institutions are also significant providers of the supportive structure for the innovation ecosystem as a whole. They serve as the authority that contributes to developing skilled human capital to the rest of the ecosystem – both artistic and technical. This entails transferring information and research into education programs, stimulating knowledge creation and creativity for the students. In Copenhagen the primary suppliers of human capital to the industry is DTU (Technical University of Denmark), KU (Copenhagen University), ITU (IT University of Copenhagen), and the Royal Academy of Fine Arts. On top of that, the Danish government has created a specialized program for game development called DADIU (The National Academy of Digital and Interactive Entertainment). The DADIU program is a collaboration between the different universities and art schools in Denmark that extends over a full-time semester in the fall.

Much like the individual game studios have an innovation process for their game development, universities can also be argued to have an innovation process - a process of creating knowledgeable and innovative individuals that subsequently progress into the industry to innovate. Therefore universities also have a circular nature to their innovation process and an interrelation to the aspect of time. In this case the circular pulses occur in periods of 2 or 3 years depending on the university degree/program. Within this span of time there are a number forces that either contribute or stand in the way of innovation emergence. If we were to break it down, universities are made up of several different elements, including

the physical facilities, learning equipment (computers, whiteboards, etc.), faculty and the actual students. It is in the interplay between these elements that things emerge. For example might the assemblage of a professor, a white board, and a student produce an agency of molding the student's knowledge and critical thinking. Overall, the academic institutions have a heavy influence on the foundation for the rest of the ecosystem's innovation performance.

### **5.3.3 Funding/venture capital**

An essential mechanism for enabling innovation to occur is capital. With no money, actors and game studios won't have the necessary resources to generate innovation. This is why funding and venture capital firms serve as a catalyst for innovation in the ecosystem. Two ways in which actors or game studios can raise money is either by scraping the money together from savings and loans or through funding institutions (public/private). In the Danish gaming ecosystem there are three different options when it comes to acquiring capital; each with different motives for investing. On one end of the spectrum there is Dansk Filminstitut (DFI), which is a public institution that was established primarily to promote film culture and film making in Denmark. However, the organization also aims to promote game production and culture in the Danish gaming industry. This is primarily accomplished by funding projects and early-stage startups in the range of DKK 75.000 and DKK 1.5 million. DFI accepts applications 3 times a year and have a processing period of 4 weeks (Det Danske Filminstitut, n.d.). Apart from DFI, there is the option to seek money from the investment company CAPNOVA, which functions as partially public and partially private. The usual size of investments secured by CAPNOVA start out between DKK 1 to 2.5 million and can be followed up with capital injection up to DKK 6 million (CAPNOVA, n.d.). On the opposite end of the spectrum from DFI, Nordisk Film (NF) recently established a new business unit investing in Nordic game studios targeting global consumers. NF's motive for investing is much more business-oriented compared to DFI, who in most cases will fund projects that contribute to the cultural growth/development of the industry. Venture capital firms are important in sustaining a thriving innovation ecosystem, as they to a large extent control the flow of resources through the system.

## **5.4 When, where and how is innovation created?**

The above empirical analysis should by now have assisted the reader in understanding the complex nature of the Danish gaming ecosystem. The analysis started by describing the reality of the different actors within the industry, slowly moving layers out and describing the reality of the individual game studios, finally to highlight the external organizations and how they function as supportive structures for the ecosystem as a whole. All these separate parts of the system are breeding grounds for innovation in the distinct ways they interact with other parts of the ecosystem. Overall there are two supporting factors for innovation; one being the complete innovation ecosystem that works as a vital structure for enabling the emergence of innovation to happen, and the other being the different actualizations of what the system does – if innovation is an emergent property of the ecosystem, then it is not the complete ecosystem that creates the innovation, but rather parts of the system that temporarily combine to create something. The ecosystem creates what Bennett would define as agency of assemblages in which the innovation emerges from.

The path to creating an innovative product in the industry usually goes through some kind of process that the individual game studios settle on. For a company like Triple Topping Games this process extends over 3 months, whereas SYBO Games employ a 13-19 month process; however, although they differ in time, the inputs and forces that go into creating an innovative product will be very similar. Forces are also considered an ‘input’ to the process, as different forces such as time, culture, relationships of power, and symbolic language all have an influence on the process – either as an opportunity or as a constraint. An abundance of actors and forces lead to an agency of assemblages, where the interaction between the different elements contribute to certain emergent properties. The assemblages can be argued to be small hotspots of interactions where the combination generates something. It could be the assemblage between a game artist, her paper and her cup of coffee that leads to the emergence of a creative new character for a game, or it could be the assemblage of Astrid, a repertoire of previous experience, and an email from an external actor in the industry that generates the emergence of an innovative new monetization/business model.

The emergent properties are not limited to the internal innovation processes in the game studios, but can also come from other parts of the ecosystem. As previously noted, an

assemblage of a professor, a whiteboard, and a student can lead to the emergence of creativity and knowledge. Similarly, game jams have been described as important hotspots for creativity and innovation. An example of this could be an assemblage of a game jam participant, a beer, and a second participant. While this has nothing to do with the creation of a game, the social interactions in the tension field between being sober and tipsy surely does something to the creative mind of people – a tension field that potential results in the emergence of innovative ideas. Innovation can in certain cases be the genius of a single person; however, most likely it is the assemblage of several different actors and forces that are the roots of the emergence.

# Chapter 6: Discussion

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The following section serves the purpose of elaborating on certain parts of the analysis and combining it with the theory. The researcher has picked parts of the analysis that were particularly interesting to elaborate on to further the understanding of the innovation ecosystem.

## **6.1 Capra's principles of ecology and the gaming industry**

Fritjof Capra has been mentioned quite a few times in this paper; however, that is due to his extensive work on ecoliteracy. This section aims to bring the findings into the discussion in combination with parts of the theory by Capra.

### **6.1.1 Networks**

As described in the theoretical framework, Capra speaks of networks within networks that communicate with one another and share resources across their boundaries. This also became apparent from the research conducted on the Danish gaming industry. Especially the smaller indie-companies showed this tendency, as they are more reliant on the network around them. The empirical findings painted a picture of an open network where there was plenty of willingness to help each other out - both in terms of sharing knowledge, but also in terms of sharing resources. Knowledge is constantly shared across networks, which contributes to building competencies across the ecosystem. Although slightly more robust and bureaucratic, the larger organizations also communicate on a regular basis by sharing knowledge and ideas. This mechanism of the ecosystem facilitates a build of competencies, strengthening the resilience in case of changes or disruptions to the environment.

### **6.1.2 Cycles of the gaming industry**

Another one of Capra's principles of ecology is the concept of cycles. The various entities in the ecosystem operate a wide range of different innovation processes. These innovation processes are argued to serve as cycles that the individual game studios function around. Triple Topping Game runs a 3-month innovation process, whereas SYBO Games runs a

process that can extend over 19 months. This difference in processes naturally alters the individual game studios' relation to time. The same goes for academic and funding intuitions, where the academic institution run cycles of either 2 or 3 years, whereas the funding institutions run an application process of e.g. 4 weeks. In order for the ecosystem to sustain itself during this period, it needs to feed on continual flows of matter, which could be resources that go into the innovation process, such as human capital. If a system doesn't get this continual flow of matter, it creates negative feedback loops in an attempt to balance out the deficiency in matter. This could be a significant resource (such as software) that a game studio needs in order to sustain their innovation process.

### **6.2.1 Dynamic balance of the innovation ecosystem**

In order for the ecosystem to sustain itself and support the emergence of innovation activity through the agency of the species in the ecosystem, the system utilizes different mechanisms to stay in balance. The empirical analysis highlighted the complex functioning of the innovation ecosystem revolving the gaming industry in Copenhagen as well as exposed some of the major deficiencies. One of such deficiencies is the lack of skilled technical human capital in the industry. This was also a shared opinion by the interviewees, as both Astrid Refstrup and Thomas Lund alluded to this in their interviews. Thomas mentioned the lack of experienced game designers and programmers in Denmark, leading SYBO Games to recruit from other countries. Large game studios like SYBO run such complex projects and operations that their demand for skilled technical people naturally is higher. The Danish educational system simply isn't cutting it when it comes to producing sufficient technical talent, causing a lack of supply to the industry. And when skilled technical people do come out, they are usually quickly snatched up by the large studios, leading to a trickle-down effect on the rest of the industry. For that reason it becomes hard for smaller game studios to acquire talent. Thomas mentioned that talented people in Denmark either have a skillset from a different company that doesn't necessarily fit what SYBO does or they are already hired by someone else; leading them not to 'steal' them away. Astrid explained that Poland and Germany educate a lot of good people and the industry in Denmark therefore recruits from there instead. This illustrates that the lack of talented technical people leads to a negative feedback loop in the ecosystem, causing it to self-regulate by hiring people from other countries and thereby balancing out the deficiency.

Another example of the ecosystem's ability to adapt to deficiencies in the environment is in relation to the sharing of knowledge and competencies. Astrid and her gaming studio Triple Topping Games serve as a good example of this, as they are a lot more reliant on their network compared to a large company like SYBO. As mentioned in the analysis (section 5.2.1), the nature of Triple Topping's operations requires Astrid, Simon and Andreas to be versatile in the competencies and skills they possess in order to create a game. However, Astrid noted that in case they were struggling on a project and needed extra resources to finish it, they had the possibility of hiring other studios that they already had a relationship, rather than having to hire freelancers. Thereby the negative feedback loop of the lack in resources causes the ecosystem to adapt by hiring people from elsewhere. Furthermore, Astrid and the rest of the guys all come from an academic background in game development and thus don't have the skillset for everything. They therefore pull on outside knowledge and advice, either from other game studios or from business mentors, in order to balance out the deficiency.

# **Chapter 7: Conclusion and reflections**

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The final chapter of this research rounds off the thesis by highlighting the most significant findings and reflect on the implications for further research on innovation ecosystems.

## **7.1 Conclusion**

Nature contains some of the most advanced and intricate designs that make up this world – designs that can serve as valuable frameworks to solve some of the most complex problems. The main object of this research was to contribute to the field of innovation ecosystem theory by investigating the innovation ecosystem revolving the gaming industry in Copenhagen. As I expressed in the introduction, the constantly changing and dynamic global economy requires organizations, cities and nations to continuously re-invent themselves and adapt in order to stay competitive and generate economic growth. While it can be argued whether or not the financial crisis of 2008 is completely over, there is a tremendous need for jobs in today's economy due to the rising population and an increased life expectancy. But what exactly is the best approach to creating economic growth and development? And how do we do it in a sustainable manner? I argue that cities and nations need to change their underlying assumptions about how to approach economic development and to look no further than nature's intricate designs in order to create more sustainable and competitive cities and nations.

Richard Florida's publications on what he calls 'the Creative Class' in 2002 sparked a great deal of debate and has been criticized by numerous scholars for his claims on developing economic growth. But the fact of the matter is, that as the society has moved from an industrial society to a knowledge society, competitive advantage is decreasingly contingent on the possession of raw materials, but rather the possession of people and organizations that produce knowledge-intensive work. Knowledge isn't just something that is produced by scholars and used by the general public, but rather something that is reflected on and combined in different ways to create new competencies, improving the prospects for innovation. Since innovation is widely believed to be the primary source of wealth generation

in today's economy, it has become a central objective of cities and nations to create flourishing innovation ecosystems. In order for nations to appropriately create and nourish these innovation ecosystems it is first and foremost important to understand the complex and dynamic functioning of them. That is what this research aimed to elucidate, by answering the following research question:

*How does the innovation ecosystem revolving the gaming industry in Copenhagen contribute to generating innovation?*

Furthermore, the research also aimed at answering two sub-questions in the process:

- What components are necessary to potentialize an innovation ecosystem?
- How does the dynamics of the innovation ecosystem enable innovative performance?

In order to answer the stated research question, the investigation took its point of departure in four cases within the industry. These four cases were chosen based on a maximum variation sample, in order to get a more complete picture of their individual relationships and interactions with the ecosystem - thereby increasing the chances of being able to generalize on a broader population of the gaming industry.

The empirical findings illustrated a young industry with strongly tied networks and relationships, and it became clear that a high level of interaction, especially between indie developers, characterizes the industry. Indie-developers (such as Triple Topping Games and Triband) are heavily involved in whole milieu around the industry, participating in game jams and numerous social events. For the majority of these companies, the social aspect and the interactions they have with the revolving ecosystem are vital for them to sustain their business and innovative performance. Not only because they enjoy the social aspect of the events, but also because a great deal of the ideas and knowledge accumulated from these events (e.g. game jams) are stored in the head of the participants, potentially being turned into products through their individual game studios. Furthermore, the smaller game studios illustrated a tendency to help each in case there was a lack of resources; hiring each other instead of hiring freelancers. Larger companies like Flashbulb Games and SYBO Games can be argued to be much less reliant on the ecosystem as a whole, due to the fact that they have built up their

own little internal ecosystem and thus don't have a need to outsource. They do however pull on the network for knowledge-sharing and professional sparring with other actors in the industry.

As noted in the empirical analysis, overall there are two supporting factors that contribute to innovation ecosystem; one being the complete innovation ecosystem that works as a vital structure for enabling the emergence of innovation to happen, and the other being the different actualizations of what the system does. This means that the structures that make up the entire ecosystem function as supporting structures for the system's capacity innovate. Universities are an essential part of the structure of the ecosystem, as they are responsible for producing skilled and talented human capital that subsequently progress into the individual game studios to innovate. Funding institutions and venture capitalists play a vital role in supplying startups with capital, which subsequently goes on to generate jobs and provide the startups with the necessary resources to run their innovation process. Furthermore, venture capitalists contribute with knowledge and expertise to help the startups navigate in the business market. Finally, non-profit organizations also play a structural role in the support of the innovation ecosystem. Non-profits (e.g. Interactive Denmark) can in many cases be argued to serve as glue for the rest of the ecosystem; connecting investors with startups, arranging both social events and professional events as well as promoting the industry on an international level. The social events (such as game jams) contribute to knowledge accumulation and the build-up of ideas - ideas that potentially go on to become innovations for individual game studios. These organizations/institutions serve as the supporting structure, that on a macro-level contributes to the emergence of innovation in the ecosystem.

The other major supporting factors lies in the actual interactions in the system. If innovation is an emergent property of the ecosystem, then it is not the complete ecosystem that creates the innovation, but rather parts of the system that temporarily combine to create something. These parts of the system temporarily combining to create innovation are what I referred to as the agency of assemblages. These assemblages can be comprised of both human (actors) and non-human (forces) to create a specific agency. This could for example be the assemblage of an actor, a computer and a competence that creates an agency in which innovation emerges from. It could also be the assemblage of a student, a whiteboard and a professor that creates

an agency in which a new competence emerges from. This means that the interactions between the different actants (human and non-human) in the innovation ecosystem also contribute to the generation of innovation.

The widespread focus is almost always centered around the innovation process and how this generates innovation. This does seem like a reasonable logic; however, it is often neglected where the inputs of these processes originated. The complex relationships and interactions of an innovation ecosystem illustrates how it contributes to generating innovation.

## **7.2 Validity and reliability**

The use of a pragmatist philosophy of science for this specific research creates some challenges when it comes to the validity and reliability; as pragmatist research has a high likelihood of creating bias from the researcher. However, I contend that conducting the same type of case study with similar cases will generate very comparable results to what I found. The gaming industry has a high level of entrepreneurship, as it is in the actors' nature to play around, test things and what works. This is a good foundation for an innovation ecosystem where people are willing to share knowledge and resources.

## **7.3 Implications and further research**

The research illustrated the complex nature of innovation ecosystems, where inputs to innovation come from numerous parts of the system. The concept of agency of assemblages also highlighted the interactions with different forces to create an agency of 'something'; however, the research did not go into detail about these interactions and what they specifically mean for the ecosystem on a micro-level. Therefore this is something that could be further investigated. A lot has been said about the emergence of innovation from the innovation process, but while it is argued that the innovation ecosystem contributes to this process in the form of inputs and forces, there is a lot of semiotics and cultural aspects involved as well. Further research into the role of culture in innovation ecosystems therefore seems relevant.

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## Appendices

### Appendix 1.

#### Interview Guide

- Hvad er din baggrund og hvor er du uddannet fra?
- Kan du fortælle mig hvad din virksomhed hedder og hvad I laver?
- Hvem er ellers involveret og hvad er deres baggrund?
- Hvordan ville du karakterisere et innovativt produkt indenfor spilproduktion?
- Hvordan er jeres arbejdsproces?
- Hvad er jeres vigtigste ressource?
- Hvordan ser økonomien ud i jeres virksomhed?
- Hvad er jeres motivation for at lave spil?
  - Forskelle mellem det kommersielle og det sociale. Kan det kommersielle tit være en udfordring for at skabe noget nyt og innovativt?
- Kan du kortlægge samt beskrive de relationer du har med andre virksomheder?
  - Hvilken type relation har du til dem? Hvordan bruger I hinanden i industrien?
  - Hvor meget kontakt har i sammen?
  - Deltager I i game jams, games week og andre events?
- Hvad ser du som nogle af de største udfordringer i industrien?

## **Appendix 2.**

Astrid Refstrup Interview

Vesterbrogade 34  
Tuesday 28/3 13:30 pm

A = Astrid Refstrup  
**R= Robin Sigl**

- 1. R: Vil du være såd og at fortælle hvad du hedder samt din baggrund og hvor du er uddannet fra?**
2. A: Jamen jeg hedder Astrid og jeg er uddannet fra design skolen (KADK) oprindeligt, har en bachelor derfra i visuel design/visuel kommunikation og har været i spilbranchen i 4-5 år. Blev færdiguddannet for halvandet år siden og mens jeg studerede har jeg undervist i spildesign blandt andet på Vallekilde og lavet nogle forskellige startup projekter – det var mest til brætspil – hjælpe publishers af brætspil med at udgive i Kina – lavet noget omkring det. Så har jeg deltaget i en masse af de her gamejams, som svare lidt til hackatons. Så det er ligesom lidt der det hele startede. Det jeg laver i dag er at jeg er meget involveret i communityt omkring spilbranchen. Jeg sidder i juryen til spilprisen og er med til at vurdere hvilket spil der ligesom er de bedste i Danmark og sidder og kigger på alle de kategorier, og det gør jeg også i alle de skandinaviske lande, så jeg sidder også i Nordic Game Award. Så laver jeg Nordic Game Jam som er det største game jam i verden og er en festival, konference og et game jam i ét ligesom, og finder sted her i April og hvor vi har 800 besøgende og ca. 40% er fra udlandet, Europe og USA, primært – ikke så mange fra Mellemøsten og Asien, men det håber jeg vi ligesom får udvidet til. Så har jeg det her startup hvor vi laver mobilspil, one-hand mobilegames, primært til de asiatiske markeder bliver det nok, men de første titler som kommer i år bliver kun udgivet i USA og Europa til at starte med. Det er det jeg laver sådan cirka.
- 3. R: Hvad er det din virksomhed hedder?**
4. A: Den hedder Tripple Topping Games
- 5. R: Udoover dig selv, hvem er så ellers involveret?**
6. A: Vi er tre co-founders i Tripple Topping Games; så der er mig og Simon der ejer 45% og så er der én der hedder Andreas som ejer 10% og laver alt vores lyddesign. Nogle gange har vi en ekstra. Vi regner med at skulle have nogle flere ansatte det næste års tid, så vi kommer op på 6 i December.
- 7. R: Og hvad er deres baggrund?**
8. A: Simon har oprindeligt studeret Nanofysik og er uddannet game designer fra ITU og er programmør. Andreas er også uddannet game designer fra ITU, men

laver primært lyddesign og udgiver også sin egen elektroniske musik og sådan noget.

**9. R: Hvordan ville du karakterisere et innovativt produkt i gaming industrien?**

10. A: Det er utrolig forskelligt. Spilbranchen er meget bredere end man tror. Hvis man kigger sådan helt international på det så vil man for eksempel bruge ordet gaming industri og det vil typisk være firmaer som Dansk Spil som laver lotteri spil og der er der en masse innovative produkter indenfor det, hvordan man bruger users og sådan noget. Den scene der er rigtig stor i Danmark er det man sådan kalder indie-spil. Det er spilfirmaer som Playdead, som har haft stor success med at lave sådan meget smukke og artistiske spil, Inside og Limbo, og et andet firma der sådan meget godt karakterisere hvordan specielt den danske indie-scene er KnapNok Games som samarbejder med Nintendo omkring alternative controllers og den slags. Så er der ligesom sådan en anden fløj af det som de mobil-spil firmaer der findes i Danmark og de er innovative på den måde at de laver deres forretningsmodeller – hvordan tjener man ligesom penge på en gratis app for eksempel. Det vil være firmaer som ??, SYBO og Tactile games. Så man kan sige indenfor hver af de her niches er der jo også forskellige innovative produkter, hvor nogen fokusere rigtig meget på den kunstneriske side og bryder også igennem og får stor succes med det, mens andre fokusere mere på at finde på nye forretningsplaner og hvordan man så kan tjene penge på det. Danmark er nok sådan international kendt mest for den der kreative spiloplevelse og det at bruge spil på en ny måde som man ikke har set før. Et godt spil der kan nævnes til det ville være en dansk udgivelse der hedder XX som stadigvæk ligger i top 50 på US App Store, som er sådan en helt ny måde at tænke spil på mobiltelefonen – det tegner et ret godt billede af hvad det er folk kan i Danmark der er unikt og folk har ikke set den slags spil før.

**11. R: Hvad er jeres vigtigste ressource?**

12. A: Jeg tror det der kendetegner hele spilbranchen det er et utrolig stærkt netværk. Jeg snakker dagligt med folk fra hele verden som også sidder og laver spil, og det er nok det vi trækker allermest på som ressource. Selvfølgelig kan vi nogle skills og noget håndværk og en hel masse ting, men i forhold til det der med at komme til at leve af det, så er det netværket som sådan er vores primære ressource som vi hele tiden hiver ind fra forskellige steder.

**13. R: Hvordan ser økonomien generelt ud i gaming industrien?**

14. A: I spilbranchen i Danmark kan man tjene, der er nogen der tjener vanvittig mange penge, som Playdead, SYBO osv. har million-budgetter og har nok en burnrate på også omkring en million om måneden. Og så er der en del af de her små firmaer, lidt ligesom vores, som starter ud med at lave typisk en egen investering hvor man arbejder gratis i et par måneder – det har vi også gjort. Og så skal man ligesom til at finde investeringer og der starter man måske med at finde investering til 3 år på en 3-4 millioner, hvilket jo ikke er ret

meget til at starte et selskab op. Så økonomien er i høj grad selv-investering til at starte med og offentlig funding som for eksempel DFI (Danske Film Institut) har spilpuljen man kan søge penge til også, hvor man kan søge på per projekt. På den måde er der også mange der arbejder på projektbasis i virksomheder og derfor ikke ved hvad de kan tjene når de har udgivet et spil – det er nok den strategi de fleste virksomheder kører med ”men lad os se om vi kan vinde nogle DFI puljer.

**15. R: Hvad er jeres motivation for at lave spil?**

16. A: Grunden til at vi startede Tripple Topping var fordi vi har været glade for at deltage i Game Jams og godt kan lide den arbejdsproces med at arbejde på hurtige projekter og det er der ikke så mange firmaer der gør, så det er svært at finde en arbejdsplads hvor man kan have det på den måde. Og så startede vi ligesom virksomheden for at få lov til at lave spil der måske ikke tager mere end 2-3 måneder at producere. Så det der sådan har været vores drivkraft var at der ikke var så mange der gjorde det på den måde, men så gjorde vi det.

**17. R: Så hvordan ville jeres normale arbejdsproces se ud?**

18. A: Vi har typisk en brainstormings-fase som typisk tager en dag, hvor Simon kommer med nogle spildesign som han ligesom har gået og fiflet lidt med, nogle forskellige koncepter. Så bruger vi en uge på at bygge en prototype og imens Simon gør det, er jeg i gang med at researche hvad for nogen moneytization-modeller, altså hvad for nogle reklamer vi skal have i og hvordan vi skal tjene penge på dem osv. Så går vi ligesom i produktion og laver appen og så cirka halvanden til to måneder efter så går vi i gang med marketing-fasen, og det gør vi ligesom samtidig med at vi går i gang med det næste projekt også. Vi har det første spil ude her om lidt og er så i gang med det næste imens vi markedsfører det første. Så den er utrolig hurtig i forhold til andre, altså jeg vil sige mange mobil apps tager måske et år at lave og nogen tager længere tid – så på den måde går det vildt hurtigt.

**19. R: Så den typiske arbejdsproces i de lidt større virksomheder, hvordan ville den se ud?**

20. A: Det er selvfølgelig meget forskelligt for hvilket spil, men altså Playdead tager det jo 5 år at udvikle et spil og der tror jeg man skal ind og snakke mere i detaljer men en producer dør, hvordan det præcis ser ud. Man kan sige selve programmeringen tager lang tid fordi de, altså hele det at bygge spillet. Så er der også alt med at justere designet og sådan er en proces der går lidt frem og tilbage undervejs. Jeg tror lidt man kan sammenligne den kreative proces lidt ligesom hvordan man ville lave en film eller en tegnefilm i forhold til at researche hvordan ting skal se ud og så skal man bare, i stedet for at det tager 3 måneder at filme det, så tager det bare 5 år at lave det færdigt.

**21. R: Du snakkede lidt tidligere om at der er forskellige måder at lave spil på – at der er nogle der vælger at gå den lidt mere kreative vej og der er andre der måske fokusere lidt mere på det commercielle. Er der nogen**

**udfordringer i forhold til at skabe noget nyt og innovativt, hvis man går den kommersielle vej?**

22. A: Man bliver meget hurtigt, når man sidder og kigger på for eksempel hvordan man bliver featured på app store, hvordan du tjener penge og hvad det er brugere gerne vil have og sådan noget, så er der mange ”kill your darlings”. Så jeg tror mange spiludviklere i Danmark er lidt bange for at miste den kreative frihed hvis man bliver alt for kommercial, men det kommer også an på hvilket spil man syntes det er interessant at lave. Jeg syntes ikke vi mister noget ved at gøre det, men der er helt sikker nogle i min omgangskreds der syntes det er super ærgerligt at sidde fra starten af og kigge på ens produkt og prøve at finde ud af hvordan man kommer til at tjene penge på et år eller sådan – som ikke ville syntes at det ville være så sjovt.

**23. R: Hvad ser du som nogle af de største udfordringer for industrien i Danmark?**

24. A: I Danmark er en af de største udfordringer at folk ikke tør at søge om penge. Vi er meget fokuseret på offentlig funding eller den eneste sådan halv-investor der er, som er både halv offentlig og halv privat, som hedder Cap Nova. Folk er meget fokuseret på at det ligesom er det man kan og folk kigger ikke særlig meget ud og kontakter eksterne investorer. Det syntes jeg helt klart er en udfordring fordi det ender med at folk arbejder for deres egen opsparing og deres eget hjerteblad og arbejder nogle gange 3 år og så ender de med ikke at tjene penge, og så ender det med at blive lidt en bitter og sur proces og så starter man forfra igen. Så jeg tror at vi har en mega stærk industri som kører rigtig meget på alle de der kreative kræfter, men jeg tror den største udfordring er at turde at tage skridtet videre og tænke forretning i det også.

**25. R: Er det så fordi at man ikke tør eller fordi at der simpelthen ikke er nok investorer?**

26. A: Jeg tror helt bestemt der er nok investorer. Det er et af de hurtigst voksende markeder overhovedet – Danmark har haft en stigning i indtjening i spilbranchen på 200% siden 2009, så det er ikke fordi det er et marked der er i stilstand og der er en masse investorer til det, jeg tror bare vi mangler at gå ud og banke på dørene og finde de der penge.

**27. R: Nu siger du der er mange kreative folk. Kunne det så tyde på at der mangler nogle business folk eller nogen som måske tænker lidt den kommersielle vej på nogle punkter?**

28. A: Nej, jeg tror der mangler at folk snakker om det. I Interactive Denmark som er en brancheorganisation er der fokus på at lave sådan noget der hedder ”Growing Games”, hvor man begynder mere og snakke om hvordan man pitcher og markedsfører sine spil osv., fordi jeg tror også at det er vigtigt at forstå at det der gør branchen stærk er de kreative kræfter. Større firmaer som Playdead hiver forretningsfolk ind og har brug for det, men jeg tror med de små spilproduktioner og med den hastighed og sådan noget det er, der tror jeg ikke altid det vil være en styrke at have en til at sidde kun med

forretningsplan, fordi alt er ligesom meget meget... det er meget én stor proces hvor man hele tiden integrerer og flytter ting frem og tilbage. Jeg var til et interessant panel i sidste uge hvor David Helgason, som har startet Unity – ham må du også have stødt på, ellers i hvert fald tjek ham op – som bare sagde at vi mangler ikke flere business folk i branchen, vi mangler bare at folk i branchen tør at lave business. Det synes jeg siger meget at lige præcis ham siger at vi behøver lige pludselig ikke at ansætte en ekstra til det, men du skal bare begynde at gøre det – det hæfter jeg mig i hvert fald meget ved, for det tror jeg ellers meget er spilfirmaers egen idé at ”det her ved jeg ikke noget om, så det skal jeg nok bare hyre en til det” og det er nødvendigvis ikke rigtigt – måske du bare skal begynde at læse nogle flere bøger om det.

**29. R: Nu kunne jeg godt tænke mig hvis du, på dette stykke papir kunne tegne alle de samarbejdspartnere/virksomheder eller organisationer i har relationer til.**

30. A: Hvis vi har Triple Topping Games i midten, så har vi DFI (Dansk Filminstitut), det er funding. Så har vi Cap Nova, som er investor. Z play som er publishers i både US og EU. SK telekom som er publisher i Kina. Game Analytics som vi sidder på kontor med – der skaffer os statistik in-app, dvs. de fortæller os hvordan vores spillere opfører sig inde i spillet. Så har vi Unity Technologies, som både er den engine vi laver spillet i, men også dem vi får vores reclamer fra. Derudover har vi 4 Channel som laver marketing. Vi har også nogle mentorer som vi arbejder med – folk fra forskellige større virksomheder i Danmark som vejleder mig omkring vores forretningsplaner og vores produkter osv. Vi samarbejder også med nogle andre indie-firmaer – bl.a. Triband, Lovable Hat – dvs. vi nogle gange hyre hinanden ind hvis vi har travlt på en opgave (i stedet for at hyre freelancers).

**31. R: Interactive Denmark, har i nogen kontakt med dem?**

32. A: Dem har vi også – dem arbejder jeg også for. Så har vi også Producent Foreningen. Så kan vi også tilføje IDGA, som jeg er formand for. Så har vi nogle Localization firmaer, som er dem der oversætter for os.

**33. R: Universiteter, er det noget i trækker på?**

34. A: Nej, overhovedet ikke. Det er mere bare venner der arbejder der og sådan noget.

**35. R: Og det er ikke sådan at i bruger noget research fra universiteter til når i skal lave spil?**

36. A: Nej. Problemet ved vores uddannelsessystem i forhold til spilbranchen er at det bare ikke er særlig godt. Det kommer nok om 10 år eller sådan noget...

**37. R: Hvad føler du der mangler?**

38. A: Der mangler at blive uddannet dygtige nok programmører. Der mangler også en forretningsdel som ikke er på CBS, men som er i samarbejde med dem

der sidder og laver spillene. Der bliver forsket rigtig meget i hvordan spil kan bruges som det her gyldne læringsværktøj, som om ”spil kan alt”, der måske i virkeligheden fjerner lidt fokus for hvad det egentlig er for en forretning vi opbygger. Så selvom man selvfølgelig har læst en masse litteratur undervejs, så bruger jeg det ikke, det er ikke det jeg trækker på i dag. Det jeg trækker på i dag er helt klart netværket og snakke med folk der har gjort det. Det der er interessant med alle de her mennesker man snakker med har jo ingen uddannelse – så på den måde tager det jo også længere tid før man begynder at trække på det.

**39. R: Det her med at der ikke er dygtige nok programmører, bliver der så også trukket på det internationalt fra folk som kommer fra København? Er der mangel på programmører i Danmark?**

40. A: Ja, der er mangel på dygtige programmører og grafiske designere, så dem henter vi... Polen uddanner rigtig dygtige folk, så der er en del fra Polen der tager herop. Der er også en del fra Tyskland, men der er stor konkurrence fordi spilindustrien i Tyskland er kæmpestor, så de suger også mange op. Men Polen er et rigtig godt sted at hente folk ind. Så laver man jo også ret mange samarbejder med folk som sidder et andet sted i verden. Du tager bare din computer med og som eksempel så sidder min partner her ikke lige nu fordi han er et andet sted at arbejde – det er det som er så unikt.

**41. R: Hvis vi lige kigger på kortet du har tegnet, hvem trækker i så mest på?**

42. A: Hvad kan sige, der er jo nogen som... Hvis jeg nu lige laver en cirkel her på alle dem som er direkte involveret i at vi ligesom kan komme til at tjene penge – så er det som som giver os, eller dem som vi bliver nød til at samarbejde med – vi kan for eksempel ikke tjene penge på reklamer uden at vi har et firma der propper reklamer ind i spillet. Publishers får jo for eksempel også penge for det vi ligesom... Når vi tjener penge så tjener de jo også penge. Investorer tjener også penge når vi har et overskud – så går der måske lang tid før det kommer, men når der kommer et engang, så er det jo også dem der tjener penge. Ellers er resten dem man ringer til hvis man ikke ved hvad man skal gøre og man ikke ved om denne her publisher er god eller de (4 Channel) og de her (Unity) også leverer det man har betalt for. Nogle gange kan marketing jo godt være på en million for et år og så er det jo meget interessant for nogle at vide om der er et firma som skal leve det.

**43. R: Så andre virksomheder (spilproducenter) eller hvad kan man sige, konkurrenter i princippet, samt Interactive Denmark og IGDA er ligesom nogle man kontakter hvis man har brug for at spørge til råds?**

44. A: Ja, det er det.

**45. R: For eksempel DFI (Dansk Filminstitut), er det nogen som i bruger i kun til funding eller er det også nogen i bruger til at samarbejde med i forhold til film? Det sker jo nogle gange at der er nogle collaborations med filmindustrien.**

46. A: Der er nogle tværmiljø puljer som ikke er interessante for os, men som er mere interessante for sådan nogen som Triband, som måske laver lidt mere eksperimentelle ting. Jeg bruger dem også personligt fordi man kan få funding til at tage til konferencer og være med til at udbrede den danske spilindustri, så jeg ikke altid selv skal betale min egen billet rundt i verden – jeg skal til Abu Dhabi her i Maj for eksempel og tale om diversitet og inklusion i spilbranchen og de havde ikke hele fundingen dér, så jeg har fået noget af fundingen fra Dansk Filminstitut. Så de kan ligesom også hjælpe en med at udbrede sit netværk.

**47. R: For lige at snakke om det her med diversitet, hvilken form for diversitet føler du der er behov for at man kan skabe noget nyt og innovativt?**

48. A: Lige nu er problemet med branchen at, der er okay med kvinder i branchen, det er ikke sådan fordi vi er flest – jeg sidder for eksempel eneste kvinde på vores kontor – men det som jeg ser som problemet, er at kvinderne er grafikere og mændene er programmører. Der tror jeg nogen gange vi ville kunne gøre meget hvis man i Danmark for eksempel blev bedre til, simpelthen i uddannelsen at målrette programmeringsstudier også til piger. Hvis du går ind og kigger på alle store danske uddannelser hvor det har noget at gøre med programmering, så er der kun billede af mænd – lur mig om der ikke er en enkelt pige på studiet de kunne have taget et billede af. Så der ligger rigtig meget i at blive ved med at løfte den. Så er der noget andet der interessant – jeg var på game developer conference i San Francisco sad jeg også i et panel omkring diversitet på grund af Nordic Game Jam som jeg jo laver, og man kan sige i Danmark er vi gode til at inkludere kvinder og vi er også gode til at inkludere folk af en anden seksualitet og det er jo ikke fordi game jam gør så meget, men det er jo bare sådan Danmark er (kultur), og lige pludselig er der en der spørger ”hvad så med folk fra en anden religiøs baggrund end jeres egen?” – der er ingen muslimer og der er heller ikke nogen åbenlyse kristne der deltager i vores game jam og der er meget meget få folk som kommer fra helt andre brancher der deltager. Der kunne vi måske godt blive bedre til i spilbranchen at favne kulturelt mere bredt end vi gør i Danmark. Så det er også noget vi begynder at kigge på til vores game jams, at vi begynder at invitere nogle fra Kina og Korea og Mellemøsten og Israel osv. for at få de input på, hvad der er et godt spil og hvad der er interessant. Det er jo klart at lige så snart der kommer nogen der har et helt andet syn på tingene, så opstår der jo også nye interessante idéer og det kan også være med til at åbne nogle nye markeder. For eksempel vil vi helt vildt gerne ind på det kinesiske marked og jeg kender ingen ting til hvad folk syntes er fedt i Kina, fordi jeg har bare aldrig snakket med nogen der spiller spil i Kina. Der kan sådan nogle events hvor man ligesom får hevet eller inviteret nogle udviklere fra Kina til Danmark give helt vildt meget til netværket. Så imens at vi er helt vildt gode til at have alle de her kvinder og folk med forskellige seksuelle baggrunde og alle de her slags ting, så er vi rigtig dårlige til den kulturelle del. Så det er sådan noget der også skal arbejdes på og som der også bliver arbejdet på, men det tager lang tid og i spilbranchen er der jo stadig mange steder hvor de kämper med bare at få kvinder accepteret i branchen. I Danmark er det jo nemt, men det er ikke fedt at være på konference i Polen eller Istanbul eller i

Rusland, når man er ene kvinde og ingen tror på man er direktøren. Der er mange ting man kan tage fat i dér. Vi har også lidt et image af at være nogle nørder der drikker cola eller sådan noget.

**49. R: Men sådan i forhold til diversitet i professionel baggrund, så er der rimelig god diversitet?**

50. A: Ja, det syntes jeg. Også fordi det er jo en spændende branche så der er også mange der bare skifter spor på et eller andet tidspunkt og ligesom af underlige veje er endt op i spil og som kommer andre steder fra. Jeg syntes også at når jeg er ude og snakke med de forskellige virksomheder i Danmark, altså folk kommer fra meget forskellige studier – det er ikke sådan så alle har gået på ITU, der er også folk fra DTU og folk som har taget animationsskolerne eller designskolerne og uden uddannelse osv. Så på den måde syntes jeg vi er gode til at samle op alle steder fra uddannelserne af.
51. A: Når jeg snakker med mine venner som arbejder i andre industrier, det der med at vi (i spilbranchen) mødes ikke bare på konferencer, men vi drikker også øl bagefter og vi rejser rundt til hinanden – jeg rejser i hvert fald to gange om måneden og arbejder enten på kontorer andre steder fordi det er spændende eller er til events andre steder, som ligesom gør at jeg er i en underlig proces hvor jeg føler jeg altid er sammen med venner og laver noget arbejde. Det er meget flydende fritid, arbejde, forretning.

**52. R: Så du rejser også ud for at udvikle dig professionelt?**

53. A: Ja, altså jeg tager både rundt til game jams – det gør jeg måske fire gange om året sådan cirka – og så er jeg så på de fleste konferencer som er i Europa og et par i udlandet længere væk. Nogle gange laver jeg også det hvor vi bytter kontor med folk, så jeg kan godt lide at sidde og arbejde i Berlin og jeg syntes også det er fedt at arbejde i Paris fordi der er nogle virksomheder dernede jeg syntes der er spændende. Jeg tager også nogle gange til Hamborg og så skriver man bare og spørger sådan ”hey, må jeg ikke komme og sidde hos jer, fordi lige nu sidder jeg og laver det her, så det kunne være meget fedt at sidde med et firma der gør det.”

**54. R: Så det er meget normalt?**

55. A: Ja og der findes også det der hedder Travelling Programmer, som altså bare er folk som bare rejser altid og har sådan en nomade livsstil. Det tror jeg ikke der er ret mange andre industrier hvor der er folk som egentlig ikke bor nogen steder.

### **Appendix 3.**

#### **Interview with Thomas Lund – Head of Production at SYBO Games**

Interviewee: T = Thomas Lund

**Interviewer: R = Robin Sigl**

1. T startede med at forklare hvem der tager jeg af hvad og hvilke relationer han har med at gøre: VI har jo i forhold til kontakterne udadtil så, Bodie og Sylvester, de kører sådan "founder kontakten" som jo spænder super bredt helt ud i XX i USA til XX og hvem der nu ellers er på konference og founder niveau i Free-to-play space. Mathias, vores managing director kører kontakten på forretningsniveau, så det er jo alt sådan noget som Apple, Google, hvis der er nogle andre studios som vi snakker med i forhold til investeringer eller pictures eller samarbejde på praktisk niveau. Så er der så mig som kører produktion internt - så det er jo mere i forhold til mere konkrete partnerskaber. Nu har jeg jo så selv kørt min egen spillevirksomhed før i 11 år, så jeg har jo også en kæmpe kontaktnetværk , men i min dagligdag bruges det ikke. Så vi har sådan lidt en bred kontaktflade med forskellige mennesker, istedet for at der er én som sidder og tager det hele. Så jeg kan kun danne et mindre billede af min del.
2. **R: Det er bestemt også helt fint. Hvad er din baggrund og hvor er du uddannet fra?**
3. T: Den super korte version er at jeg var næsten færdig med min fysik/datalogi/astronomi uddannelse fra Københavns Universitet, hvor jeg så ligesom blev enig med mig selv om at jeg skulle ikke være gynmasielære. Så jeg gik så sammen med et par andre og så lavede jeg min første virksomhed inden jeg var færdig - så jeg droppede ud efter fire et halvt år for at starte min egen virksomhed. Fra den tekniske side har jeg primært kørt egen virksomhed i webbranchen i IT sikkerhed, jeg har været i healthcare på national niveau og på regionsniveau, som konsulent. Så på et tidspunkt så gad jeg ikke rigtig det mere og så lavede jeg min egen virksomhed igen, som på nuværende tidspunkt hedder Serious Games, der kørte udvikling for den amerikanske flåde, for nogle amerikanske hospitaler, for noget her i Danmark også, for at finansiere noget spiludvikling - så det gik lidt frem og tilbage. Så på et tidspunkt så landede jeg så en stor kontrakt med Gamesworkshop og lavede turbaserede strategispil på Warhammer, op til for et par år siden hvor jeg så ender her. Så en god bred baggrund fra lang tid.
4. **R: Man kan sige nu ved jeg godt hvad i laver hos SYBO, men hvad er ligesom jeres arbejdsproces? Hvor lang er den og hvordan ser den ud?**
5. T: (Thomas viser mig deres process på en præsentation) Det som vi kører med lige nu, det er at vi kører en cyklus som ligner meget en finsk og en tysk model, hvor det vi kører er en tragt-model, hvor laver konstant prototyping - vi har råd til det og vi er en størrelse nu hvor vi kan have konstante prototype teams kørende og sidde og innovere på det. Så de sidder og kører koncept prototyping på alle mulige mærkelige idéer og har sådan et vindue på 5 uger til

at sidde med en eller anden idé og så se om der et eller andet koncept som holder. Det kan godt være de finder ud af at det var sgu en meget god idé, men det er ikke særlig sjovt at sidde og spille. Så den proces foregår hele tiden og ud af den pulje som ligesom bliver genereret af det her, kan vi så plugge de bedste idéer eller de bedste koncepter og så sige "hvad er spillet i det her?" og "hvordan vil vi lave et spil ud af det her?". Så hvis det nu havde været Subway Surfers eller Brim og så sige at vi tager en runner, det kan være konceptet - idéen kan være at "hey kan man tage et runner-game og bygge combat-elementer på? Det kunne man så prototype og "hey det føles sgu meget godt at man løber ind i tingene end at man skal undvige dem og at man kan slå tingene ihjæl". Den kunne så ryge over i en Pre-production hvor man på et 3 måneders vindue skal undersøge hvordan det er man så vil lave et spil ud af det her, hvad er det for et tema, hvad er det for en visuel stil man kører på, hvad skulle monetization modellen og hvad er progression-systemerne, hvor mange karaktere skal man have, hvordan skal det se ud - hele den del for at kunne komme ud med... vi tror på at det kommer til at koste 5 millioner kroner og lave og vi kan måske, tror vi, tjene 30 millioner og det vil tage os et år og fem mand - "kan i greenlighte det?". Det er vores pre-productions proces som varer ca. 3 måneder - den kører også konstant. Så ud fra dem kan vi plugge spil til produktion og hvor produktionen og størrelsen selvfølgelig vil afhænge af hvad det er for et spil der skal laves, men sådan i runde tal er det måske sådan et sted mellem otte til fjorten måneders produktion som vi ligesom prøver at sige "der er nogle mindre og nemmere spil og så er der nogle der måske er lidt større og risky", så der kan være sådan nogle varierende grader, men vi prøver at ramme sådan omkring ét år i produktion. De spil som vi så producerer ud fra det, de skal så valideres ude i markedet, som hedder Soft Launch, hvor man vælger nogle konkrete lande og så prøver man at skyde spillet ud i dem og så ser man hvordan de klarer sig. I hele den her Free-to-play verden så er der jo sådan nogle forskellige målepunkter man gerne vil have fra sit spil - retention, hvor mange spillere som starter for dag ét og er der så også på dag to, dag syv, dag 30, hvor mange er der tilbage? Det kaldes en retention curve. Der er der sådan nogle tal man gerne skal have som minimum, for at man har et succesfuldt spil - at ikke så mange dropper ud hurtigere end man forventer eller det kan også godt være man ligger på den anden side, så har man "hey, folk syntes faktisk det her er skide skægt, de vil gerne blive der og spille". Det validerer man i en Soft Launch og så skyder man det ud globalt og så kørere man Live Support, fordi det jo ikke er produktet vi laver, det er services, det er underholdningsservices som folk gerne skulle kunne spille i 5-6-7-8 år, hvis vi rammer rigtigt. Alternativet er jo at det bliver mere hylde-agtige premium produkter som fra de gamle dage. Så det er sådan lidt vores proces. Hvis man så skal tage den lidt i mере i dybde, så er der jo også en større og større mængde mennesker der rykker på og alle skal kunne komme med idéer, men der er sådan et team med to personer, en designer og en programør, som kører de her 5 ugers koncept prototyper - der er ikke noget art involveret på det her tidspunkt overhovedet, fordi konceptet er at vi stadigvæk skal have et sjovt spil og hvis det er sjovt når du sidder og spiller med mock-up art, så er det også sjovt når du putter rigtig art på. Hvis du starter med flot grafik, så er det flot grafik, men der er ikke et spil og det kan være at det er et lorte spil når du først engang er færdig, men det ser pænt ud og så er det ikke et fedt produkt. Så vi tager den fra den anden side. Igennem

vores produktion tager vi den også skridt for skridt for skridt og siger at i starten så har vi noget vi kalder for Early Production, som reelt set er det samme team som kører denne her Pre-Production, som smider alt væk og så plukker de tingene som var værd at plukke og så bygger de fundamentet op igen på super solid kode - i Prototyping og Pre-Production så er det alt sammen hacket og man skal bevise at der et eller andet fedt spil. Men det smider man væk og starter forfra, igen, vi bygger en service og vi skulle gerne lave et spil som kan holde i 5-6-ti år og hvis vi starter ud på lorte kode, så kommer vi til at fortryde det mange gange i den livstid. Så vi starter sådan set forfra og bygger det op og så bygger vi også værktøjer til at lave indhold - og det er så der vi begynder at skalere op med artists og level design og den slags, for ligesom at bygge indholdet oven på det fundament som der er der.

**6. R: Hvad er jeres vigtigste ressource?**

7. T: Det er jo et svært spørgsmål.
8. **R: For eksempel kunne det være dygtige programmører, eller et eller andet der springer i øjenene.**
9. T: Det er jo alt. Det er jo team samarbejdet, fordi der er ikke én som bærer en produktion - der er ikke en rockstar som ligesom kører det. Game designere er lige så vigtige som artists, som programmører, så er sådan et eller andet sted det med at man har et team som tror på det og kan drive det.

**10. R: Så det er vel lidt selve jeres arbejdsproces?**

11. T: Altså teamet ejer spillet og kører selv alle beslutningerne, indtil den ligesom skal greenlightes hos os. Så skal de præsentere at de tror på det her og kan forklare de og de her ting, "vil i gerne have at vi fortsætter eller ikke?". Så den validering er der, men det er teamet som selv tager beslutninger om spillet. Det er lidt i modsætning til andre, hvor firmaet er ét spil og hvor det typisk er dem der har startet det som siger "det er det her jeg vil lave", så er det her meget mere at vi ikke ser det som ét produkt, men som mange, og der er ikke én der det eller har den store forkromede vision.

**12. R: Man kan sige nu er i også så store at i kan tillade jer det.**

13. T: Ja ja, men vi er jo fuldstændigt præsenterede i det her og hele denne her proces er jo pissem dyr. Tilgengæld tror vi på at når vi har fået sat os ned og lavet en 5-6-7 prototyper og kigger ned i den pulje og siger "hvilken en af dem er så den bedste?", så kan vi tillade os at smide de 5 andre væk og så plukke den 6 som vi tror på er den bedste. Dét, på den lange sigt, burde give bedre spil og bedre produkter end hvis du kun har én idé og én release.

**14. R: Hvis vi lige vender blikket mod papiret her og har jer i midten her, kan du så skitsere hvem i har relationer til?**

15. T: Vi kan ikke komme uden om at vi har et stort samarbejde med Kiloo på Subway Surfers, så det er jo en co-produktion med Kiloo. Så dem har vi jo så

et godt samarbejde med. Vi snakker rigtig godt med Funday Factory, som ligger over i Århus og laver en del af Lego spillene og vi tænker meget ens og vi tænker meget på samme måde omkring processerne og at lave spil, så der er der også et godt samarbejde. Vi har et samarbejde med 5-6 andre om at lave denne her Nordiske Spil Konference, ikke Nordic Games, men hvad er det den hedder... sidste år var første gang vi lavede den... lad mig lige tjekke, to sekunder... Igennem Interaction Denmark... Game Developer Talks hedder den. Sidste år var første gang vi lavede den, men hvor vi var en 5-6 studios som så gik sammen for at prøve at lave en konference som er udvikler-mindet i København. Det var så stor en success at det nu her gentager sig igen i April, så her har du jo allerede nogle af dem vi arbejder sammen med, som jo så også skal på. Så det er Mood, de ligger her nede under os. Unity Technologies, det ved jeg ikke lige... vi kan godt skrive dem på, vi har jo verdens mest downloadede spil som er bygget på Unity, så selvfølgelig har vi noget dér. Cape som også ligger her nede på anden sal, som vi arbejder sammen med. KnapNok, også en lidt større spiller. IO Interactive mindre, nu er de med i denne her, så nu skriver jeg dem på (med nogle streger) - der er ikke så meget vi har til fælles, men det betyder jo ikke at vi ikke kan arbejde sammen. Hvem er der mere... Playdead. Og så har vi Flashbulb, de er nogle gode drenge. Hvis jeg skulle pege på nogle som vi har mere samarbejde med end andre, så er det Flashbulb fordi de er nogle gode gutter, Cape fordi de også bor hørnede, og Mood samarbejder vi en del med.

**16. R: Kan du lige give dem en stjerne så?**

**17. R: Så i har også noget kontakt med Interactive Denmark?**

18. T: Ja det har vi. Som én af de lidt større spillere som vi er... Jeg bliver også lige nød til at skrive MovieStartPlanet på her. Men de får også lige nogle streger, fordi dem har vi ikke så meget at gøre med. MovieStar, IO og os er jo de tre helt store i Danmark og måske også lidt Kiloo, lad os give dem det. Så der jo sådan cirka de fire som er de store og mange af de andre er sådan ét produkt, ét firma. Vi har en del ting, men MovieStarPlanet, det spil som de laver er jo radikalt anerledes i forhold til os... det er jo chat systemer. IO, PC premium. Cape mere på grund af historiske grunde. Funday laver en del af det samme vi gør og Kiloo laver en del af det samme vi gør.

**19. R: Hvis man kigger på dem som i har mere kontakt med, hvad er det så for et samarbejde i har? Hvad er det i får fra dem?**

20. T: Kiloo der er det jo en decideret co-produktion.

**21. R: Så de er ligesom nødvendige for at i kan lave jeres produkt?**

22. T: SYBO og Kiloo har lavet Subway Surfers - vi opfandt det og de kom ind som publisher og i samarbejde har vi jo lavet dét, som jo er verdens mest downloadede spil. Vi er ved at runde den halvanden milliard installs, så der er jo et naturligt samarbejde her, som kører i co-produktion af Subway Surfers. Vi releaser jo en ny version hver tredje uge, så der er jo konstant samarbejde mellem teams - sammenlagt måske 30 mand som bare arbejder med det.

Funday, det er mere på idé-udveksling og sparring. Mood har vi som subcontractor - vi bruger dem til at lave noget art engang imellem - concept art. Cape det er bare fordi de er nogle venner. Flashbulb fordi de er nogle af de lidt mere seriøse omkring det vi går og laver. Så det er til dels venner og professionelt netværk.

**23. R: Er det fordi i arbejder på meget af det samme og kan sparre eller...**

24. T: Nej slet ikke.

**25. R: Så det er fordi i bare har gode relationer til dem...**

26. T: Vi har bare gode relationer til dem. Du har jo forskellige lag i dansk spil industri. Der er et indie-indie lag, hvor KnapNok de til dels ligger og så et hav af små, hvor det er installationskunst og ikke kommercielle produkter. Så har du den anden halvdel af KnapNok og Playdead og Flashbulb, som laver kommercielle produkter men stadigvæk er uafhængigt af publisherne og større ting. Så har du MovieStar, os, Kiloo, som tjener vores egne penge og også nok til at vi kan have et større studio kørende, men vi er jo ikke indie. Vi er firmaer og har så meget burn og så mange mennesker ansat at vi skal tænke kommercielt på en anden måde end nogle af de mindre. Så har du jo sådan nogle som IO, som er publisher eget, så det er jo styret fra Square Enix i Japan, så de har ikke så meget at sige og skal bare lave Hitman. Og hvis det går godt for dem så siger man fint, men hvis det ikke gør, lukker man bare store studios med 300 mand. Det er noget helt andet, det med at være koblet sammen med en publisher på den front. Så er der sådan nogle som Funday og Cape. De laver konsulentarbejde, dvs. spil for andre og tjener deres penge på den måde, med drømmen om at lave deres eget engang imellem. Men det de reelt er gode til, det er at arbejde for andre, men det er stadig rigtige spil som de laver, hvor som sagt nogle af de her indie og det her med installationskunst ikke er nogen vi har noget at gøre med, fordi det ligger meget langt fra det hvor vi er. Vi bliver nød til at tænke mere professionelt og kommercielt.

**27. R: Sådan i forhold til funding osv., så er i fuldstændig selvkørende?**

28. T: Ja det er vi.

**29. R: Hvad med i forhold til marketing osv., der bruger i ikke andre virksomheder til at outsource?**

30. T: Nej, vi outsourcer ikke rigtig noget - meget meget lidt. Vi har en lille smule nede hos Mood, vi har lidt nogle konsulenter rundt omkring i verden som vi trækker lidt på, men overordnet set klarer vi os selv og hvis vi har behov så hyrer vi ind. Vi har vores egen lille marketing afdeling, vi har vores egen community manager og hvis vi har brug for noget så hyrer vi dem. Og det er jo igen fordi vi har en penge tank som vi selv kan styre.

**31. R: Hvis man så skulle være fræk at sige, hvis hele det her netværk var væk, hvad ville det så gøre for jeres business?**

32. T: Reelt set ingenting. Vi er fuldstændig selvkørende og det er måske til dels også eller har været lidt et problem for os og det er også derfor vi begynder at involvere os mere med nogle af de her initiativer igennem Interactive Denmark. Vi har så travlt og vi er så meget os selv at vi mange gange glemmer at engagere os i det lokale, fordi markedet det er jo hele verdenen og vi har ikke nogen konkurrenter i Danmark, vi har ikke nogen vi er afhængige af - det gør bare nogle gange at man ikke ser de andre. Men det er noget vi skal arbejde på at blive bedre til derude.

**33. R: Så det er blevet lidt et problem idet i er begyndt at tænke for meget i jeres egne baner eller?**

34. T: Nej jeg ser det ikke som et problem... Undskyld vi skal også lige have Viborg Animationsskole på listen her... Det er ikke et problem for os, men det er mere et ønske om at vi også vil give tilbage. Vi ansætter jo en tredjedel af de mennesker vi har her, det er jo Danskerne, resten er jo udlændinge, men der er jo et stort træk og det er derfor jeg kommer i tanke om Animationsskolen, fordi Bodie og Sylvester kommer jo ud af Animationsskolen og vi hjælper dem også den anden vej og prøver at betale tilbage eller ligesom at hjælpe den danske spilindustri. Det er sådan mere den vej jeg ser det, at vi har soliditet der gør at vi kan hjælpe og arrangere nogle ting for de andre, mere end at det er os der har behovet.

**35. R: Nu siger du at en tredjedel af jeres medarbejdere kommer fra Danmark. Hvor kommer de fleste andre fra og hvad er grunden til at i trækker dem fra andre lande?**

36. T: Vi har seksten-sytten nationaliteter, fra over det hele. Jeg tror ikke vi har nogen asiater, det er sådan det eneste vi mangler, ellers så er det lige fra syd Amerika, nord Amerika, det meste af Europa, fra Egypten som jo tæller for Afrika, vi har to russere, vi har nogen fra de baltiske lande, men vi mangler Asien. Og hvorfor? Jamen det lidt hønen og ægget. Nogen af de roller vi hiver ind udefra er roller som der ikke er nogen i Danmark som har erfaring med.

**37. R: Hvad er det for nogle roller?**

38. T: Det er sådan noget som game design indenfor Free-to-play. Det kan være vores community manager, hun er fra England. Der er nogle af programmørerne som kommer ind udefra, fordi dem som vi har lokalt, enten sidder de i nogle jobs allerede ude hos nogle af de firmaer på listen her og så ønsker vi ikke rigtigt at hive dem ud, ellers så har de nogle skillsets fra nogle firmaer hvor de laver spil som ikke ligner vores. Det er der ikke så mange i Danmark der overhovedet gør - Kiloo er nok de eneste som relativt laver det samme som vi gør og da de er samarbejdspartner, så vil vi ikke nappe nogle derfra og bliver nød til at hive udefra. Alternativet ville være at vi skulle hive grønne folk op og lære dem op, hvilket vi også gør lidt, men med det tempo vi har og alt det vi skal nå, så bliver vi nød til at have erfarene folk ind og de findes altså kun i udlandet. Artists er allesammen lokalt - det er allesammen danskere.

**39. R: Hvad føler du så Danskere er stærke på? Dem der bliver uddannet i Danmark**

40. T: Reelt set så er danskerne ikke eller står ikke ud som noget der kan mere end andre - tværtimod så syntes jeg at dem man kan hive fra udlandet er langt mere sultne på at ville arbejde i spilindustrien. Mange danske studerende tager det lidt som et selvfolge at "ja ja, jeg skal nok få et job" eller "jeg skal ikke kæmpe særlig hårdt for det eller vise at jeg er vanvittig god" og der hvor vi er, der vil vi kun have god. Der er der altså desværre mange danskere som ikke er gode nok eller gode nok til at pushe det - jeg ved ikke om det er noget jantelov der holder folk tilbage eller hvad det er, men er der altså bare mange udlændinge som er... sultne er nok det bedste ord.

**41. R: Hvad ser du som nogle af de største udfordringer i industrien i Danmark?**

42. T: Fra SYBO's synspunkt. Der er både fra SYBO's synspunkt og så tror jeg helt generelt. SYBO synspunktet er at Free-to-play mobil markedet som vi sidder i, er for mange vedkommende ikke super sexet af en eller anden grund. Der er rigtig mange der hellere vil lave hard core konsoler, fordi det er sådan de selv sidder og spiller eller det er noget hvor det bliver set lidt ned på at lave mobilspil. Bare sådan noget som at Subway Surfers har en halvanden milliard installs, er jo sådan en... nogle af vores programmører deroppe de siger "hey nu har jeg lige optimeret spillet for tyve millioner mennesker" så de får en federe spiloplevelse med denne her version, fordi det bare kører 5 frames i sekundet hurtigere. Den slags ting dem kan du altså kun få når du er i det her space. Der er et hav af udfordringer og et hav af en volume, som kan tænde folk på den front. Også art-mæssigt at kunne sige "hey denne her dims den vil komme til at blive set af firetyve hver eneste dag - det giver en eller anden form for selvtildelsstillelse også, men det er der ikke mange danskere som ikke kan se det fede i. Det er sådan nok den største hindring for os, at der ikke er nogen i Danmark der gider - eller ingen er måske også lidt hårdt sagt, men der er få, som syntes det er et spændende område og der er vi jo sådan lidt mærkelige, fordi vi skal jo ikke længere væk end Finland hvor det jo er lige modsat - der er det det fedeste at arbejde Supercell og hos Rovio og nogle af de andre hvor man kan komme ind, fordi det er en helt anden form for volume man snakker om. Nå man så kigger på branchen som helhed og på virksomhedsniveau, er det store problem finansiering - der er meget meget få steder hvor man kan få finansieret sine produkter. Det er sindsygt dyrt at lave computerspil og der er meget få som er villige til at investere penge ind i det og fingrene peger sådan lidt begge veje - den er jo selvfolgelig at der er ikke særlig mange steder at gå hen og omvendt så er der heller ikke mange som laver kommercielle spil og for at kunne få penge, så skal man også kunne betale penge tilbage - der bliver man altså nød til at lave kommercielle spil. Så det er sådan en højen og ægget problemstilling, at indtil der er flere der har bevist at man kan tjene penge, så er der ingen som gider at finansiere det fordi de finansiere projekter som fejler kommercielt. Når du først har fået en success, hvis du selv har gravet pengene op eller et eller andet, hvis du så først har fået en success, så har du ikke brug for deres penge - dem som har success har ikke brug for at der er investorer på samme niveau som dem som starter op

med noget. Selv hvis du sad der, skulle du så til udlandet for at finde nogle som vil finansiere større produktioner. Og så er der måske som den sidste større udfordring, men det er så ikke kun den danske spilbranche, det er helt generelt - det er at den digitale markedsføring og de digitale salg- og distributionskanaler som findes nu, Apple, Google, Steam, og selv på konsolerne er der nu digital download. Nemheden i at lave computerspil i de her dage, relativt set i forhold til ti-tyve år siden, gør at der bare er rigtig mange om budet. Volumen af spil der bliver proppet ned i folks hoveder vokser og vokser og vokser, så det at stå ud af mængden og prøve at klare sig kommersielt det bliver mere og mere svært og især når man ikke har større budgetter end det man så kan få i Danmark eller selv kan skrabe sammen. Når der er nogle i udlandet som relativt nemt måske kan få fat i 5-ti millioner dollars og i Danmark kan du måske igennem Cap Nova få to-tre millioner kroner og du skal konkurrere på samme vilkår og samme distributionskanaler, så er du allerede bagud på point. Så det er nogle af de udfordringer jeg ser, at det markede det vokser og hvis man skal tage... jeg så nogle tal hvor, hver dag bare på Apples Appstore kommer der mere end 600 spil om dagen - og ja, de 580 er crap fordi det er kopier eller kloner eller et eller andet som bare har lappet sammen, men du drukner i mængden og det tal det vokser. Så hvordan står du ud og skaber en success?

**43. R: Ja fordi når folk får stoppet alle de her spil ned i hovedet, hvordan vil du stå karakterisere et innovativt produkt indenfor spilbranchen?**

44. T: Det er fandme et svært spørgsmål, fordi hvor innovativ skal man være før man er innovativ og er spil i sig selv ikke innovative? Selv hvis du tager Candy Crush og kloner det og putter katte ind istedet for, så er der jo også en eller anden form for innovation. Behøves man at ændre radikalt meget på tingene før det er innovativt? Det tror jeg faktisk ikke engang.

**45. R: Men du føler ikke at der ligesom er nogle specifikke karaktertræk ved innovative spil, som springer i øjnene?**

46. T: Ikke sådan umiddelbart. Men det er som sagt også lidt svært i forhold til hvad betyder innovation? Det er lidt ligesom at tale om kvalitet, at det favner så bredt og kan indeholde så mange forskellige facetter, at det er svært at pinpointe én ting. Det som ville være innovativt for Playdead for eksempel, de skal lave noget der ligger i Limbo klassen og den type innovation som de bedrager med, er jo én type innovation. Men for selve... meget hårdt sat op, det at lave en side-scroller med nogle puzzle elementer, det er jo blevet lavet tusind gange før, så det er jo ikke der hvor de har innovertet - så det er jo mere noget stemning og noget setting, en historie som er mærkelig. For... Hvem skal man ellers plukke ud fra listen her... For IO's side når de kommer med et Hitman som bliver releaset som en serie istedet for et enkelt spil, som de nu har gjort med den seneste version, det er jo også innovation. Det er ikke rigtig blevet gjort eller testet i det konsol-marked endnu, selvom spillet måske er det samme, det er levels der er blevet bidt op, istedet for en større version, så er det stadig innovation på den front. For os, at hver eneste dag folk kommer på arbejde her, så innovere de i form af hvad der kommer ind i det næste Subway Surfers - hvordan kan vi skubbe de produkt, selv 5 år efter at det er blevet

releaset, så kommer der hver tredje uge en ny by og hvad gang er der noget nyt, hvor man enten har fået pushet lidt på noget gammelt content og polished det op, eller kommer med et sted man aldrig har været. Så det er super svært at pinpoint hvor eller hvad der er innovation. Hver eneste releaset spil vil jeg jo sige er innovativt.

47. R: For lige at snakke om skoler igen. Bare generelt med skoler, er der nogle i trækker meget på?

48. T: I form af det, så tror jeg det primært er Viborg Animationsskole, hvor vi hiver de fleste af vores artists. Det er så til dels fordi det er der hvor Bodie og Sylvester kommer fra, det er også dem som, hvad er de... 4 eller 5 i verden over de bedste animationsskoler og de har jo, det er ikke kun animationer, de har også 3D art og VFX og 2D koncept tegning, så de laver mange forskellige ting. Der kommer bare nogle vanvittigt gode og dygtige folk ud fra Viborg Animationsskole. Det er nok dér primært, når det er. Nu hyrer vi jo ikke forfærdeligt mange andre danskere, så der er jo ikke sådan et større træk. En del af dem kommer jo fra ITU, som game designer, men det er jo få tal. Jeg tror ikke jeg kan pege på en uddover Viborg, som ville stå ud.

## **Appendix 4.**

Interview med Ole Teglbjærg – Head of Production Flashbulb Games

Interviewee: O = Ole Teglbjærg

**Interviewer: R = Robin Sigl**

**1. R: Hvad er din baggrund og hvor er du uddannet fra?**

2. O: Jeg er uddannet fra RUC i Datalogi og Kommunikation og blev færdig i 2006.

**3. R: Hvad har du sådan lavet efter?**

4. O: Så har jeg startet virksomhed, det var det første jeg gjorde da jeg var færdig sammen med Mikkel og Rune, som jeg også startede det her med. Vi var allerede begyndt da vi studerede, med at have lidt forretning ved siden af og lave nogle ting - vores speciale var også betalt af en virksomhed, for at lave spil for dem, det var sådan noget fysisk noget, lidt kunst-agtigt. Men så startede vi firma umiddelbart efter vi var færdige dør og havde det i 6 år og så solgte vi det til Microsoft, hvor det studie så blev lukket sidste år - Press Play - og så startede vi det her op sammen, den samme kerne af os tre plus nogle kernemedarbejdere.

**5. R: Er der nogen forskel på hvad i lavede før og det i laver nu?**

6. O: Altså lige i starten, der havde vi en lille periode hvor vi sådan ikke rigtig kunne finde vores ben eller hvad man kan sige, vi var egentlig ikke vildt computerspil-fokuseret lige der vi startede - der var hjemmesider, banner-reklamer for folk og sådan lidt alt muligt forskelligt. I virkeligheden så ville vi gerne lave computerspil, det var bare ikke rigtig blevet formuleret, så vi lavede også lidt kunstinstallationer og sådan lidt, det var meget bredt.

**7. R: Og hvem er der ellers er involveret? Du nævnte Rune hvem sagde du ellers?**

8. O: Og Mikkel, Mikkel Thorsted.

**9. R: Og hvad er deres baggrund? Er det også fra RUC?**

10. O: Ja det er det samme ja. Mikkel har så en Datamatikker uddannelse inden RUC, men ellers er det fuldstændig ens.

**11. R: Hvordan ser jeres arbejdsproces ud?**

12. O: Det er jo meget forskelligt fra spil til spil, så det er ikke sådan så vi har en formel vi gør det efter. Så det er svært at sige sådan noget generelt om det, men jeg kan jo prøve at forklare hvordan vi... eller nogle forskellige tilgange vi har lavet. Tidligere, de første 5-8 år, der var det Mikkel eller jeg, som fik en idé eller tog en idé og når vi sådan kastede vores hjerte ind i dét, så var det

carte blanche til at løbe efter det. Man diskuterede det selvølgelig i den interne ledergruppe om det nu var en god idé og sådan noget, men nå sådan "okay vi laver det her spil", så begyndte man at arbejde hen imod dét. Så vi havde to sideløbbene produktioner ved siden af hinanden og når en ene blev færdig så rykkede vi ressourcer over til det andet, og når det andet blev færdigt rykkede vi ressourcer over til det modsatte. Og det har ikke været særligt fokuseret på idéudvikling kan man sige, vi havde skrevet speciale, Mikkel, Rune og jeg sammen, om hvordan man sådan kan strukturere kreativitet og hvordan man kan skabe et kreativt rum som giver mening. Men hovedkonklusionen af det her speciale var egentlig at jo mere struktur man kan ligge ned over det og nu mere systematisk man kan være, jo bedre nærmest - sådan groft sagt. Og det har egentlig været den måde vi har forsøgt at arbejde med det på, så nu har vi haft de der diskussioner, så bliver det meget sådan at vi prøver at opstille nogle rammer som er tydelige. Men så lige for at komme videre, så under Microsoft der blev det mere struktureret, altså vi have lidt samme approach og vi havde en masse idéer, vi skulle bare vælge hvad for én af dem der var bedst, men der er et andet behov i Microsoft, for at køre en masse gates igennem - sådan en greenlight proces, hvor man starter med at pitche internt og tester om folk syntes det er en god idé og hvis folk grundlæggende syntes det er en god idé, så går man rundt til marketingafdelingen og til produktionsafdelingen, testafdelingen og sørger for at alle ligesom er med på den og så mødes man allesammen i greenlight mødet og så skal alle ligesom nikke på én gang og så sidder chefen nede for enden af bordet og siger okay det lyder fornuftigt, gå videre med det. Så er der nogle stages bagefter, som handler om hvordan det så er man kommer videre. I vores tilfælde, der blev vi bedt om ligesom at prøve at innovere lidt i forhold til udviklingsprocessen - der har været sådan en tendens til at prøve at indrage fans og sådan i højere grad og det ville Microsoft gerne gøre, det var de ikke særlig gode til og det er de stadig ikke og det var vi heller ikke gode til på det tidspunkt. Men der sagde de at nu giver vi jer, eller de sagde "hvordan kunne i godt tænke jer at gøre det?" og vi ville gerne lave 3 prototyper. Så vi startede sådan et idé forløb hvor vi havde en masse idéer og så skærer det ned sådan rimelig klassisk og ender med at have 3 koncepter vi danner 3 hold omkring og som så udvikler prototyper, og så lader vi publikum stemme på den som de syntes ville være den bedste - vild dårlig idé, det skal man aldrig gøre, men vi gjorde det alligevel og publikum valgte den jeg mindst kunne lide personligt, men det var jo bare hvad det var. Det ender så med at det ikke går voldsomt godt det spil dér og vi bliver lukket året efter. Tilgengæld så de to andre projekter, det er så faktisk det vi er startet op på - vi her i Flashbulb har taget det éne projekt med os fra Microsoft og dem der hedder Deep Rock Galactic.. eller det spil der hedder Deep Rock Galactic som blev lavet af Ghost Ship Games, de havde taget det andet projekt som ikke blev stemt ind. Så kærligheden har ligesom været der til de der koncepter, det er bare ikke det som publikum endte med at vælge og derfor gik det ikke voldsomt godt. Det bringer mig så til der hvor jeg er idag, det spil vi sidder med idag er egentlig taget med fra Microsoft-tiden kan man sige, i grove træk, fordi det er i virkeligheden et koncept vi har puslet med siden det helt tidligt startede.

**13. R: Hvad er jeres vigtigste ressource? Er det for eksempel at have en dygtig programmør eller er der noget der springer i øjnene?**

14. T: Jeg forstår ikke hvad du mener...

**15. R: Altså jeres vigtigste arbejdsressource...**

16. T: Det er jo forskelligt fra spil til spil. Nogle spil er jo ikke særlig svære at lave teknisk, men som kræver virkelig gode idéer eller en eller anden form for særlig god polish. Men vores spil i det her tilfælde, det er meget meget teknisk, der skal vi have en fysik over netværk, hvilket ikke rigtig er blevet gjort og slet ikke i Unity før. Så det er en accomplishment på det tekniske plan, som vi så kobler sammen med noget grundlæggende godt design og sådan nogle ting. Så lige nu... Tidligere har vi, i vores tidligere firma... Man kommer hele tiden til at blande det sammen, men det er fordi det er én lang historie for mig jo. Tidligere der havde vi sådan en scene hvor, når vi prøvede at forklare hvad vi var, vi er ikke et tech firma, vi er et design firma. Det var noget vi prøvede at fortælle folk, så de forstod hvad det var for en approach vi havde til det. Vi havde ikke så mange programmører ansatte - vi havde mange artists og mange designere og også nogle programmører, men ikke sådan lige så mange som typisk andre firmaer har. Men den approach er vi gået væk fra nu - nu har vi overtal af programmører fordi det simpelthen er motoren i det her.

**17. R: Hvordan ser økonomien ud sådan generelt i jeres virksomhed?**

18. T: Vi er fundet af Nordisk Film, så lige nu ser det meget godt ud. Vi har jo selv skudt penge i det også, så hvis man ser sådan sammenlagt på det, så har jeg jo et underskud personligt, men lige nu er vi fundet.

**19. R: Så det er Nordisk Film?**

20. T: Nordisk Film

**21. R: Så det er ikke Dansk Film Institut? Fordi jeg ved de også....**

22. T: De har også støttet os, men vi er jo også et stort hold nu - de penge rækker ikke så længe.

**23. R: Hvordan ville du karakterisere et innovativt produkt indenfor spil branchen?**

24. T: Helt grundlæggende så er et innovativt produkt, eller det kommer an på hvad man siger og det har du sikker læst i alle mulige bøger, men der er jo incremental innovation og...

**25. R: Radical**

26. T: Ja, så jeg syntes egentlig at selvom jeg ikke kan udestå endnu en Match 3 klon, så må jeg også give dem at de som regel forsøger at putte et eller andet nyt på den der formel som ligesom er proven og bevist. Men altså innovation er jo et mærkeligt hult ord ikke, så for mig at se så er det når jeg får en

oplevelse som jeg ikke har fået før, sådan helt grundlæggende - det må være en af de karakteristikker jeg kan give det. Men altså når man siger det sådan, så tager jeg også en masse væk fra dem som egentlig tager en aller anden proven formel og gør den bare en lille smule bedre og det har jeg egentlig stor respekt for. Der er rigtig meget godt håndværk i det der, det er bare svært at kalde det for innovation.

- 27. R: Nå men hvis vi lige starter med at du tegner jer i midten her, og så egentlig bare dem som i har relationer til i industrien - det kan være andre virksomheder, det kan være personer, andre organisationer, skoler osv.**
28. T: Så kan vi starte tæt på her... Cape og SYBO... Typisk er vores relationer hængt op på nogle personer - altså i Cape der tror jeg vi kender alle nærmest. SYBO har jeg nogen, jeg er ret tæt på Thomas (Lund) for eksempel. Det er kun dansk? Ikke internationalt?
- 29. R: Ja så vidt muligt kun dansk.**
30. T: Logic Artists og Tactile. Nordisk Film er selvfølgelig også en spiller nu må man gerne erkende. Så er der Reto. IO og Kiloo. Setsnail, Bed Time. Er det kun studier vi er ude i her?
- 31. R: Studier, organisationer - det kan være i outsourcer noget til nogen...**
32. T: Så er der også Interactive Denmark og Cap Nova. Freckle og KnapNok. Spilhuset... er det en organisation idag? Hvad er det Hans von der Knutz firma hedder? Det tror jeg egentlig er det.
- 33. R: Vi kan starte med dem her, så kan det være du kommer i tanke om nogen. Ud fra denne her liste, hvem har i så mere kontakt med end andre - hvis du lige sætter en stjerne ud for dem.**
34. T: Cape og Thomas (SYBO) og Asbjørn (Tactile), Nordisk Film, IO. Sådan dér.
- 35. R: Okay og ud fra dem, hvad er det generelt for nogle samarbejder i har? Hvad får du for eksempel fra Cape og fra SYBO?**
36. T: SYBO der kender jeg jo Thomas som du ved, som er produktions mand og det er jeg også, så han har været chef i mange år og der har jeg også, så der har i jo sådan en historie. Så det er meget sådan professionel sparring. Det er det også med Cape - vi har tidligere brugt dem til noget outsourcing og har lavet noget port for os, men nu er det udelukkende professionel sparring det handler om. Freckle der er det noget teknisk vi får ud af det - de har verdens dygtigste programmører syntes jeg. Jeg burde egentlig også have Unity på her, fordi dem har vi også et ret tæt forhold til. KnapNok, det er meget venskab - der kender vi en masse af deres nye ansatte, fordi de kommer fra vores gamle firma. Tactile det er meget business jeg talt med dem om. Nordisk Film det er penge. IO det er den del af forretningen som de andre små danske firmaer de

ikke rigtig har nogen erfaring med - de kender nogle folk som vi godt vil kende eller vi har nogle relationer i Microsoft som, hvor det er godt at kunne sparre med IO om dem. Unity der har vi et meget tæt forhold vi har en del programmører som enten har arbejdet der eller arbejder nu, men som har arbejdet for os - det betyder at vi kan ringe til dem og få hjælpe og vi hjælper dem med at dele noget af vores kode med dem.

**37. R: Så det meget viden i deler rundt omkring?**

38. T: Ja det er det og det er... der er sjældent penge involveret, hvis man kan sige det sådan.

**39. R: Så det er på en måde bare goodwill på en måde, for at hjælpe hinanden.**

40. T: Altså vi har haft... Hov der burde også stå Kogama her... Vi har haft nogle middage hvor vi spiser sammen en række nogle personer fra de forskellige firmaer og snakker om forretning.

**41. R: Så det er ikke rigtig sådan så i ser hinanden som konkurrenter?**

42. T: Nej, altså det eneste tidspunkt det giver mening at tale om konkurrence, så er det når vi konkurerer om medarbejdere og der er der alligevel folk i vores branche som er ret kræsne, så hvis de godt kunne tænke sig at lave et kreativt spil, så vil de gerne arbejde for os og hvis de godt kunne tænke sig at arbejde med mobilspil, så finder de bare et andet firmaer hvor de kan få lov til at gøre det. Hvis de godt kunne tænke sig at lave Match 3 kloner så kan de arbejde hos Tactile. Der er minimal konkurrence imellem os og logikken er jo også sådan fordi folk køber vores spil, så er det ikke fordi de ikke køber de andres eller omvendt.

**43. R: Hvilken form for kontakt har i med Interactive Denmark?**

44. T: Jamen vi kender nogle nogle folk dér. Vi har aldrig sådan været en del af deres forløb eller sådan et eller andet. Vi overvejede det på et tidspunkt, men det er jo egentlig kun for at få nogle penge ud af dem, som vi kunne bruge til marketing, det var grundlæggende det der var vores mål med det. Men altså jeg syntes de gør nogle rigtig fine ting og jeg syntes det er rigtig godt at der er sådan en eller anden samlende struktur, især når man tager til udlandet at der så er en fælles nævner - den funktion syntes jeg de giver.

**45. R: Sådan noget som Nordic Game Jam og Games Week er det noget i deltager i?**

46. T: Games Week er vi en del af - vi holder alle Tech Talks her oppe, så det er vi en del af. Nordic Game Jam har jeg aldrig været med til - jeg har været censor derude eller hvad hedder det, jeg har evalueret produkterne en enkelt gang, det syntes jeg lyder rigtig hyggeligt og sådan noget, jeg tror bare jeg er blevet for gammel og for mange børn.

**47. R: Hvad er ligesom grunden til at i er en del af det?**

48. T: Det er fordi at vi syntes at det er... Der er to sider af det - den ene er at det sådan en filantropisk ting at det er godt at gøre noget godt - vi har et fedt lokale her inde midt i København og vi har nogle dygtige folk som kan dele ud af noget de ved noget om og vi vil gerne være med som en del af det her. Så er der den sådan ret egoistiske del af det som handler om at hver gang at man interegere med de andre firmaer, så er det jo også et visitkort i forhold til at skaffe ny arbejdskræft og det er klart den største udfordring vi har, at hyre godt talent i Danmark - der er simpelthen ikke nok dygtige mennesker.

**49. R: Er det sådan generelt et problem?**

50. T: Ja, det vil jeg mene. Det er nok et meget lille problem for IO og for SYBO - altså hvis du har penge nok så kan du godt lokke nogen her over og sådan noget, men for alle os andre som skal tænke os en smule mere om når vi skal bruge penge, der er det helt klart den største udfordring.

**51. R: Hvilke former for talent er det du føler der mangler?**

52. T: Det er tech syntes jeg.

**53. R: Så det er programmører?**

54. T: Ja og så er det faktisk også Game Designere og det er måske også lidt strengt at sige fordi der bliver spytet Game Designere ud fra de der uddannelsesinstitutioner, men der er ikke nok erfарne Game Designere og det kræver bare at man har lavet det i ti år, så bliver man altså rigtig dygtig, men der er ikke rigtig andre måder at lære det på end at få lov at lave det i ti år.

**55. R: Det er måske svaret allerede til mit næste spørgsmål, men hvad ser du som nogle af de største udfordringer for industrien generelt?**

56. T: Det er mangel på talent. Jeg syntes ikke jeg møder folk som har et stærkt koncept og som har et dygtigt hold, som har svært ved at få penge. Sådan var det for nogle år siden, der kunne man godt sådan sige "jamen hvor er alle pengene henne og hvorfor er der ikke nogen der investerer", det syntes jeg ikke jeg oplever idag - dem der vil det de taler med folk i London og så finder de investorer derovre eller nu hvor Nordisk Film er her, så er det faktisk ikke det. Så det er arbejdskræft og det er kvalificeret arbejdskræft.

**57. R: Hvad er jeres motivation for at lave spil?**

58. T: Det er for at tjene penge. Ej, det er jo en blanding af at det er verdens fedeste arbejde og man har mulighed for at ramme jackpot og man godt kan lide computerspil - jeg tror alle tre skal ligesom være en del af det, før jeg ville gide det. Jeg ville ikke gide bare at lave computerspil fordi jeg selv syntes det er hyggeligt, jeg skal jo også kunne leve af det og kunne leve godt af det ellers så gider jeg ikke.

**59. R: Det virker som om at der er to dele af industrien. Der er dem der måske tænker lidt mere kreativt (indie) og så er der dem som der tænker lidt mere kommersielt og så er der måske også lidt nogen som tænker lidt i begge retninger...**

60. T: Jeg tror ikke at der er særlig mange af dem man ville kategorisere som de kreative eller dem som laver indie-spil, som ikke underst inde godt kunne tænke sig at score kassen. Så kunne de også bare lave en Match 3 klon og gå efter det eller sådan et eller andet ikke og så er der jo klart et valgt i det der, jeg tror bare nogle gange at så kan man godt få sådan en eller anden åndsvag idé om at indie-udviklere det er sådan nogle der sidder oppe på et eller andet koldt loft og hoster sig igennem tuberkulosen imens de skriver verdens smukkeste spil, et lille stykke poesi ikke? Og i virkeligheden så er det jo ret meget arbejde, altså man ligger blod og sjæl i det og man gør det af næsten de samme årsager som alle de andre gør. Jeg kender ret mange der arbejder over hos SYBO og det de arbejder med, der ligger nøjagtig lige så meget blod og sjæl i det, de rammer bare det bredere publikum, men de knokler fandme også for det og de giver sig fuldt ud. Nogle gang kan der godt ligge sådan en lille - det lyder som sådan et surt rant - men nogle gang kan det godt blive sådan at være indie kan godt blive en undskyldning for ikke at lave kvalitet og det er det jeg syntes er så irriterende. Så kan man ligesom hoppe ned i indie kassen og så er det okay at man ikke rigtig havde råd til en artist eller at man ikke laver ordentlig marketing eller sådan noget, det syntes jeg er uambisiøst.

61. T: Jeg har sådan en pet peeve. Hvis du spørger nu: "har du nogen ting du godt kunne tænke dig at sige?", så vil jeg gerne lige have lov at sige noget. Jeg syntes vi skulle lukke Medialogy. Jeg syntes simpelthen det er grotesk at vi lokker de unge mennesker til at tage en uddannelse som de tror de bagefter kan bruge til et eller andet - de har ikke en chance.

**62. R: Hvad føler du mangler af studier på skolerne i Danmark?**

63. T: En tungere tech-side, som er spil orienteret, men som er... okay nu er du spil-programmør, så skal du satme også kunne det her. Og så i virkeligheden kunne jeg godt tænke mig hvis XX kommer ind i kampen i højere grad - de laver rigtig dygtige programmører, men jeg tror de kunne gøre det endnu bedre. Det er det vi mangler. Jeg syntes DADIU er det helt rigtige initiativ, men der syntes jeg tilgengæld at de der instruktører fra animationsskolen... jeg kan ikke se hvad de laver. Jeg syntes nogle gang at så bliver det sådan nogle underlige interaktive kortfilm, hvor jeg har rigtig ondt af de der game designere som også er kommet på det, som skal prøve at klemme et eller andet spil ind i en eller anden filminstruktørs idé, uden at den der filminstruktør rigtig selv vil det.

**64. R: Hvordan syntes du Danmark står i forhold til spilindustrien i Europa eller Verden?**

65. T: Vi er bagud, ingen tvivl om det. Der er rigtig meget godt talent syntes jeg i Danmark, men vi har en eller anden tendens til at under-investere og ikke turde gøre det fuldt ud. De der penger der er blevet kastet i filmstøtten, altså til

spil-ordningen, det er jo sindsyg få penge og de er bare blevet forentet mega mega meget - det har været verdens bedste investering. Jeg tror helt seriøst at man kunne gange op med ti og så ville man bare få ti gange så meget - det er det man har set i Finland og mange andre steder, at deres støtteprogrammer de fungerer helt overdrevet godt, så jeg kan ikke se hvorfor man ikke ville dyrke det mere.

66. R: Så du føler at hvis man tænkte lidt smartere omkring investeringer, så ville man kunne konkurrere bedre med andre lande? Eller hvad føler du ligesom mangler?
67. T: Det er jo nemt bare at sige mere tid og penge, så det er i virkeligheden et dårligt svar, men ja det tror jeg ville hjælpe os. Så har Finland også bare en helt overdrevet vild teknisk fundering, i og med de har haft Nokia igennem mange år og har haft en mobil-industri som har været oppe og køre før alle andre og sådan. Så det har jo gjort at de ligesom har haft nogle folk som har tænkt i de baner, inden alle os andre kom til - så jeg tror ikke at flere penge fra filminstituttet ville gøre den forskel, men man ville ihvertfald kunne gøre én forskel. Lige nu så er strategien jo fra filminstituttet at man rykker den pulje penge, som man tidligere spredte udover en masse projekter, så er de begyndt at investere færre steder og give flere penge. Jeg kan ikke se hvorfor man ikke bare hælder endnu flere penge ned i den der bøtte og investerer i endnu flere med endnu flere penge - jeg tror det ville virke alligevel og jeg tror der er et vildt potentiale dér. Det er jo nøjagtig samme logik som Nordisk Film har i virkeligheden - det er derfor at der er nogle mennesker der siger "her er 200 millioner", som de har sat af til at lave spil, det er fordi at der er nogen udefra der har set potentialet og sagt "her er muligheden for at investere mega godt og gå ind nogle virksomheder og være dygtige og hjælpe de her virksomheder". Jeg tror at der ville være en eller anden form for fødekæde, hvor Filminstituttet ville gå ind og støtte med dobbelt så meget som de gør nu og dobbelt så mange, hvis man gav flere penge selvfolgelig, og så ville der stå investorer klar på den anden side og sige "uuuh det ser godt ud det her, det vil jeg gerne investere i" og så ville der komme penge ind i Danmark den vej rundt.

#### **68. R: Så det er simpelthen fordi der ikke er nok penge?**

69. T: Ja og det er jo det jeg siger med at det i virkeligheden er en dårlig måde at sige det på, fordi der er nok penge til de dygtige og dem der er klar med et koncept, men inden du er klar med et koncept, altså hele den der seed-tanken, den eksistere ikke rigtigt i Danmark - der er det filminstituttet der giver seed kapital og så får du 300 tusinde til at udvikler en eller anden prototype af et eller andet eller. Det tror jeg bare man godt kunne skrue lidt op for og så ville man gøre dem og de produkter der kommer ud af dét, ville man gøre endnu mere investeringsparate til andre penge.

#### **70. R: Og så sagde du også det handler lidt om at turde at tage det hele vejen?**

71. T: Ja for den danske stat hvis man ser på den statslige del af det, helt sikkert! Filminstuttet har sådan et eller andet 400 millioner om året, hvor 5 millioner går til spil nu - det er sådan nogle helt sindsyge tal og det kan jeg simpelthen ikke begribe fornuften i. Så kan så høre hvordan 512 har været inde og se en eller anden slatten dansk film - det skal jo ikke være argumentet fordi jeg ved godt at det er kunststøtte og det er ikke erhvervsstøtte og sådan noget, men så må erhvervsstøtten fandme tage sig sammen og støtte lidt op.

**72. R: Men det er ikke sådan så der er et godt samarbejde mellem spil og film?**

73. T: Det er totalt ligegyldigt syntes jeg. Altså der hvor vi har brugt filmindustrien, det har været til at fortælle en historie til omverdenen hvor vi har sagt "åh det er sådan lidt nordic noir" du ved, med islandske sweatere og sådan lidt fedtede toner og farver, og det matcher jo mega meget i tråd med limbo og hele Playdead's historie er jo meget sådan nordic noir. Men det er også bare én - det er ikke fordi der er et stort overlap mellem folk der sidder og laver film og laver spil.

**74. R: Jeg har ikke så meget mere... Er der nogen af dem her på listen, hvor du tænker i har haft et tættere forhold eller måske har et eksempel på hvor i har arbejdet rigtig godt sammen?**

75. T: Altså Cape, dem har vi delt kontor med og vi har fuldt dem hele tiden og spurgt dem til råds, delt kontakter og sat møder op for hinanden, så det har altid været sådan et godt forhold.

**76. R: Hvis man skulle være fræk og sige hvis det her netværk nu var helt væk, hvad ville det så gøre for jeres virksomhed?**

77. T: Så ville jeg kunne hyre 5 gode programmører imorgen (griner).

**78. R: Så det er ikke sådan at hvis de alle var væk, så ville det gøre noget forfærdeligt ved jeres virksomhed? I ville stadig fungere fint?**

79. T: Ja det ville vi.

**80. R: Også i forhold til funding?**

81. T: Ja nu er vi jo fundet, så hvis Nordisk Film også forsvandt så ville vi ikke have nogle penge kan man sige. Men nå det er sagt, så er vores miljø jo også internationalt, så vi er også medlem af store internationale netværk af spiludviklere som jeg har kontakt med og deler erfaring med og deler kontakter med og har relationer og mødes med. Det hvor det giver mening at tale om spilindustri lokalt, det er når det handler om rekruttering og medarbejdere og så er der nogle personlige relationer, men udover det, så er det ikke sådan så man skynder sig at ringe til nogle man kender her ovre - så skriver man på inde på et eller andet forum "hey, er der nogen der kender denne her underlige tyske publisher, som gerne vil publisere vores spil? gode eller dårlige erfaringer med dem?" og så er der nogen der svarer tilbage på dét.

- 82. R: Tror du det er nogen fordel at de fleste af jer er placeret her midt i København og at det ligesom er et lidt mindre community?**
83. T: Det er meget hyggeligt på et personligt plan, men jeg tror ikke det betyder særlig meget. Det betyder noget i forhold til vores arbejdskraeft, det er dér det giver mening, at hvis du er spiludvikler, så vil du gerne bo i København fordi du ved der er en koncentration af spil-studier her i nærheden og det er egentlig også en af grundene til at vi ikke ville have kontor ude i Nordvest for eksempel - vi vil gerne kunne tiltrække folk fra Malmö og Sverige og så er det altså federe at være herinde end i Nordvest.