

Home sweet home for Dutch game developers



How to get started in  
**GAME**  
Development

***Home sweet home for Dutch game developers: A study on the location choices of game developers, agglomeration or the home advantage***

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***Written by: Koen van der Boog***

***Student number: 5817005***

***Email: [K.e.vanderboog@students.uu.nl](mailto:K.e.vanderboog@students.uu.nl)***

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***Thesis Supervisor: Martijn Smit***



**Universiteit Utrecht**

## **Abstract**

In this study the location choice of game developers is the central subject. Location factors based on classical theories have been incorporated as hard factors such as price of office spaces, transportation cost and the availability of qualified staff. Softer factors influenced by Richard Florida have been incorporated as well. These factors relate to qualities that a city may have such as being tolerant and having certain cultural amenities. In addition to these factors some literature on embeddedness of entrepreneurs have been incorporated since many creative firms tend to be of a small size meaning that the founder has a stronger influence.

Based on a Serie of semi structured interviews it was found that especially for small Dutch game developers there is a strong influence on their degree of social embeddedness. Most of the game developers are present in a certain city because they happened to live there. In addition, most of the developers started their firm originally from their own home location meaning that they are economically embedded as well.

The location choice of an office space within a city was found to be mainly influenced by hard factors first and soft factors second. The most prominent hard factors were the prices of the office space. Another important factor was the degree of accessibility of the firm by public transport. Soft factors were found to become more important as the firm matures, the atmosphere of a certain district becomes more prominent in the location choice at that stage. The importance of the quality of the building was also found to become more important over time. The main reason for this is since the factor of the cost of the office space diminishes in importance.

## **Preface**

Before you lies the master thesis that I have worked on during the last 6 months. As anyone who went to the process of writing a thesis it can be quite a roller-coaster ride at times. There are days where it's a joy to work on this piece and everything seems to go smoothly. There are some days where it seems hard to get anything done and you are becoming uncertain if you are on the right track. Luckily there have been more days that everything like I wanted it to! This thesis has been completed in a timely fashion and this is something that I am proud of.

I hope that this piece will be able to give some new insights on the topic of location choices and the gaming sector. If this is the case than I would like to think that I did a good job. At the end of the day that's one the main reasons why scientific research is done in the first place, to increase our knowledge and learn new things.

While this piece is considered a solo project, there are multiple people who helped me during the process to achieve this result. First, the respondents who wanted to do an interview with me, thank you! Without your valuable input this thesis would not have been possible. I do hope that you may get something out of this piece as well that may help you in your future endeavours in the Dutch gaming sector.

Next Martijn Smit who served as my supervisor during this period. Your feedback helped me many times keeping on track and gave me the feeling that I was going in the right direction with the thesis. This feeling is incredibly important in keeping one motivated to keep working.

Finally, my family and friends who were always there to support me and were interested in what I was doing. Being able to explain my thesis (to a certain extent) to outsiders was helpful in organizing my own thought process regarding the thesis.

The last thing for me to say is enjoy the read!

**Koen van der Boog**

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# 1. Introduction

From humble beginnings the videogame industry has grown from a small fringe sector towards one of the largest entertainment driven industry in the world. In 2017 the total revenue generated in the industry worldwide was estimated to be around 108 billion US dollar (Batchelor, 2018). In the last decade the European market for games on both the consumer and developer side has experienced a rapid growth and has sparked the interest of policy makers around Europe (ISFE,2014). The growth of the gaming sector is also present in the Netherland and more attention is being paid towards the sector. A good example of this is Utrecht whom have made the sector a core part of their economic marketing communication (invest in Utrecht, n.d).

To get a good overview of the size of the Dutch sector the report by the Dutch game Garden and various partners can be used to gouge what trends and developments are happening. Their study recorded the number of firms operating in the sector in the period around the year 2015.

The writers of the report concluded that the sector has grown from 320 firms in 2011 to 455 firms in 2015. The firms have an average size of around 6-7 employees signalling that the production of games is of a smaller scale (Dutch game Garden, 2015). In the current day industry creating large games requires a significant number of staff members (up to 400-600) and can cost hundreds of millions to create (Ponce, 2013).

In the period between the games monitor 2012 and 2015 about 110 firms closed. This signals that there is a high exist rate as well (Dutch game garden, 2012; 2015). Most of the firms in the Netherlands are of a smaller scale and in most cases are not funded by investors. Rather, the firms are usually funded by the business owners themselves (Dutch game Garden, 2015). Because of this beginning a business as a game developer can be a dangerous thing to peruse.

## **Different kind of developers**

The gaming sector can be divided into different activities related to the creation of the product of a videogame. In this study the focus is on the developers of videogames. The main reason being that they are the actor who are responsible for the creation of the product.

Concerning videogame development there are two kinds of developers active in the sector: Entertainment- and applied developers (Dutch Game Garden, 2015). Both kind of developers serve different consumers/clients and therefore have different economic models. Applied gaming or serious gaming is more subsidized and is usually structured based on specific commissions by a client (Dutch game garden, 2015; Dutch Game Association, n.d; Nieborg & Kloet, 2013). Entertainment based gaming is a quick grower in the sector and may overtake applied gaming as the most important component of the sector in the country (Dutch Game Garden, 2015;2012). Entertainment focused developers often create products targeted directly at the large consumer base compared to applied developers, this provides more risks since income generated from the sale of the game is harder to predict (Dutch Game Garden, 2015).

## Spread of the sector

Concerning the spread of the sector in the Netherlands it can be concluded that this is rather disperse, in many cities the sector is represented. The largest in terms of employment is Amsterdam, see table 1 for an overview of the nine largest cities in terms of employment.

**Table 1: Amount of employment in the gaming sector in nine Dutch cities**

City	employment	Most employment in what sector of the industry
Amsterdam	787	Game developer entertainment
Rotterdam	273	Game developer applied
Utrecht	262	Game developer entertainment
The Hague	224	Publisher
Hilversum	217	Game developer/publisher
Den Bosch	156	Technology supplier
Eindhoven	112	Game developer/Publisher
Delft	104	Game developer applied
Groningen	101	Game developer applied

**Source: Dutch game garden, 2015**

Amsterdam is strongly represented and houses some of the largest studios in the country such as Guerrilla games. This studio is said to be located there because of the internationally image of the city (Nieborg & Kloet, 2013). Utrecht and Hilversum are cited to be of note in terms of their presence of the industry. For Utrecht for example the availability of gaming related education and several start-up related organisations made the city attractive for young firms. Utrecht recognizes the potential of the industry and is actively trying to support its growth (Invest in Utrecht, n.d). The gaming sector in the Netherlands has historically been of a small scale consisting of a handful of pioneers. Only during the last decade has a rapid growth been realized (Nieborg & Kloet, 2013).

### 1.1 Main research question and sub questions

The reasoning why developers are in certain places is a subject of this study. Are there specific reasons for the choice of the location or is it mere coincidence? By conducting interviews with Dutch game developers this information can be retrieved.

Both applied developers and entertainment developers are going to be examined. The game industry as seen in Tabel 1 is found in several cities in the country. The location choice factors will be based on both economic factors such as rent prices but also the personal connection of the owner with the city where the firm is housed will be explored. Even though in Tabel 1 the nine largest cities are presented, there are still plenty of game developers found in numerous other places in the Netherlands. This raises the question if these companies are experiencing any difficulties operating from places where the industry has a weaker presence.



For this study the following research question will be used:

***What location choice factors are important for game developers in the Netherlands and what is the role of the founder(s) in the location choice?***

The main research question is split up in the following research questions.

- ***What location factors(s) are found to be of importance in deciding the city and the location within the city?***
- ***Is the importance of certain location factors different for entertainment and applied developers?***
- ***Does the importance of certain location factors change as the firm has matured?***
- ***What is the influence on the personal situation of the founder concerning the location choice?***

## 1.2 Scientific relevance

When it comes to research about the gaming sector there is still a gap concerning the specifics of the location choice. There are some studies like that of Murphy, Rogers & Redmond (2015) that specifically deal with location choices of game developers in the context of testing hard and soft location factors. Concerning other studies that cover the sector most of the studies focus on the inner workings of firms, developments in the industry, the gaming culture and most importantly selling the product to consumers. The component of geography is not often covered while this may prove to be a factor that can influence the performance of firms.

When it comes to the location choice of firms there are a plethora of potential reasons why firms locate in certain places. The gaming sector can be viewed as a part of the creative industries (Throsby, 2001;2007). In the creative sector and especially the gaming sector individual talent is an important factor that drives businesses (Wright, 2015). Therefore, the presence of relevant human capital may prove to be a driver to choose a certain city to settle.

In addition to economic factors personal factors will also be used in this study. The reason for this is because many of the firms are of a smaller scale. The social connections one has may prove to be of influence. When considering the location choice, the personal element is therefore hard to exclude in the scope of the study.

## 1.3 Societal relevance

The relevance to society of this study is constructed in the following way; the gaming sector is growing in the Netherlands. While this may present opportunities, there are also a number of threats that are relevant. Starting a firm as a game developer is still perceived as a risky endeavour (Verlaan,2016). The main reason is the lack of investment which leads to the entrepreneur(s) having to invest their own capital to fund their product (Dutch Game Garden, 2015). Even when the product is finished there is still the risk that the sales are not that great. This may lead to layoffs or even the bankruptcy of the firm, the high exit rates of firms is a testament to this fact (Dutch Game Garden, 2015; Verlaan, 2016). In addition, the amount of education in gaming related studies has increased significantly over the years (Dutch Game Garden, 2015). It is important for these students that the gaming sector in the Netherlands can accommodate them. As of now the amount of developers that these individuals can work at is limited and may lead to talent working abroad or starting up a firm themselves with all the risk involved (Verlaan, 2016).

This study can provide insights what game developers perceive as important when choosing their location. This can help existing firms or start-ups to review what others found important when setting up their firm. The developers may provide how they were able to survive in the industry.

In addition, the results of this study may help policy makers make decisions regarding the gaming industry and what the firms are looking for when deciding their location. Policymakers can review if they are providing the developers with an optimal location that they want to use. As the gaming sector is becoming more a prominent sector that can bring economic development having insight in the location behaviour is a useful tool for policy makers.

## 2. Theoretical overview

Why do firm's location in certain places and what influences these decisions? The goal of this section is to make an argument why the location still plays a role for firms and what factors are possibly relevant for the gaming industry.

To better understand how the gaming industry works the second section of this chapter will focus specially on sector. The most relevant trends and specific attributes of the industry will be covered.

### 2.1 Defining creative industries

What define creative industries, and what does space mean for firms that are part of the creative sector? Creative industries are a concept that have become more prominent in the literature during the last twenty years (Newbigmen, 2014). The work of Richard Florida is one the main contributors that has sparked this interest. In Richard Florida "rise of the creative class" creative individuals are defined as persons who can add economic value through their creative thinking (Florida,2002). Florida believes that an economy based on creativity is of utmost importance for a well-functioning system (Florida,2002). Florida works also stresses that the element of geography is still relevant and that places can attract creative individuals and therefore strengthen their economy (Florida, 2003).

In the literature there has been an ongoing debate about what exactly can be understood as the creative class. As written by Tepper *"In general it has been very difficult to reach a consensus about what the proper boundaries of the creative industries ought to be"* (Tepper, 2002; 163).

When talking about the creative sector a common problem is the broad scope of the term. There are several models that try to unravel what the creative industries entails. In the scope of this study it is important to verify that the creation of video games if perceived as being a part of the creative sector. According to Throsby (2007) the following sectors are a part of the creative industry:

**Core creative arts:** Literature; Music; Performing arts; Visual arts.

**Other core cultural industries:** Film; Museums and libraries.

**Wider cultural industries:** Heritage services; Publishing; Sound recording; Television and Radio; Video and computer games

**Related industries:** Advertising; Architecture; Design; Fashion  
(Throsby,2001; 2007)

A suitable definition of the creative industry can be constructed as the following:

*"Creative industries are a set of knowledge-based activities focused on the generation of meaning, contents, and aesthetics attributes by means of creativity, skill and talent and with potential to create wealth from trade and intellectual property rights"* (UNCTAD, 2010).

This particular definition of the creative sector is rather applicable for gaming firms as they make products that are knowledge based. The construction of a game can be considered the creation of intellectual property.

When it comes to the creative sector there is a strong overlap with strong knowledge intensive sectors These firms need many high skilled and specialized employees. The gaming sector is a good example of this since there are creative elements involved in designing the game. The creation of the actual product is highly knowledge intensive and there is a strong need for specialized staff members (Wright, 2015).

## 2.2 Location factors for creative firms and individuals

### 2.2.1 Hard and soft factors for in the location choice of firms

Creative sectors are viewed as desirable to have present in a city (Bagwell, 2008), but what factors influence the location choice of these creative firms.

In the economic geography literature, several location theories are relevant. There are the classical theories like that of von Thunen, Weber etc. These theories assume that there is a high amount of rationality when selecting a location to settle a firm in other words the firm would locate where it would be the most optimal economically.

In the study done by Murphy et al (2015) on the creative class in Dublin attention was paid towards the location choice of different kind of creative firms including video game developers. The study divided location factors in “soft” and “hard” factors. According to the writers there have been plenty of studies done on the behaviour of creative workers. However, when it comes to the location choice of the creative companies they argued that there was still a significant gap (Murphy et al, 2015).

#### **Hard factors**

Hard factors in this context deal with factors that are more in line with classical economic theories like that of Marshall (1890). The hard factors are agglomeration advantages that the city offer because of its larger size. These agglomeration advantages have been translated to the following factors: the availability of skilled labour, supporting institutional context, good tax system, good transportation, access to the desired market and availability of affordable office space (Sassen, 1991, 2002; Scott, 2003). When it comes to the hard factors other studies have added more concrete factors such as being near to an international airport, service suppliers and having access to an international workforce (Musterd & Murie, 2010).

The creative industry differs from other sectors since there is a greater emphasis on individual talents and skills. This may be an important reason behind the location choice of firms (Evans, 2009; Murphy, et al, 2015). The role of universities that produce high quality graduates that can work in knowledge intensive industries may also influence the decision making of firms. Firms locate near these knowledge institutes to exploit the local talent pool (Glaeser, 2011).

In general, the city is perceived to be the optimal place for creative industries to flourish. Skilled based labour pools tend to be highly localized and do not move as easily. Because of this many firms in the same sector move to a certain city to exploit the same pool of talent. This creates competition between the different firms (de Vaan, 2011).

#### **Soft factors**

The soft factors are more in line with the ideas of Florida of what makes a city attractive. Factors that fall under the soft factors include: Quality of life, Urban atmosphere, ethnic and social diversity, cultural and social facilities and the tolerance of the population (Florida, 2003). In the literature study of Musterd, Bontje, Chapain, Kovács, & Murie (2007) soft factors were used to construct aspects that may influence the location choice of firms.

- **Distinctiveness and authenticity**, these factors are about the cities own history, culture and experiences that are offered. Cultural amenities are an example of this.

- **Small scale/ fine grand development**, the importance of small shops, independent operators as opposed to large scale shops
- **Vibrant and distinctive neighbourhoods**, the atmosphere of a certain district
- **Appeal to younger people and their lifestyle**,
- **Diversity of population and lifestyles**

### **Hard versus the soft factors in the location choice**

In the study of Murphy et al (2015) the argument was made that for some types of firms the soft factors were of greater importance while for other the hard factors played a larger role. There was a distinction that soft factors were of importance for foreign entities that were looking for a city to settle their firm. The importance of cosmopolitan environment was noted to be of importance for multinationals when selecting a location choice (Goerzen, Asmussen, & Nielsen, 2013).

The hard factors were found to be of greater importance for indigenous companies looking for a new location. The small size of the firms and the limited capabilities were cited as reasons why the hard factors were of greater importance (Murphy et al, 2015). The study confirmed the findings of another study done by Musterd and Murie (2010), in this study it was found that good hard factors are one of the first things that firms look at. When these are satisfactory soft factors become more important

Hard and soft factors can be applied to different levels for both the choice of the city and the specific district different factors become more prominent. Firms that are locating in the central part of a city may be looking for different factors compared to firms that settle in a specific neighbourhood in the outskirts of a city (Murphy et al, 2015). In table 2 the overview of the mentioned hard and soft factors in these studies.

**Table 2: Hard and soft factors concerning the location choice of firms**

Hard factors concerning firm location choice	Soft factors concerning firm location choice
Physical Infrastructure and digital infrastructures	Urban environment, Quality of life
Cost of office space	Atmosphere of the city
Availability of labour pool (foreign and indigenous)	Cultural and social facilities
Presence of related firms	Tolerance and openness of the population
Access to markets	Level of ethnic and social diversity

**Source: Murphy et al (2015), Florida (2002; 2003), Sassen (1991), Scott (2003)**

### 2.2.2 Hard and soft factors concerning the creative workers

An important component of the location choice is that of attracting employees. In both classical agglomeration theories and the newer Florida driven theories the role of attracting labour is an important consideration when firms select a city to settle.

Why are creative individuals attracted by the city? According to Florida (2002; 2003) cities have transformed from centres of industry and commerce towards places where intellectuality and creativity are the economic drivers. Cities are now places where culture, entertainment and the need for certain lifestyles are the big draw for individuals. The different creative communities that a city houses can be an attractor for other like-minded creative individuals. This process creates a labour pool that is suited for creative industries to flourish. To exploit this labour pool firms that are reliant on creative individuals move to the place to the city where the creative individuals are.

It is important to note that these studies were conducted based on the American context. In the study by Martin-brelot, Eckert, Grossetti, Gritsai, & Kovács (2010) soft and hard factors were once again tested to see if they were able to explain why individuals live in certain cities. The conclusion of the study entails that the European “creative class” is not as mobile as Florida describes in this work.

Another important finding was that Florida did not consider is what is called the personal connection factor. The personal connection factors are about the attachment that some individuals have with a city where he or she currently lives (Martin-Brelot et al, 2010).

This connection is important when talking about the mobility of creative workers. The explanation why the European work force is less mobile is explained by several factors including the constraints of different languages and cultural differences. Another important factor is that most of the surveyed respondents for the study lived in the region where they were born or where they studied (Martin-Brelot et al, 2010).

Rooted territoriality is a common occurrence in Europe. For creative individuals choosing a certain city is based on the hard factors like availability of work and a district is chosen based on the softer factors (Favell,2008).

### 2.2.3 Clustering of creative firms

Another factor to consider is the presence of related firms. It is believed that the presence of related firms can enhance the performance of other firms (Porter, 1998). The knowledge spillovers can give firms that are part of a cluster a competitive advantage. The question is if firms locate near each other for this reason. When the needed skills are close by this can enhance the efficiency of firms since the missing input is easily and locally acquired. This can drive the location choice of firms to settle close to firms that peruse similar activities (Bagwell,2008). Geographical proximity is not the only thing that matters for creative firms, only when interaction takes places can firms benefit from each other (Chaplain et al, 2010).

Concerning the behaviour of creative sectors multiple studies confirm that there is an element of clustering concerning creative industries that perceive similar activities (Scott, 2000; van Heur, 2008; Bagwell, 2008).

In a study done by de Vaan (2011) there was an emphasize on the spatial concentration of firms that are working based on projects. Being a part of a cluster is beneficial to both employees and employers.

For employees it provides them with an environment in which there is a constant stream of work surrounding them. For employers there is a flexible labour pool available for them to exploit.

## 2.3 Social capital in the location choice of firms

Concerning entrepreneurship there is a debate about what influences the location choice of entrepreneurs, human and social capital of the entrepreneur are both cited as factors that can play an important role. The role of social capital is believed to be greater since many of the firms are of a small size (below 5 employees) (Heebel & Aalst, 2010). When the firm is of a small size the influence of the founder concerning choosing a location or relocating become broader compared to larger and especially cooperate firms. Since the Dutch gaming sector is made up of mostly smaller independent firms (Verlaan, 2016). Because of the small size it is possible that the influence of the founder may increase.

Considering entrepreneurship, the element of embeddedness is often associated with the location choice of entrepreneurs. The term embeddedness means the degree of attachments that a person has with his or her environment. In a study by Jack & Anderson (2002) it was found that embeddedness is not only about the economic advantages of the local environment but also the social relations that one has. The degree of embeddedness is determent according to them by the networks and the relationships of the entrepreneur. Becoming embedded is joining the local social structure that ties a person to a location.

The home location of an entrepreneur is found to be of significant influence concerning the location choice of a firm, local ties to family and friends are a factor that an entrepreneur incorporates when choosing a location. The entrepreneur has imperfect information about other urban environments and local ties can create a local bias as a result (Figueiredo, Guimarães, and Woodward, 2001).

When entrepreneurs choose a location for their venture according they exhibit a great deal of inertia (Dahl and Sorenson 2009). If this inertia is due the entrepreneurs understanding of the region this may yield economic advantages. However, when the inertia is caused by the desire to stay close to family and friends it may come at the expense of economic performance of the firm (Dahl & Sorenson, 2012).

According to the study of Dahl & Sorenson (2012) start-ups that were embedded in their region performed better and survived longer. They argue that it is not clustering that improves the performances but the process of spin offs and talent moving to certain cities or regions where an industry has a strong presence. Some entrepreneurs can escape this constraint when they have the right knowledge, they understand the industry and have the relevant human capital to start a firm. For these entrepreneurs they have not been away long enough from their prior home to lose their social connections. These entrepreneurs have both industry knowledge and strong social connection. According to Dahl & Sorenson (2012) these entrepreneurs may be the most promising business owners.

## 2.4 Conclusion

Concerning the location choice of creative firms and specifically game developers there are a plethora of factors that can be of influence. In this section the division of hard and soft factors have taken a prominent role. The hard factors are more in line with the classical work of economic geography while

the soft factors are more in line with the newer theories like that of Florida. When collecting and analysing the data, this division will be used to determine whenever the firms put more emphasize on either the hard or the soft factors. Since the location choice is not just the choice of the city but also the choice of a specific district/ location there will be two levels on which these factors will be tested.

In addition to the location factors this section also included a section on entrepreneurial location choices. The reason why this is included is that the size of gaming firms especially in the Netherlands are of a small size. This means that the location choice will be more influenced by the personal circumstances of the founder. One of the goals of this study is to see how significant of an influence this personal connection is on the location choice not only during the start-up but also when the firm evolves and matures.

## 2.5 The gaming industry development and trends

### Introduction

In the previous paragraph the debate about the meaning of geography for firms have been discussed. For creative industries there still is an argument to be made that the location is still of importance. In this chapter there will be a focus on relevant trends and developments in the gaming sector.

The gaming sector is a young industry that has existed since around the 1970's with the introduction of the first simple home consoles and pc's. From simple games towards huge productions the industry has experienced almost continuous growth over the years (Rogers, 2016). In the united states more, money is spent on video games than tickets for the cinema. The industry is no longer a niche sector but a mature entertainment giant (Marchand & Henning-Thurau, 2013). The total amount of sales in the industry is estimated to be around 100 billion dollar every year and is on an upward trajectory (Batchelor, 2018). The medium of videogames has been subjected to constants innovation and the way games are created have therefore changed consistently during different eras of the industries life (Rogers,2016).

### 2.5.1 The value chain of the gaming sector old and new

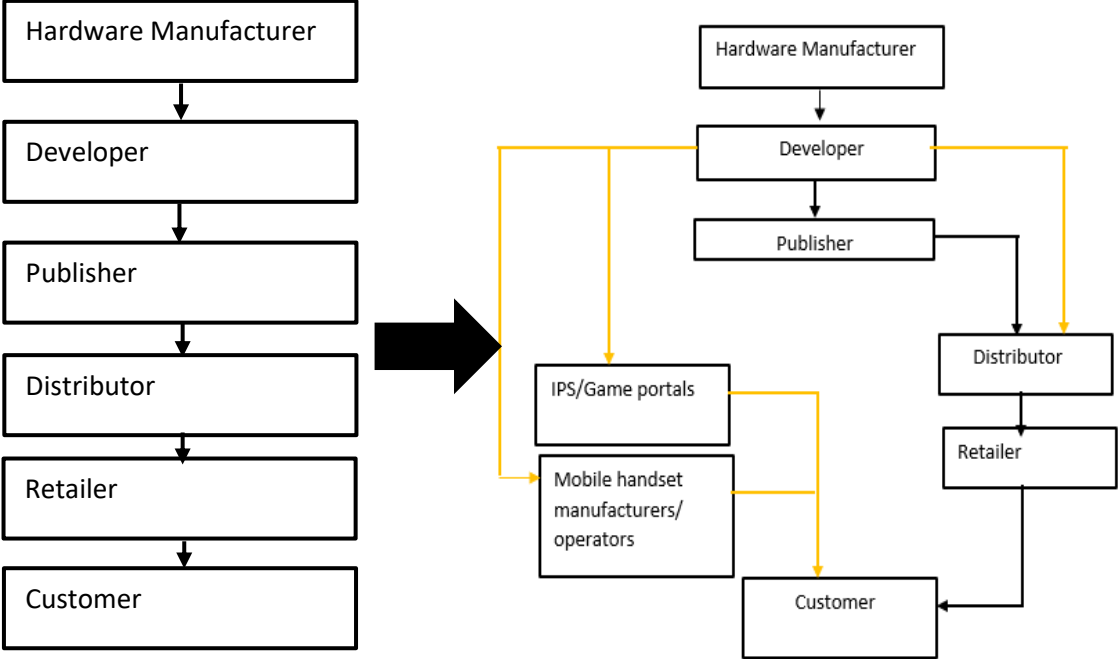
As with any major industry the value chain can be used to identify what actors are relevant in the value creation of the product. The value chain of the industry has changed over time because of advancements in technology (Marchand & Henning-Thurau, 2013). In this section first, the classical value chain will be discussed briefly and then an updated version will be shown.

In figure 1 there are five distinct players that can add value to the product of a video game before it is sold to a consumer. On the left the classic value chain is shown, on the right an updated value chain is shown.

The classical value chain has existed for a long period of time and has only recently underwent changes at the hand of the developments in digital distributions (Kunnskapsverket, 2017). In figure 1 on the right the updated value chain is displayed. The big change is the options that developers and publishers now have at their disposal to reach the consumer. Using digital marketplaces developers can themselves sell their products and do not need the other actors of the value chain apart from hardware manufacturers. In the current day the developer is therefore less reliant on the other actors of the value chain (Kunnskapsverket, 2017).



**Figure 1: Classical value chain and an updated version**



**Source: Kunnskapsverket (2017)**

Concerning the value chain, several relevant actors are identified. For each of the actors a short description and the relevance to the value chain will be briefly discussed. For the actor hardware manufacturer, developer and publisher some extra elaboration will be provided since the role they play in the creation of video game is more extensive compared to the distributor and the retailer

**Hardware manufacturer**

The hardware manufacture role consists of several activities. As the name suggest it is the actor that starts the value chain by providing the needed hardware that developers and publishers can use to create the product of a game on (Kunnskapsverket, 2017). In the modern industry the hardware manufacturer has taken a key role. The reason for this is hardware manufacturers are specific platforms that developers and publisher use to create the games for (Rogers,2016). The following platforms are relevant: Personal computers (PC), dedicated video game consoles and mobile devices (Richter, 2018). What is important to note is that in some they are both hardware manufacturer and publisher. Some hardware parties also own game studios that make products for them.

What platforms are in the market also has implications on the developers since they need to adapt to the new hardware and the install base can have influence on what platform the product is developed for (Gallagner and Park, 2002). Mobile and PC have an advantage here since they are widespread in the current society.

## **Developer**

The developer is the actor that develops the game. A developer consists of different experts that work on different assets of the game. In case with the entertainment focussed developers, some are owned by console manufacturers or are a game creation division of certain publishers (Kunnskapsverket, 2017). The Netherlands currently has one developer that considered to have this status; Guerrilla games who is a part of Sony interactive (Dutch Game Garden, 2015). This special status is however not achievable by most firms operating in the sector. Most of the developers are independent and create games that are offered to the consumer more directly via digital market places (Dutch game Garden, 2015). The technological advancements in digital distribution and a growing market base have allowed more developers to enter the market. This has resulted in the growth of the amount of developers that has been observed worldwide and (Kunnskapsverket, 2017).

The market of game developers is split among applied and entertainment focuses developers. A major difference between the two is the way in which the product is converted into cashflows. Entertainment based games are published globally and around 65% of the income is generated abroad. This is less the case with applied games whereas only 7% of the income is generated by publishing abroad (Bartelson et al., 2012). The applied gaming sector is said to be of a different nature than entertainment, applied developers work with private parties that want a specific product to be made for them. Most games are created for healthcare, education or marketing purposes (Dutch game association, n.d; Dutch Game Garden, 2015).

## **Publisher**

The publisher is the actor that initiates the distribution processes once a video game is completed (Kunnskapsverket, 2017). Most of the large publishers are registered on the stock market and have shareholders that they must answer to.

The publisher fulfils a similar role as some of the hardware manufacturers since they can invest in developers. Especially for large productions a significant investment is needed to create the product. The advantage that the large publishers have is the reach that they have in terms of marketing. The budget of video games not only consist of the cost of development but also a large sum is spent on marketing the game. Since the game industry is so global this means specific marketing discussions must be done at the local level. To deal with this many of the large publishers have offices in countries where the market for games is strong.

## **Distributor and retailer**

In the value chain these actors play a limited role in the creation and funding of video games (Kunnskapsverket, 2017). Because of this the attention paid to these two actors in the scope of this study will be limited. These two actors are mostly responsible for getting the physical product in the hands of the consumer. Because of the rise of digital marketplaces, the importance of these actors has diminished during the last decade.

### 2.5.2 Increase complexity of the knowledge

The creation of a game nowadays is not what it used to be when the industry was still of a small scale in the early 1970's, the creation of games has become more complex (Rogers, 2016; Marchand & Henning-Thurau, 2013). The trend over the years has been on of an increase in the size of game development firms and the further specialization of the knowledge that is needed to create a game. In the early days many firms consisted only of a handful of individuals who were able to create the entire game and all its assets themselves (de Vaan, 2011). In the modern gaming industry studios need to hire multiple groups of specialized employees. For the creation of a game studios needs game designers, programmers, script writers, sound designers etc (Cohendet & Simon, 2007). Apart from the creative aspect there is a significant burden of time and money management involved. Creative firms are a collection of specialized "communities" that work on a specific part of the larger project. Good management between the different groups that work on specific parts of the game is therefore essential (Brown and Duguid,2005).

The cost of the creation of the game has been on a steady increase even since the inception of the industry (Rogers, 2016). The makes entry sometimes more problematic since for small studios it is impossible to compete with large developers with budgets spanning several million euros. In addition to the cost of the creation of the game there is also a large element of marketing involved. In the budget of the game there usually a large part of the budget is reserved by the publisher to be spend on a marketing campaign. This is a main advantage of developers being associated with a large publisher. The small gaming developers do not have this opportunity and a more reliant of good worth of mound to sell the product to consumers (Fahey, 2009).

### 2.5.3 Network formations in the gaming sector

The creation of ties and the formation of networks is an aspect that is receiving more attention in the literature. Since creative sectors often work in the basis of projects there is according to Caves a need for connections between firms to create the product. There is an exchange of ideas and negotiations of what the actors want from each other (Caves, 2003).

The status of the firm is important in the formation of ties according to Caves (2003). An example in the gaming sector is that the reputation of firms is a factor that plays a role when a developer is trying to link itself to a publisher. Firms with a good reputation are also more able to attract talented individuals as well improving the quality of the product (de Vaan,2011). Regarding creative industries there is a great degree of uncertainty since the product that is being created is not guaranteed to be picked up by a large audience. Success and flops are because of this hard to predict (Caves, 2003).

Actors with good status have an easier time reaching a large audience and diminish the risk of a flop from happening (Caves, 2003). This is certainly the case in the gaming industry large successful developers have a better stage to sell their product to a large audience and have more capabilities of marketing the product (Fahey, 2009).

In the study by Balland, de Vaan, & Boschma, (2013) on the formation of networks in the gaming sector it was concluded that there was an increasing effect of geographical proximity. When the industry evolved firms are found to be more likely to collaborate when the geographical distance is limited. Local buzz is cited to may be one of the reasons why geographical proximity remains important (Storper and Venables ,2004). De vaan found based on his study that for the gaming sector tie between firms were a result of geographical and cognitive proximity (Similar knowledge) in combination with being experienced (de Vaan, 2011). The dimension of being close to each other is shown in the importance of geographical proximity. Firms that are close to each other are more likely to become

partners in some way. An important finding was that the institutional proximity became less important over time meaning that the gaming industry has become less defined by country limitations, the industry is regarded as a more global phenomenon (de Vaan, 2011).

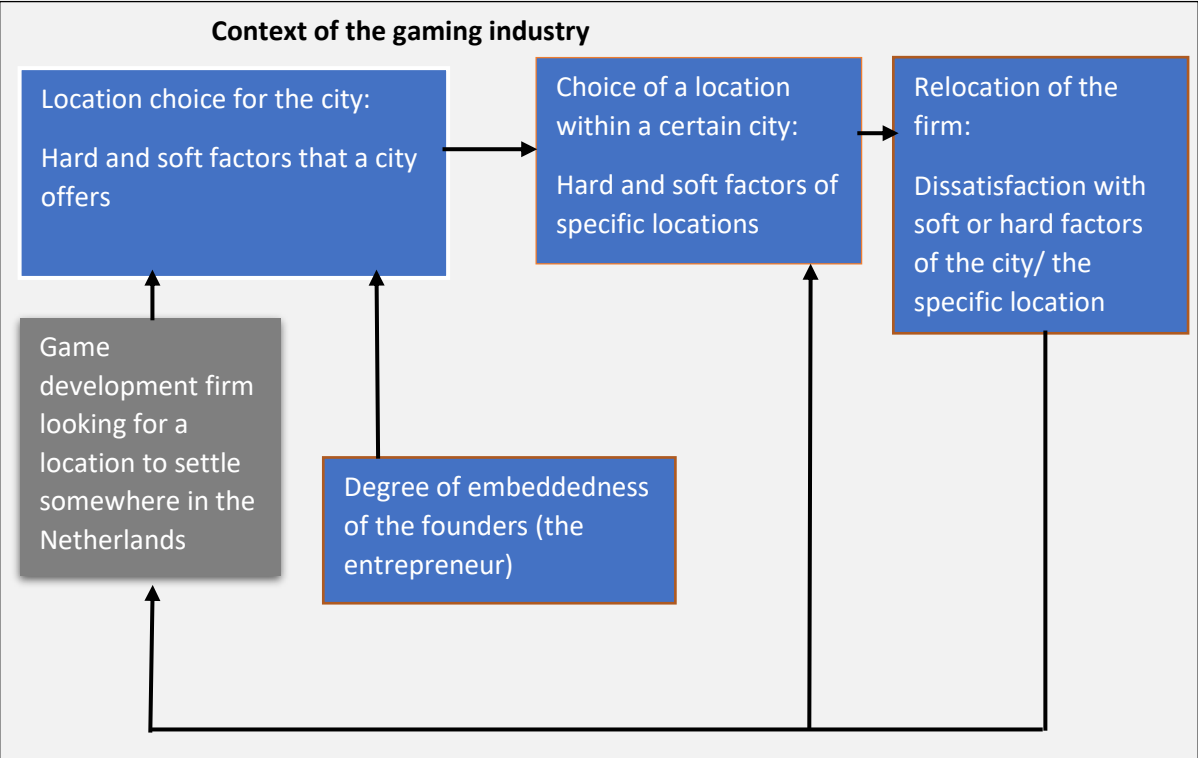
When looking at the lifecycle of the industry that there was an increase in the importance of complementary knowledge bases of other firms (Balland et al, 2013). This underpins the argument that was made that in earlier times studios were more able to create the entire product themselves. For large studios they can have most of the specialized communities in house, for smaller firms that are not able to hire as many personnel that need other firms to do these activities for them.

#### 2.5.4 Conclusion

The gaming industry is extremely dynamic and prone to rapid changes in a short amount of time. The advancements in technology make it so that there is a need for constant innovation and knowledge can quickly become absolute when a new console generation arrives. In the current day of the gaming industry the developers are less reliant on the distribution of the physical product this is a significant advantage. It has become easier to enter the market and there are less connections needed to sell the product to consumers compared to the past. Unfortunately, the cost and man power needed to create games has risen significantly making it harder for small firms to compete with their larger counterparts because of lack of funding and manpower. However, the increase in the market on the consumers side have allowed more different kind of games aimed at different demographics to be created, the downside is that the amount of games released has also increased significantly making it harder for smaller firms to take the spotlight since they do not have the funds to do a large marketing campaign.

## 2.6 Research model

**Figure 2: The research model of the study**



**Brief explanation of the model.**

Based on the literature overview in this chapter the following conceptual model has been made. The idea is that a game development firm is looking for a location to settle anywhere in the Netherlands. All the component that are a part of this model are influenced by the context of working in the gaming sector, therefore this component has been visualized as the boundaries (context) where the other factors operate in.

For both the choice of the city and the choice of the specific location the framework of hard and soft factors will be used the classify the reasoning of the location choices.

For the choice of the city it is expected that there will be an important element of the personal living circumstances. This means that especially for the choice of the city that this may be a big influencer of the location choice.

For the choice of the specific location within a city it is expected that the personal circumstances will be of less influence. The relocation of the firm will be fuelled by a dissatisfaction of some of the hard or soft factors of either the city, but it can also be about the specific location within the city. This dissatisfaction will cause the firm to select a new location. If a new city is chosen than it will return to the first step in the model and. When the new location will be in the same city than this step will be skipped since the soft and hard factors of the city will remain the same.

## 3. Research design

### 3.1 Choice of data collection tools

This study is of an explorative nature and will use a more inductive approach. The reason for this is because the gaming industry is rather young and there has not been that much research done of the combination of game developers and their location choice. The choice of a more inductive design has implications that no hypotheses have been constructed to be tested. The advantage is that during the interviews more space was incorporated to discuss things that were brought up by the respondent and allowed for a more open conversation. The researcher went to the interviews without clear assumptions why game developers are in certain place. The inductive and explorative nature of the study allowed this stance. The stance of openness and going back and forth between data and theory is a part of the grounded theory, this study follows this principle (Strauss & Corbin, 1990).

For this study a qualitative design was chosen. The main reason for doing this is because the researcher does not know beforehand why gaming developers are in a certain place. This makes using an enquiry with pre-created questions harder to apply. Using qualitative tools allowed more freedom to explore the different topics needed to answer the research questions.

Concerning qualitative data tools there are several options that are usable for this study. Since the questions that are needed to be asked to developers of the previous chapter are based on “why and what”. Because of this reason interviews were found to be the most suitable data collection tool for this study (Baarda, Bakker, Fischer, Julsing, Peters, van der Velden, & de Goede, 2013). Because there is still a lot unknown the choice was made to use semi structured interviews on the basis on a topic list (more on the topic list in 3.4).

### 3.2 Constructing the sample

For this study several firms have been approached if they wanted to partake in this study in the form of a semi structured interview. The sample of data in this study consist of several interviews done with developers. In general, two groups were identified that are a part of the potential data pool for this study.

- Entertainment focused developers
- Applied focused developers

The gaming sector is characterized as one where many small firms make up the majority (Dutch game Garden, 2015). When discussing entrepreneurship, the following division of the different phases of entrepreneurship based on the global entrepreneurship monitor (GEM) was used in this study:

- Potential entrepreneur; has the skills and knowledge
- Nascent entrepreneur; involved in setting up a business
- Owner manager of a young firm; up to 3.5 years old
- Owner manager of an established firm; more than 3.5 years old

In the context of this division the owner manager of young firms can be considered start-ups. Setting up and managing a business is especially risky in this phase and more firms go bankrupt in this phase compared to firms that make it past the 3,5-year mark (GEM, 2018)

Since a level of consistency is needed when selecting the cases, a number of requirements were created. When selecting the developers, the following rules were applied:

- One of the activities of the firm is the creation of games. Some developers are both a publisher and a developer when the activity only includes publishing of games the firm was not included.
- The firm needs to be located somewhere in the Netherlands.
- The firms need to be beyond the start-up phase of 3.5 years. This is of importance since many start-ups in the Netherlands are in special office spaces that are a part of an incubator programme like that of the Dutch game Garden. The location choice motives of firms located there were expected to be too different since other developers did not have access to the facilities that the Garden offers.
- The firm needs to have more than 1 employee. The reason for this is because a person who works solo on a project may have vastly different motives in terms of their location compared to firms that do have employees. In addition, it was expected that many of the 1-man firms are either located at home or are still in the start-up phase. Table 3 shows the makeup of the industry as was found in the report of the Dutch game Garden in 2015. Table 3 shows that the majority of the firms consist of only one employee. The focus is on the firms that are of a larger size to increase comparability.

**Table 3: Division of the sizes of the different firms in the Netherlands in 2015**

Staff members	Number of firms
1	163
2-5	139
6-10	53
11-25	35
26-50	22
51-100	5
101-249	3

Source: Dutch game garden, 2015

### Constructing of the list of contacts

Game developers can be found in many cities in the Netherlands beyond the nine largest that were presented in the introduction. To answer what location factors are perceived as important developers from all over the nation were included in the data sample. The researcher was not in the possession of a list of all firms that are present in the Netherlands. The data sample is therefore very likely not of a random nature. The addresses of firms have been uncovered using the following sources:

- Members of the Dutch game Assassination
- The data bases of the Chamber of commerce (KvK)
- Using social media platforms such as Facebook, Twitter
- Contacting Dutch Game Garden for advice

The potential respondents were approached firstly by an email detailing the research and asking them if they wanted to participate. In addition, if the firm has not responded contact using the telephone was used. Some of the firms could only be contacted by sending an email, these firms more often than not did not reply. The name of the owner was found using Linked in to make sure that it was easier to navigate when calling or emailing the firm.

### 3.3 Topics

Semi structured interviews will be used since there are certain topics that are an important part of the core of the research based on the research questions. However, since there are topics that may be lacking or discovered once the interviewing started more room was allowed for new topics to be included. The use of a topic list and semi structured interviewing allows this greater degree of flexibility (Baarda et al. 2013). The topic list with a more detailed list of questions can be found in appendix 1.

The following topics were included

- General information about the firm

The first topic of the interview is used to get more information about the firm to ensure that the interviewer is aware what the firm does and what kind of products are being created. This topic also serves as an easy entry point to get the interview started since it allows the respondents to freely talk about their firm and experiences. This topic is therefore one of the more open ones and the information that was gathered was more varied compared to the other topics.

- The staff of the firm

The first major topic that has been discussed is that of the staff members. Since the staff is viewed as an important asset of the firm. The questions in this topic are about where the staff members are from and if the firm has had any difficulties recruiting staff members. The topic of freelancers will also be discussed if it is applicable.

- The choice of the city

The main piece of information is the reasoning behind the location choice of the firm. In the interview the location choice has been split into two parts, first the choice of the city will be explored. Since the interviews were conducted with limited assumptions this question was asked broad and open. These questions have been asked in each interview to include a level of consistency in the collected data. However, the answer of this questions was sometimes different among the respondents. The follow up questions therefore deviated from each other. In some cases, the personal connection was explored further. If the reasoning is more economical than this was further elaborated upon. The researcher however did not know beforehand what kind of reasoning would be given for the location choice. This is the main reason why a more open interview design was used.

- The choice of the location within the city

The second component of the location choice that was explored is that of the specific location within the city itself. For this section it was expected that the personal connection will be less prominent and that the specific choice would have a reasoning based on the hard and soft factor. A broad and open question was used as well to start off this topic.

- Relocation of the firm

The third section dealt with the act of relocation of the firm. When the respondents gave the answer that relocation have taken place this was further explored. The main theme here is if the relocation was based on personal circumstances or economical. This section also dealt with possible changes in the importance of certain location characteristics has changed as the firm has matured.

- Cooperation between firms



The last topic is that of collaboration between of firms both in and outside the gaming sector. This topic served to see if there is any relevance of clustering and being close to each other as a competitive advantage for game developers.

### Saturation point

When it comes to interviewing firms, the following rule has been handled to determine the number of interviews needed: ***Firms will be interviewed until no new information is gathered in other words until the saturation point is reached.*** In practice this means that when firms describe similar motives for their location choice. For this study 10 interviews were conducted with game developers from all over the country. In these interviews to a certain extent similar answers were given by the respondents to the questions. It can be said that for the data pool of this study the saturation point of information has been reached.

## 3.4 Validity of the Data

### Internal

The degree of internal validity is about the causal relations between the different parts of this study (Baarda et al, 2013). The means that the independent variables that are a part of this study have an effect on the main dependent variable. In the case of this study the main dependent variable is the location choice. The factors listed below are the independent variables that influences the location choice of game developers.

- **The location choice of the city is influenced by hard and soft characteristics of a certain city.** The dependent variable of the location choice is influenced by the hard and soft factors that are perceived as different independent variables.
- **The location choice of the city is influenced by the personal living circumstances of the founders.** The dependent variable of the location choice is influenced by the independent variables in the form of the degree of embeddedness of the founders that consist of social and economic components.
- **The location choice within the city is influenced by hard and soft factors of the specific district or building.** The dependent variable of the location choice is influenced by independent variables consisting of hard and soft factors at the district level.
- **The location choice is influenced by the context of operating in the gaming sector.** The dependent variable of the location choice is influenced by the independent variable of the industry context consisting of the workings and developments that are happening in the gaming sector.

### External

The degree of external validity detracts if the found results can be translated to the general population (game developers in this case) (Baarda et al, 2013). When talking about the external validity in context to the Dutch game industry it is assumed that there somewhat strong degree of external validity. This is the case since most of the firms in the Netherlands share the same characteristics as the interviewed firms. What is meant by this is that many firms are of a small size where the founder may have a strong influence on the location choice.

The context of the Netherlands as the country of residence is also constant for these firms. For the larger firms it is assumed that the external validity is less strong since because of their size other factors

may be more prominent. The size of the firm may also be a limitation as larger firms may have different motives concerning their location choice, this is as mention the same limitation of the external validity for the Netherlands.

When discussing the external validity with firms outside the Netherlands it is assumed that the external validity is low. The reason being that the context of the country of residence is different and that the market is of a different size (when developing games for the own market).

### **Reliability**

Space for a more open conversation has be incorporated in the interview strategy. The choice of this strategy has certain implication on the reliability of this study. In terms of replicability of the study some problems may arise due to the nature of the interviews. Certain topics have been explored in the interview that was not that have been prominently featured on the topic list. If a completely structured interviews list was used instead of a semi structured one the reliability would have been stronger. All the interviews have been recorded and transcribed to improve the reliability of this study.

For the replicability of the study that may be a problem. Also, the period where this study has been conducted was one of economic growth, the results may be different in the interviews when the global market is experiencing a downturn.

The influence of the researcher is present in the form that the researcher has been connected to the gaming sector for a large portion of this life. This means that there is a degree of understanding present about how the industry works. However, once an individual has read this study it can be assumed that he or she would be more aware of the workings of the gaming industry.

## **3.5 Coding of the data**

Since qualitative data tools have been selected coding of the transcript in the programme NVIVO is relevant. Doing an analysis in this programme has certain implications of the output of the results of this study. In general, two types of coding are identified: Open coding and Axial coding (Baarda et al. 2013). As a starting point the transcript will be coded using the open coding technique this means that the coding has been done without considering the theoretical implications of what has been said in the interview. This type of coding is purely about the answers that have been given in the interviews by the respondents (Baarda et al. 2013). The second phase of the coding is that of axial coding in this phase the codes that have been constructed using open coding will be linked to relevant concepts found in the literature (Baarda et al. 2013). This code tree is the final output of NVIVO and has formed the basis on which the analysis in the results chapter has been constructed. The output of the axial coding can be found in appendix 2.

## 4 Results

In this chapter the results of the conducted interviews will be covered. The goal is to give a comprehensive overview what the different interviewed partners had to say about the different topics. The link with the literature will be made with each of the topics to see if the answers given can be explained by what is already know about the subject. The results and analysis presented in this chapter is based on the coding that has been done with NVIVO. The code trees of the different subjects all relate to the location choice of the firm. The code trees can be found in appendix 2.

### 4.1 Being a game developer in the Netherlands

In Tabel 4 an overview of the interviewed firms is shown. Table 4 can be used to identify what kind of products the firm makes, what platforms games are developed for, the age of the firm and where the firm is located. Even though the gaming sector in the Netherlands is characterized as having many start-ups in general the interview partners all share the same characteristic that they have been operating for a rather lengthy amount of time. All the firms are well over the 3,5-year making them established firms (GEM, 2018).

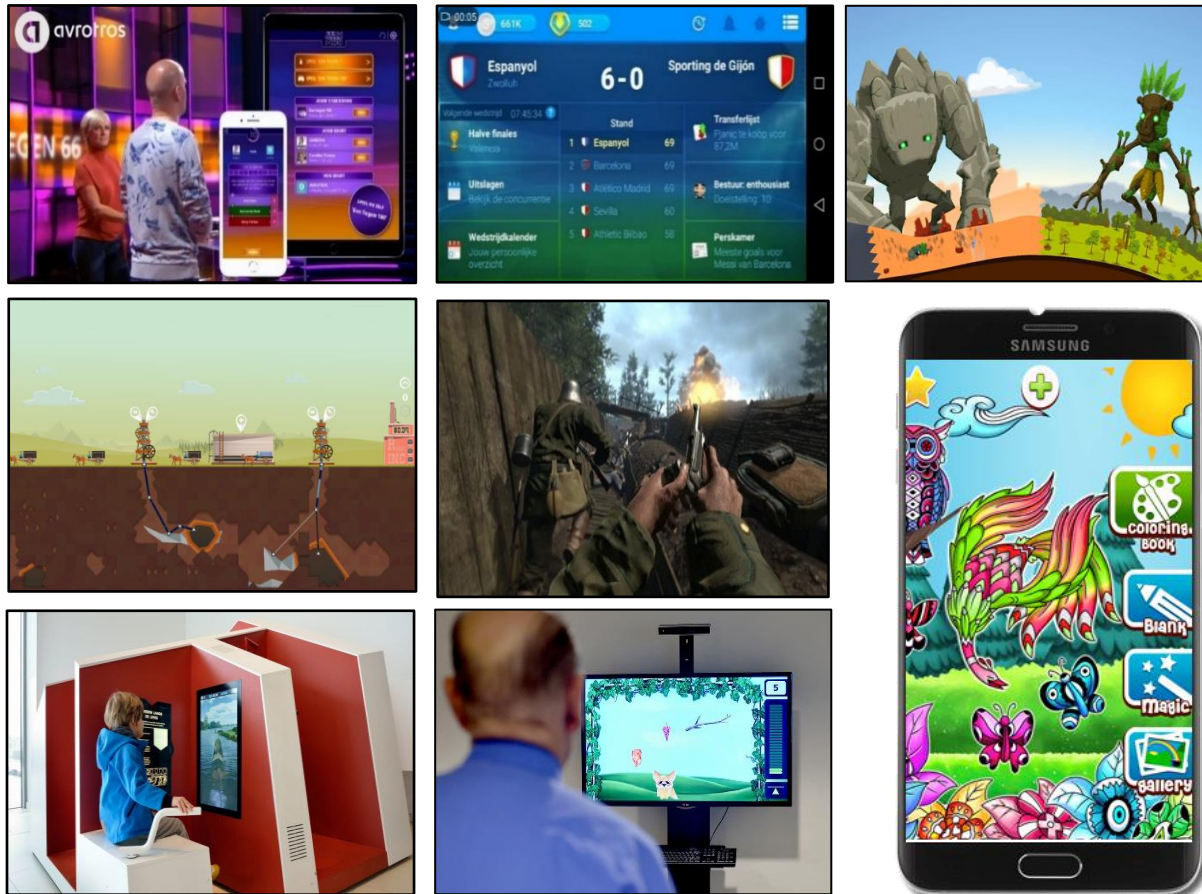
**Table 4: Profile of the game developers interviewed**

Firm	Short description of the firm	Platform	Age of the firm	City where the firm is located	Size of the staff
Gamedia ( <i>Entertainment</i> )	Entertainment and applied products for a wide arrangement of clients. Clients are top brands such as Volvo and Heineken	Mobile, PC, console, VR	Founded in 2007	Alkmaar	8
M2H ( <i>Entertainment</i> )	Several entertainment-based games aimed at the mass market	PC, mobile and console	Founded in 2009	Alkmaar	10
2 Monkeys ( <i>Entertainment</i> )	Entertainment games aimed at the mass market	Mobile	Founded in 2013	Deventer	6-8
Blewscreen ( <i>Applied</i> )	Some own entertainment products but mostly applied concepts based on clients wishes	PC depends on the clients wishes	Founded in 2006	Tilburg	4-6
Game basics ( <i>Applied</i> )	Producer of an online football management game	PC, Mobile	Founded in 2001	Zoetemeer	Around 50
Witan ( <i>Entertainment</i> )	Producer of games mostly entertainment based	PC, Mobile, VR, and console	Founded in 1988	Haarlem	1
Gamous ( <i>Entertainment</i> )	Several entertainment-based games aimed at the mass markets	PC, mobile	Founded in 2011	Haarlem	8
Dezzel ( <i>Applied</i> )	Education related gaming solutions	Depends on the client	Founded in 2011	Almere	7
Silverfit ( <i>Applied</i> )	Supplier of gamification fitness for elderly and disables persons	PC, television	Founded in 2008	Woerden	35
AbbyGames ( <i>Entertainment</i> )	Several entertainment-based products aimed at the mass market	PC	Founded in 2012	Utrecht	10

**Source: Interviews conducted with game developers**

## The different products

Figure 3 : Sample of the games created by the developers interviewed (first row Gamedia, Gamebasics, Abby games; Second row Gamious, M2h, 2Monkeys; third row Blewscreen and Silverfit)



Source: Gamedia, Gamebasics, Blewscreen, M2H, Gamious, Abby games, Silverfit, 2Monkeys (n.d)

While the gaming market is ever growing in terms of consumers; the cost and complexity of the creation of a video game has risen steadily over the years (Roger,2016; Marchand & Henning-Thureau, 2013). In the scope of this study this can have an influence on the location choice of firms. For larger game productions more staff is needed compared to smaller scale games. In figure 3 an overview of different games that are being created by the developers that were a part of this study is presented. Most of the studios in the Netherlands are of a modest size and the work that they do reflect that. For the applied studios the process of gamification is clearly present in the work that they do (Bottom 2 images). The ideas of adding gaming elements to certain activities is considered one of the pillars of the Dutch game sector before the rise of entertainment productions (Dutch game association, n.d.)

## **Selling the product**

### **entertainment**

One of the main characteristics of the gaming sector is the rapid pace of technological innovation. Some of the innovations do have an impact on the geographical spread of the sector. In the model in section 2.6 the context of the gaming sector was included. The context of the sector is believed to indirectly influence the location choice. Game developers are no longer bound by the constraints of having to deliver a physical product that needs to be distributed (Kunnskapsverket, 2017). This increases the amount of freedom that a game developer has when selecting their location as the distribution of the process can be done through online means almost anywhere in the country.

The wave of digital storefronts was also present in the interviews as most of the game developers use online means to sell products to consumers. Online storefront both on pc and mobile were mentioned several times as the place where the games are presented for purchase. In terms of physical sales only M2H mentioned that one of their games is available physically in stores, still it was said that this was more of an experiment and not the focus and that most of the sales take place online.

### **Applied**

For applied developers the process of sales is somewhat different as they in some cases apply gaming elements to physical objects. Still as mentioned this is based on the wishes of the clients. What is noticeable is that the applied developers have a strongly different dynamic when it comes to their business strategy. In a way applied developers can be viewed as entities that are not that strongly connected to what is happening on the gaming market as they serve different sectors and are not bound to the general audience. This was mentioned by one of the founders of Silverfit:

*“In the Netherlands we are relatively far ahead when it comes to serious gaming, we don’t have to deal much with the gaming market at all. I would describe our firm more as a healthcare company rather than a gaming company. We make games, but we are not a typical game developer”*

### **A tough industry**

Since the firms interviewed still exist it is safe to assume that they have achieved a certain amount of success. In the interviews this was discussed briefly with each developer; most of them feel that they have reached a point where they are financially secure. Some have reached large install bases for their games. This may indicate that the location choice of the city is not a hindrance when it comes to surviving in the sector.

When talking how to be profitable most of the developers mentioned the element of luck involved in their survival. The main thing that can influence their success is being aware if the product they are making can be profitable. One of the founders of Abby games described this rather well:

*“Yes, we were lucky it is really hard, it is especially hard when it is the first time you do it. You do need to have luck at your side, that does play a role. And you do have to make something that you can sell. It is nice if you like it yourself, but to survive it is important to believe that what you are making can be sold”*

This sentiment was shared by a number of other game developers, you do need to be aware of what you are making is going to make you any money.

Having the knowledge to navigate the market and making sure that the product that they make is something that can be sold to the general audience is perceived as one of the main reasoning that the

developers have been able to survive. When talking about the gaming sector according to Caves (2003) it is hard to predict if the product is going to be a success or a flop. Making sure that the product is marketable can minimize the risk but cannot eliminate it. The size and funds of a firm can influence the risk of flops and going bankrupt. The founder of Gamious described this rather well how it feels to operate in the sector.

*“When firms have a portfolio of qualified people and an investor and they are generating cash. They have gotten a certain scale that is needed to tackle the odds of the gaming market so to speak. It is like playing poker the more money you have the more often you can play a tournament. It is the same in game development the more money you have the more games you can make. If you can only play once and the product is not a success than you won’t make it. “*

In general firms operating in the gaming sector still have to deal with a great deal of uncertainty if their product is going to sell well enough for them to survive. The element of lack of investments is something that is characteristics of the Dutch gaming sector (Dutch game Garden, 2012; 2015). This unfortunate sentiment was mentioned by some of the developers:

*“After two years everything went very well all of the sudden and we had money on the bank. Than you ask the bank, I have another project can I get financing for that? Than you get the answer “well you are in a sector where we cannot organize any kind of financing. So, they do come when you have money on the bank, but financing is not possible “*

This finding in this chapter can relate to the location choice of firms since there is an influence on the industry context. Game developers have to be conscious about their spending and the prices they are willing to pay for office spaces. The advantage of the current industry is that they can set up a firm from anywhere since the aspect of physical distribution is limited.

## 4.2 Choice of the city: The embedded game developer

In the previous section some insights on the workings of the firm in the gaming industry was the topic. The firms all have been able to survive in the industry even though many others have failed. Why have they chosen to be in a certain city is one of the main topics and the subject of this section.

The location choice of the firm as mentioned is divided into two sections: the choice of the city and the choice of a location within the city. In table 5 a short overview of the results regarding the choice of the city is presented.

**Table 5 : Choice of the city**

Firm	Choice of the city as a location for the firm
<b>Gamedia,</b> Alkmaar	Founder lives in Alkmaar, worked for long period in Amsterdam did not want to travel to another city. Started the firm at home as the first location.
<b>M2H,</b> Alkmaar	Founders live in Alkmaar did not see the benefit of moving to other city doing fine in the current location. Started doing game related activities from home and grew the firm from there.
<b>2 Monkeys,</b> Deventer	Founders live in Deventer. Has wife and children who are embedded in Deventer. Started doing gaming related activities from home, Firm founded with a partner also from Deventer
<b>Blewscreen,</b> Tilburg	Founder lives in Tilburg. Started with a partner who is also from this region. Tilburg is in a central position in the Netherlands. Wanted to be able to access the Belgium market.
<b>Gamebasics,</b> Zoetermeer	The original founder lived in Zoetermeer and started his firm at home. Firm stayed in the city moving from office to office space
<b>Gamous,</b> Haarlem	The founders live in Haarlem, they have had their firm in Amsterdam but were pushed out because of increasing rents and returned to Haarlem since it was the most logical place to go to
<b>Witan,</b> Haarlem	The current owner lives there, firm consist officially of one person
<b>Dezzel,</b> Almere	Investment fund of Flevoland required them to locate somewhere in the province
<b>Silverfit,</b> Woerden	Woerden was cheap and well positioned
<b>Abby games,</b> Utrecht	The four founders were living and studying in Utrecht, the firm was started at the university, the Dutch game Garden was the second location and reason to stay in Utrecht

**Source: Interviews conducted with game developers**

### Embedded in the city

In the literature overview hard and soft factors were discussed as potential reasons for the choice of the city. Another line of thinking was included by looking at literature based on entrepreneurship of individuals and the degree of embeddedness. Based on the interviews as seen in table 5 the personal connection that the person has with the city has been of great influence for the majority of the interviewed developers.

For some of the interviewed game developers, the choice of city was not something that was carefully weighted with advantages and disadvantages it was the case that they already lived in the city and remained there when they started their firm. This means that there is a strong element of the personal

embeddedness as opposed to economic embeddedness that binds the entrepreneurs to a certain location (Jack & Anderson, 2002).

The main reason why the founder embedded in their city is because they are attached to their living situation. This is something that cannot be easily severed on a short notice without significant investment of both time and money from the entrepreneur. As the founder of 2Monkeys described it.

*“We have lived here for a long time and have children here. So, there are a lot of reasons to start our firm in this city. The location choice for us was mostly because of the connection with the city, our family and the employment of my spouse. That played a large role”*

This degree of embeddedness has some clear implications on the location choice of the firms. The owner in most of firms interviewed has a strong influence on where the firms is going to be located. In most cases this was close to their own home. When asked if they would consider moving to another city this was usually answered with a “no”. Some nearby city would in some cases be possible. Even though it is hard to confirm if the economic performance would be better in another city the findings do suggest a degree of inertia. According to Dahl & Sorenson (2012) inertia can come at the price of economic performance when individuals want to stay close to family and friends. Since the firms have been able to survive and, in some cases, even become successful this element of sacrificing economic performance seems to be limited.

What is interesting about several of the interviewed developers is the notion that they have already worked in the industry prior to setting up their own firm. For some entrepreneurs they have got the knowledge needed to navigate the industry while still being socially connected to their home location. Combined with the idea that entrepreneurs tend to perform better in a city where they have lived for long period of time, the economic performance of the interviewed firms may be explained this way (Dahl & Sorenson, 2012).

### **The home advantages**

The home advantage consists of the social network that an entrepreneur has when they decide to set up a firm in a place where they have strong social ties. The element of perfect information also plays a strong role in this choice as entrepreneurs cannot know everything about other potential location as well (Figueiredo et al, 2002). This was observed in the form of firms not seeing the advantage of incubator locations over starting in their own home town.

*“Not for us we lived here and then you have to go Utrecht to just go and be there. For us the added value was limited. We just did not care, we did not think it would add much to our firm. It may be nice for the people who are from the region. It is not a good idea to travel 3 hours each day to just go work there. “*

Other developers shared this sentiment. This indicates that the advantage of having other firms nearby in an incubator and having (potentially) cheap office space is not something that is weighted stronger compared to the advantage of being able to stay in one's home city. This relates to the notion that some entrepreneurs have strong inertia and wish to remain in their current environment even if this would mean less economic viability. Relocation to another city is also unlikely as discussed by the founder of Gamedia:

*“I worked in Amsterdam for many years and was done with the travel time, this time is better spent in my own firm rather than traveling”*



If one of the developers wants to move their firm to another city there is the element of maybe having to move to that city as well. This may be unrealistic to assume as something that is done easily. While for example Amsterdam may have a strong presence in the gaming sector it is not something that is achievable for a developer to move their firm to that city when still being strongly embedded in another city. The element of having to move there yourself potentially is seen as a hurdle as mentioned:

*“The price of housing in Amsterdam is rather high and the city is very full already so that is not that attractive to do”*

### **Small and larger firms**

While cities such as Amsterdam and Utrecht are strongly represented in the gaming sector it is not the case that all the developers want to work or live there. Even though it is hard to establish if the performance of the firm would be different had they been in for example Amsterdam. It can be noted that being in less central cities have the advantage of lower rents. This is something that most of the interviewed developers agreed upon as being an advantage of their current city choice. In box 1 some information about the largest and most prestige game developer Guerrilla games is presented. This piece of information is used to highlight that there is a difference between the smaller firms where the founder has more influence compared to the larger firms where this may be less the case. Also, the element of needing more employees is highlighted.

The findings in the interviews suggest that there is a strong influence on the personal circumstances of the founders concerning the choice of the city. This mainly relates to the degree of embeddedness.

Based on the findings a division in the type of firms may be applicable. Most of the firms interviewed shared a number of characteristics that made them comparable in some way.

- The founders are still present in the firm
- The firm has not been taken over by an outside investor
- The firm’s location is somewhat connected to the personal living conditions of the founder (exceptions here are Dezzle and Silverfit)

With most of the firms the owner is an important driving force, they are usually the most skilled and therefore both boss and the most important employee. They are the one that call the shots of what the firm will do. It was clearly established that the founders try to accommodate themselves by

### **Box 1: Guerrilla games**

Even though they were not interviewed there is some material available on the largest game and most prestigious developer in the Netherlands and why they are in Amsterdam.

According to the report of Neiborg and Kloet (2013) the developer is in the city because of its atmosphere. In addition, they are more able to recruit new staff members from the country but also from abroad.

This is underpinned by an article by Parool about the studio in which they were quoted:

*“we are in Amsterdam because our employees chose us, but they also chose the city, they would not come to use were we located in Hengelo” (Parool, 2009)*

This shows that there may still be a clear element beyond the personal connection that one may have in the choice of the city. For larger developers being able to attract talented staff may be the prime reason to locate in certain cities. However, Guerrilla games is rather unique in the game system and may not be representable for most other firms.

ensuring that they can remain in their current living condition. The degree of social embeddedness is strong enough to ensure that they want to remain in their current environment.

An argument can be made that this is something that they can do in the modern gaming industry as discussed in the previous section, the gaming industry is mostly digitally based. If the firm has access to office space and computer a gaming firm can exist almost everywhere.

### 4.3 Staff as the most important asset

The location choice both city and the location within the city may be linked to the size of the firm in the form of the number of employees. In the interviews the number of employees on site and the number of freelancers was an important topic. In table 6 an overview of the results regarding the size of the staff on site is presented.

**Table 6 : Size of the staff on site**

Firm	Size of the staff	Origin of employees that work on site	Use of Freelancers
Gamedia, Alkmaar	8	Area surrounding Alkmaar mostly, one from Utrecht	no
M2H, Alkmaar	10	Owners are from Alkmaar and use the office. No other permanent employee uses the office space	yes
2monkeys, Deventer	6-8	Founders are from Deventer other employees are mostly from the eastern part of the Netherlands	yes
Blewscreen, Tilburg	4-6	Founders are from Tilburg other employees are mostly from the province of Brabant	yes
Gamebasics, Zoetermeer	Around 50	Mostly from the Randstad Area. Triangle the Hague, Rotterdam, Zoetermeer	no
Witan, Haarlem	1	Owner is from Haarlem and uses his office space from time to time	yes
Gamous, Haarlem	8	The area around Haarlem, a number are from Amsterdam	yes
Dezzel, Almere	7	Mostly Flevoland, some live outside the province	no
Silverfit, Woerden	35	Only a few are from Woerden, employees are scattered in the surrounding cities	no
Abby games, Utrecht	10	Utrecht and Houten are the main places of residence	yes

**Source: Interviews conducted with game developers**

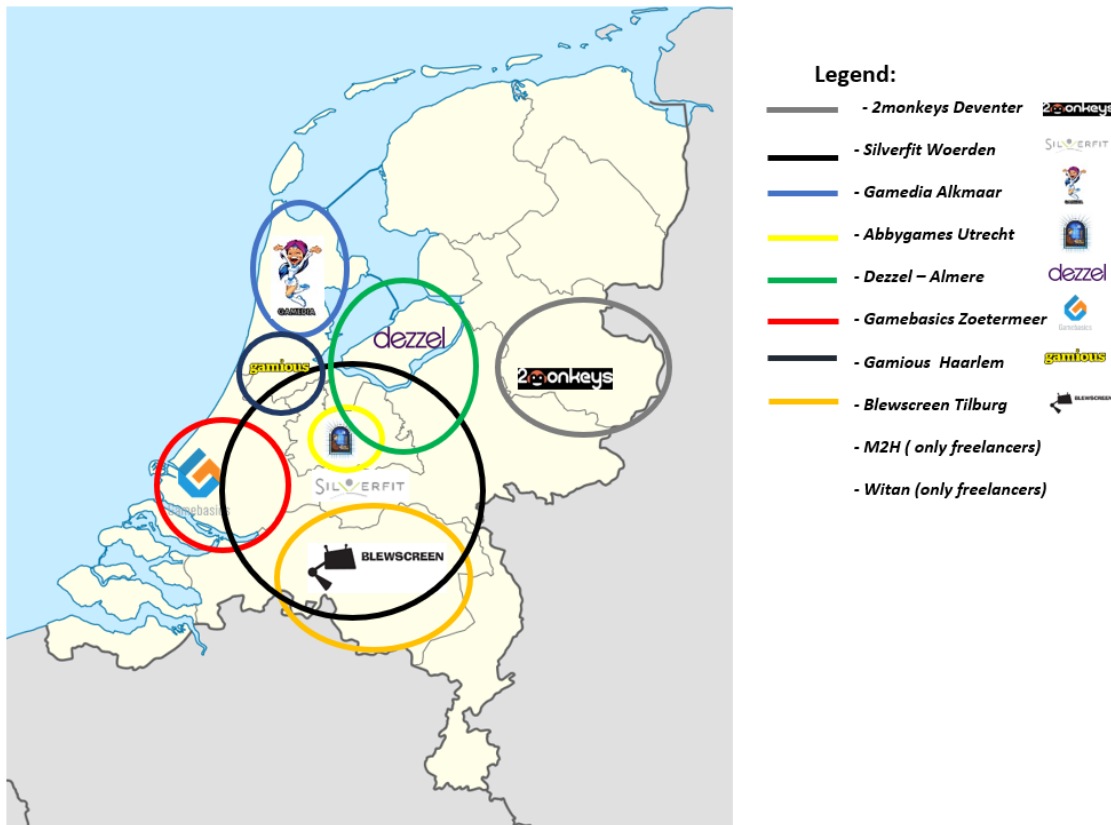
#### Size of the firms and attracting staff

In knowledge intensive sectors like the gaming industry human capital can be viewed as one of the most important assets for firms (Wright, 2015). Does attracting staff members also have an influence on the location choice of firms?

The firms that were interviewed were of various sizes however, most of them were less than ten employees. The main geographical element regarding the staff is where they are from. When asked about this it was noted that most of the staff that the firms work with are relatively local. As the founder of Blewscreen said:

*“Yes, they are all from the region. Here in Brabant you have a lot of games education, but you don’t have a lot of working spaces available. There is a lot of education. Now there are many people who are looking for employment in the game sector”*

**Figure 4: Schematic overview map of the sphere of recruitment of the gaming firms interviewed**



**Source: own work based on the interviews**

Similar answers were given by the other developers. The staff that work on site firm are not always from the city where the firm is housed, rather they live within travel distance that is estimated to be lower than 1 hour based on what was said in the interviews. In figure 4 an impression of the reach of the firms is shown in terms of what regions they get their employees from. There is a degree of locality involved as most of the staff members are picked up from the same province as the firms is housed (with some exceptions).

### **Staff for the larger firms**

Even for larger firms located in smaller cities like Zoetermeer or Woerden that are not part of the well represented cities have enough employees. They can exist by having enough potential employees in the urban areas within a short travel distance. The following quote from the CEO of Game basics underpins this idea:

*“we have around 50 colleagues and almost all of them are from near here. (). Most of them are in the triangle Den Haag, Rotterdam and Zoetermeer. Everything takes around 30 minutes to three quarters of an hour to travel to here “*

Since the travel distance is not that high firms can still recruit staff members from other cities to work at their firm. This has been observed with most of the other firms as well. Only a few the staff members are usually from the city where the firm is currently housed. However, since the distance to other cities is limited the firms can still recruit talent from nearby without having to feel the need to move to that city as well. A big limitation is that this only goes so far as described by the CEO of Gamebasics.

*“In Amsterdam are a lot of more gaming firms than in The Hague and Rotterdam there are some but not that many. When talking about attracting staff is it a bit more difficult since we are a bit in corner of where people want to be. We are in a location where there are few gaming firms. So as long we make sure that we are able to be found and can be found we are a small gem in Zuid-Holland”*

However, when considering the size of Dutch game sector, it must be noted that only a few firms grow that large. For many firms a small number of staff members will suffice.

When it comes to attracting staff, it is believed by some scholars like Florida that firms in the current day tend to peruse the creative talent (Florida, 2003). This dynamic implicates that firms tend to move to the cities that are perceived by the creative workers to be attractive places to live. And while there are indeed more gaming firms in these larger cities other firms do not always feel the need to peruse the talent and move to those cities like other have done.

### **Lack of competition while picking up staff members**

While the advantage of having a bigger labour force may be a reason to move to a certain place some of the developers expressed a different opinion. Being one of the only developers is an advantage since they don't have to deal with employees leaving to another firm. There is simply less competition as the founder of Gamedia mentions:

*“When we went to an office building to attract staff I did not want to go to Amsterdam or Utrecht or any other large game city. Because you have a good position here, in the North of North Holland there are no other game companies”*

The founder of Gamious specially mentions the advantage in combination with having less competition from other game developers.

*“On the other hand, we are one of the only well on of the few developers, there is little competition from other game companies that are in Haarlem when it comes to looking for people”*

This “advantage” that these founders described is what de Vaan (2011) mentioned in his thesis on the gaming industry. According to him the skilled labour pools are highly localized and do not move as easily. Firms in the same sector tend to move to the same place to exploit this. For the firms that are one of the only game developers in their city/ region they have the advantage that they do not have to compete for the same staff members. If there are individuals who are looking for employment but do not want to move to another city these firms are well positioned to pick up these talented people. Another advantage is the lack of competitors meaning that staff members are less likely to move to another firm.

### **Education and acquiring staff members**

The amount of gaming related education in the Netherlands has grown significantly over the years (Dutch game Garden, 2015). The outflow of graduated students has bolstered the number of potential employees the gaming industry in the Netherlands can have. This can be the lifeblood that will allow the industry to grow over time. At this point in time the industry in the Netherlands cannot completely accommodate the outflow of students as the number of workplaces is still too low (Verlaan, 2016; Dutch game Garden, 2015).

**Figure 5: Education of games**



**Source: Dutch game Garden (2015)**

This may have a relation with radius of staff reequipment. shown in figure 4. Since the amount of gaming related studies has risen, more students are graduating who have the skills to start working in the industry.

Since gaming related courses are available in most regions there are now skilled individuals present that firms can recruit from. Over time it can be assumed that in many more places the number of skilled individuals will rise allowing more small firms to be able to exist because they only need a handful of skilled people to work at their firm. This has implications on the location choice as new entrepreneurs may feel less of a need to move to other cities to ensure that they can get the human capital that they need for their firm.

The growth of education has also allowed certain cities to become more prominent because of students that choose to stay in the city and set up their own firms. The founder of Witan talked about how education can allow cities to become active in the gaming sector.

*“Utrecht has their entire game quarter build by only one school and that is the HKU. The HKU has been the example for the last 10 years, and you see that a lot of studios appeared because of it. “*

Concerning the choice of the city having any form of gaming education nearby (Mbo, Hbo or university) is perceived to be an asset. For many of the firms interviewed employees are brought in because they have done an internship or thesis at their firm. Therefore, it is important that there is enough talent in the region that firms can tap into. The founder of 2monkeys had a similar sentiment towards the importance of education.

*“You do need schools somewhere near you who teach gaming related subjects so that you can get people to work for. Thing like that are more important for us than working with other firms”*

In figure 5 a map is shown based on the games monitor report that shows where gaming education is provided. At a glance it can be concluded that in the current day most of the regions in the country have some sort of access to students whom are following a course that is related to the gaming sector.

## 4.4 Freelancers as a substitution for lack of local talent

Next to staff on location the topic of the usage of freelancers was explored. Some of the firms were using more freelancers than others.

### **Lack of local talent**

For several firms that were interviewed there was a strong presence of the of freelancers. Using freelancers may indicate that there is not enough local talent available for the firms to tap into. The reason to use freelancers were not always the same for the firms.

The reasoning for using freelancers was partly due to a lack of the amount of skilled people in the city where the firm is housed as mentioned by the founder of M2H:

*“In Alkmaar there is a clear lack of skilled people there is nothing here”.*

As can be seen in figure 5 there is no kind of gaming education to be found in Alkmaar. This can lead to a lack of specialized local staff. What is striking about this is that another gaming firm is in Alkmaar as well. However, that firm has been able to recruit enough local talent. M2H was founded after Gamedia so it seems that Gamedia has been able to secure most of the talent that lived in the area that did not want to move Amsterdam or another more prominent game city. Even though there may be a lack of local qualified personal available a game developer is still able to produce a product that is highly profitable. The game by M2H “Verdun” has been sold around one million times as said by one of the founders. There are some downsides of using freelancers as mentioned:

*“Yes, there are pro and cons. The communication is more difficult and the inflexible working hours, it is harder to talk about the product since they are not here”*

The freelancers that the firm uses are both from the Netherlands but also from abroad. Working with freelancers from abroad has also been observed with other game developers as mentioned by the founder of 2monkeys:

*“And we worked for a little while with people who live in the Czech republic. It worked out fine either way”*

In general, the use of freelancers from abroad are perceived to be not a problem. As mentioned by de Vaan (2011) the institutional barriers in the gaming industry are found to have diminished significantly signalling that the industry is truly global. The findings that firms are using freelancers from abroad support this idea as the cultural or language differences is no longer a significant enough barrier to deter firms from using these freelancers.

### **Amount of work of the firms**

What is also of note is that for some firms their number of employees is not on the same level all the time. The main reason that was given is the amount of work available or the number of interns that a firm has at any moment the founder of 2monkeys talked about this:

*“We are with 8 persons, a few of those are in full time employment. A few employees are hired externally, our graphic designer we hire like that because we do not have enough work for him to work full time that’s why he is a freelancer”*

The most important thing mentioned here is the notion that these game developers do not always need certain specialities like art or sound design. These are than often being done by individuals or other firms as mentioned by the founder of Gamious:

*“Often they are specialist like an artist. They function better from their own studio or own environment where they must produce something. If that has been discussed properly in advance there is not a great need for feedback or interaction”*

The need for not always needing artist or other specialities has mostly to do with the scale of the firm and the number of products that are being created by the firm at any given time. The founder of Gamious gave the following reasoning why this is the case:

*“When you are a large studio with bigger projects or multiple projects at the same time. Than it is possible to hire one or multiple artists because there is more game. We just do not have the scale for that”*

When talking about game development making a game nowadays is more complex compared to the days when the industry was still young (Rogers, 2016; Marchand & Henning-Thurau, 2013). This means that are a greater deal of speciality involved with different parts of the production. Especially specialized tasks like that of a sound designer are therefore more often done by freelancers as they are not needed year-round. Since there is no constant stream of work they would prove to be a more financial burden when having them fully employed. For the larger firms this is less of a problem since they have the scale and the financial resources to have this done inhouse.

### **Staff as the most important asset**

In this section the aspect of the staff of the firm has been discussed extensively. As a bottom line it can be somewhat concluded that all the firms are able to have enough talent bound to their firm by either recruiting them to work on site or as freelancers from a distance. In the work of Breton et al (2010) the point was made that not all creative workers are attracted to the larger cities. Even though this is hard to confirm based on this study the argument can be made that it is indeed true that some of these workers prefer to stay close to their own home town compared to moving to a city like Amsterdam. At the same time the increase in gaming related education may allow more firms to exist in the current day and in the future as the number of skilled individuals increases.

The example of M2H and Gamedia in Alkmaar do show that there may be an element of not having enough talent in the present in cities to recruit from. This may prevent multiple game developers operating from the same city (assuming all these firm need staff on site). This is the advantage that larger cities such as Amsterdam have in facilitating the sector and is probably the reason why more firms are located there.

When a firm only needs a few employees to do the work that is needed, then moving to a city like Amsterdam may not be desirable. They are not looking to exploit the main advantage of city that has the scale advantage in the form of more staff that can be recruited. Being one of the only game developers in a certain place is perceived by some as an advantage since they do not have strong competition when it comes to recruiting the few locals that are there that have the needed skills.



## 4.5 location choice within the city: Hard and soft factors

One of the most important pieces of information of this study is the choice of the location. In section 4.3 the choice of city was discussed. While the personal connection with the city was leading in the choice of the city for most of the firms. In table 7 an overview of the reasoning for the current location of the firm is displayed. Section 4.5 will go more in dept about the previous locations.

**Table 7 : Location choice within the city**

Firm	Hard factors	Soft factors
<b>Gamedia,</b> Alkmaar	<ul style="list-style-type: none"> <li>• Accessibility by public transport (Bus and train)</li> <li>• Parking Garage nearby</li> <li>• Affordable office space</li> </ul>	<ul style="list-style-type: none"> <li>• the atmosphere is better in the city centre</li> <li>• Have more influence on how to decorate the office (not shared space)</li> <li>• It's nice to be in the centre when clients visit your company</li> </ul>
<b>M2H,</b> Alkmaar	<ul style="list-style-type: none"> <li>• Close to their own home (walking distance)</li> <li>• Separation of work and private life</li> <li>• Affordable office space</li> </ul>	<ul style="list-style-type: none"> <li>• Did not want to be in a boring office building</li> <li>• It was more fun to be in the historical centre</li> </ul>
<b>2 Monkeys,</b> Deventer	<ul style="list-style-type: none"> <li>• Being close to the station was a must since freelancers and interns need to be able to reach the building without any hassle</li> <li>• Good price for what you get</li> </ul>	<ul style="list-style-type: none"> <li>• It's more fun to be in the city centre compared to an office location</li> </ul>
<b>Blewscreen,</b> Tilburg	<ul style="list-style-type: none"> <li>• Circumstances have led to them being in this location and is possibly of a temporally nature</li> </ul>	/
<b>Gamebasics,</b> Zoetermeer	<ul style="list-style-type: none"> <li>• Well connected to public transport</li> <li>• Affordable office space since the property had been empty for a while</li> <li>• Office has been selected with growth of the firm in mind</li> </ul>	<ul style="list-style-type: none"> <li>• Office space allowed to be decorated with preferences of the firm in mind</li> </ul>
<b>Witan,</b> Haarlem	<ul style="list-style-type: none"> <li>• Needed an office space to bring people together sometimes for brainstorming purposes</li> </ul>	/
<b>Gamious</b> Haarlem	<ul style="list-style-type: none"> <li>• Close to the train station</li> <li>• Cheap office space</li> </ul>	<ul style="list-style-type: none"> <li>• Great degree of freedom on how to use the office space</li> </ul>
<b>Dezzel,</b> Almere	<ul style="list-style-type: none"> <li>• Affordable office space</li> <li>• Several other firms are in the same building</li> <li>• Accessibility with public transport</li> </ul>	<ul style="list-style-type: none"> <li>• Good atmosphere because of the presence of multiple entrepreneurs</li> </ul>
<b>Silverfit,</b> Woerden	<ul style="list-style-type: none"> <li>• Accessibility both by public transport and by car</li> <li>• Good quality building</li> <li>• Affordable office space</li> <li>• Storage space for equipment</li> </ul>	<ul style="list-style-type: none"> <li>• The office space is a good working environment that makes the employees feel at home</li> </ul>
<b>Abby games,</b> Utrecht	<ul style="list-style-type: none"> <li>• Accessible with public transport</li> <li>• Affordable office space</li> <li>• More space</li> </ul>	<ul style="list-style-type: none"> <li>• Being able to decorate the office as they see fit</li> </ul>

Source: Interviews conducted with game developers

When considering the choice of the city it is established that the personal connection played a defining role for most of the interviewed developers. The location choice in the interview was also about the specific location within the city. In table 7 the motives for being in a certain location are displayed.

In the literature regarding the location choice soft and hard factors were identified. One of the results by the study of Murphy et al (2015) is that hard factors were leading for indigenous firms while soft factors were of greater importance for international firms. The game developers that were interviewed exhibited a mix of soft and hard factors when asked about why they were in a certain location.

## **Hard factors**

### **Accessibility**

The hard factors on the level of the location choice was found to be strongly influenced by being close to public transportation network. As the founder of 2monkeys said it:

*“We wanted to in the centre since we would be close to the main station this is important since we have freelancers and interns coming here and it’s important that they do not have to travel a lot more”*

Several other interviewed developers shared this opinion. The main reasoning why being connected to the public transport system is that most of the employees of the interviewed firm do not live in the same city. This means that they need to travel every day to their work. To accommodate the employees the interviewed firms tended to locate close to the train station. What was striking is that for most of the firms interviewed there was a clear emphasise on the train connectivity rather than being easily to reach by car. This means that factors like parking space were not that important. This allows firms to locate more easily in the (historic city centre) where parking spaces is more limited. The advantage of being in the city centre is that the central train station is usually close.

### **Affordability**

In addition to being well connected there is also a rather strong element of the price of the office space that plays an important role in the location choice. This factor was mentioned by all the developers interviewed as being of importance when thinking about the location. The advantage for the firms outside of the larger cities is that the rent prices are lower meaning that they have more options to choose from. Being in the city centre is therefore more doable compared to locate in the centre of for example Amsterdam.

The small scale offering of office space in the city centre is therefore a good fit for the many small-scale firms that operate in the industry. Only a few of the developers that were a part of this study were required to rent an entire building or multiple floors because of their size. For these larger firms the location choice is more influenced by the need for larger office space and are therefore more limited in what they can do as mentioned by the CEO of Gamebasics:

*“Well, this location is already becoming tight because of the growth of the firm. We were first in another part of Zoetermeer a bit further away from the centre, it was fine. But for expansion of the firm we needed multiple floors. There was space here and it was already vacant for a long time. The price played a definite role, the location was good because of the Randstad rail and the connections between The Hague and Rotterdam”*

Silverfit is another good example as this firm is too large in terms of staff (35) and activities (physical products) to be located directly in the city centre but there was still the element of it being desirable to be close to it since that would secure the railroad connection to be nearby.

What is also noticeable is that the developers tend to locate within the urban core of a city something that may signal that the location choice is in line with the ideas of the creative class that want to be in the urban core (Florida, 2003).

### **Soft factors**

#### **The district**

Apart from the hard factors in the form of affordable office space and being well connected there were also clear elements of soft factors. When discussing the location choice there was an element of it being more fun to be in the city centre. The following said by one of the founders of M2H underpins this point:

*“We did not want to go to an industrial site to work in some sort of Silo. This is a nice place for us and very light.*

Being in or near the (historic) city centre is perceived by some of the developers as being desirable since it has more atmosphere both for the employees but also for the clients that may visit their office space. In the theoretical overview of Muster et al (2007) different aspects concerning soft factors were highlighted. Since several developers prefer the city centre because it is more fun the element distinctives and authenticity were found to be relevant. The historic centres can be viewed as a specific district that is more vibrant compared to dedicated office locations. Creative sectors are perceived to in general be more attractive to districts like this and the findings of this study support this notion.

#### **The building itself**

What is also important is that of the atmosphere of the office space itself. There is a desire among some of the developers to decorate and use their office space as they see fit. For some this desire was even a strong reason to move to a new office building as said by the founder of Gamedia:

*“We went looking for a location with more atmosphere where customers could come and get a positive feel about the location we are in. Before that we were in a shared office space with multiple departments. Because of this it was not possible to decorate the office in a personal way. Later we were in an office space with a large law firm, there was a lawyer atmosphere there because their clients would also come there. That was one of the reasons to leave that location. “*

In this case there is a strong desire for the office space to be in line what the company is about; games and game development. When visiting the interview partners, some of the office space contains a high degree of gaming related decorations in the form of attributes but also leisure item's such as an arcade.

The high degree of being able to decorate was strongly present with the firm Gamebasics located in Zoetermeer. Their office space was created to reflect the game that they work on.

*“And because the office has been vacant for some time the price was good, and we had the opportunity to decorate it like we wanted to. We have the most beautiful football office in the Netherlands, when you enter here you know that immediately. It is a very nice place to work. That we could do that was an important consideration”*

This is illustrated figure 6 the quality of the location and the personal styling of the office space is an important consideration for a number of the interviewed firms.

**Figure 6: Office space of Gamebasics**



**Source: Gamebasics (n.d)**

Even though the soft factors played a role in the location choice of the firm it is important to note that for all the firms interviewed these soft factors were important in selecting the current office space location. The consideration of softer factors like atmosphere in the office location was less apparent in earlier location choices. More about this will be discussed in paragraph 4.6 where the change in the importance of certain location factors will be discussed.

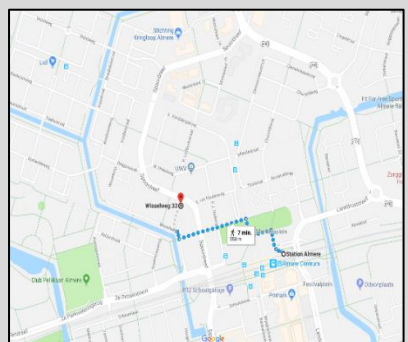
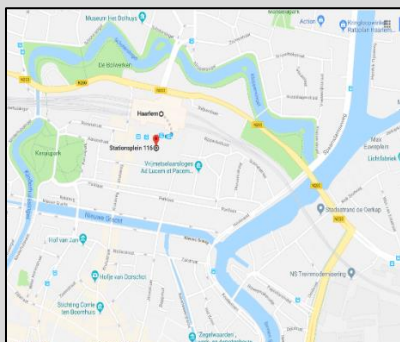
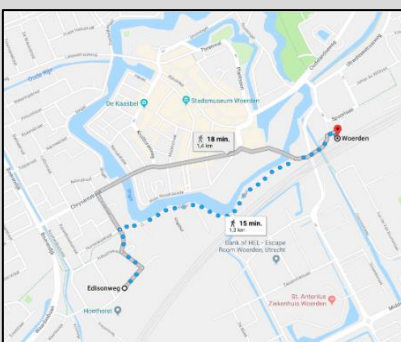
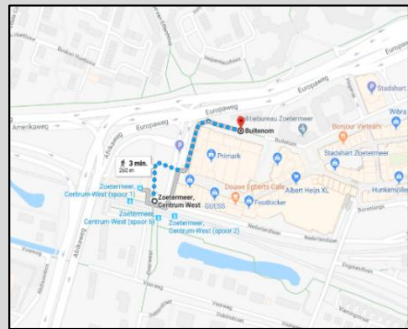
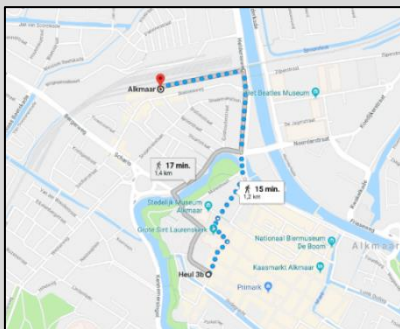
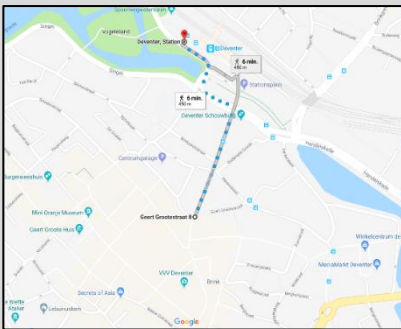
**Box 2: Sample of location in relation to the time it takes to reach public transport**

As discussed, the game developers tend to favour a location that is easily reachable by public transport, the examples listed below illustrate this by showing how long it takes to walk from the station to the office building.

Apart from being close to the public transport station thus having good accessibility the district of the (historic) city centre is favoured by most of the developers interviewed. The choice of this district is based on the softer factors of it being more “fun” compared to office locations somewhere else. In the figures below a number of office spaces of the game developers are shown in their relation to the time it takes to reach the central station of their respective city.

*(continues on the next page)*

**Figure 7: office location and the location in relation to the main source of public transport (not included are Witan (1 staff member), Abby Games (recently moved), Blewscreen (potentially temporary location))**



Source: Funda in Business (n.d), Google maps (n.d)

### **Working with clients and the location choice**

A key difference between applied and entertainment developers is that of working with clients. Some of the entertainment developers also work with clients but in the applied sector it is more common. When asked if the developers receive their clients in their office space. The founder of Gamedia talked about if his clients come to their location and if being in Alkmaar could be a problem:

*“Yes, for our clients it’s absolutely not a problem that we are located here. They would rather not come to us at all. We travel more to them than that they travel to us. “*

The connection between the client and the firm is something that is done mainly using digital communication and the notion that the developer usually goes the client is underpinned by the founder of Blewscreen:

*“In the first instance it always goes via email or the telephone. After that we mostly have an appointment on location because you do need to see each other. Most of the times this is at the client’s location, sometimes do they come to us. If you want to mean something for each other you do have to go, there of course”*

What is important in these answers is the idea that the client does not come to the location of the game developer. Face to face contact is done at the location of the client and not the other way around. The reputation and the quality of previous work is way more important in gaining more cliental rather than being in the correct place as mentioned by the founder of Blewscreen.

*“The best way to get new clients is based on the work you have already out there”*

### **Hard and soft together make up the location choice**

When talking about the location choice the findings support the idea by Musterd et al (2007) that neither hard or soft factors alone are sufficient to explain the location choice. In the interviews the soft factors were cited to be somewhat important but mostly in relation to the environment where the office space is located such as the historic urban centre in most cases. However, the hard factors in the form of accessibility and affordability were found to be more prominent in the location choice meaning that they are the most important factors that need to be satisfied. This is somewhat in line with the thesis of Murphy et al (2015) and Musterd & Murie (2010) that stated that first the baseline of hard factors needs to be satisfied before the soft factors take the stage. In the case of Dutch game developers this means that in most cases they are looking for an affordable office space that is accessible by public transport. When this condition is met the more “fun” factors such as being in the urban core become deciding in the location choice. The aspects of the quality of the building itself which is somewhat between the hard and soft factors in were also found to be significant in the location choice as the game developers are seeking office space that is of good quality and allows them to decorate and use the space as they see fit.



## 4.6 relocation of the firm: Changes in importance for what is viewed as important for the location choice

In the previous chapter about the location of the firm within the city it was noted that there was a mix of soft and hard factors that made up the location choice. One of the research questions of this study was about how the importance of certain factors changed over time. In table 8 listed below an overview of the answers on the topic of relocation was given.

**Table 8: Relocation of the firm**

Firm	Relocation?	Motives for relocation
<b>Gamedia,</b> Alkmaar	Yes, multiple times	<ul style="list-style-type: none"> <li>• Firm started from home, when employees were hired office space was needed to accommodate them</li> <li>• At the start the office location had to be cheap</li> <li>• Moved from shared office space to own building to have more say in atmosphere. Nice atmosphere of the city centre was a plus. Cost of office space is now less of a concern.</li> </ul>
<b>M2H,</b> Alkmaar	Yes, once	<ul style="list-style-type: none"> <li>• Firm started from home, main reason was to separate the home/ work dynamic.</li> </ul>
<b>2Monkeys,</b> Deventer	Yes, Multiple times	<ul style="list-style-type: none"> <li>• Stated the firm from home</li> <li>• For the first location it was important that it was cheap</li> <li>• Moved into current building because of external factors</li> </ul>
<b>Blewscreen,</b> Tilburg	Yes, multiple times	<ul style="list-style-type: none"> <li>• Started the firm from home</li> <li>• Moved because it was important to have an office location to be taken seriously and to split work and private life</li> <li>• Moved to the current location mostly because of external factors</li> </ul>
<b>Gamebasics,</b> Zoetermeer	Yes, multiple times	<ul style="list-style-type: none"> <li>• Started the firm from home</li> <li>• Moved to another location because of growth</li> <li>• Moved to the current location was also related to the growth of the firm</li> <li>• Having a high-quality building that allowed them to use it as they see fit was important</li> </ul>
<b>Witan,</b> Haarlem	Yes	<ul style="list-style-type: none"> <li>• Moved to Haarlem because the owner lives there</li> <li>• Remained there ever since</li> </ul>
<b>Gamous,</b> Haarlem	Yes	<ul style="list-style-type: none"> <li>• Started the firm from home</li> <li>• Moved to Amsterdam</li> <li>• Rents became too high in Amsterdam so moved back to Haarlem</li> </ul>
<b>Dezzel,</b> Almere	Yes	<ul style="list-style-type: none"> <li>• Started the firm in Baarn</li> <li>• Moved to Almere because of the investment fund</li> </ul>
<b>Silverfit,</b> Woerden	Yes, multiple times	<ul style="list-style-type: none"> <li>• Stated the firm from home</li> <li>• Not enough room to accommodate the equipment</li> <li>• Moved because more space was needed but still had to be cheap</li> <li>• Office building was of poor quality</li> </ul>

Abby games, Utrecht	Yes, Multiple times	<ul style="list-style-type: none"> <li>• Started the firm at the university</li> <li>• Moved to the Dutch Game garden</li> <li>• Moved to the city centre to limited distractions</li> <li>• Moved to Kanalen Eiland since the building in the centre was lacking in quality</li> </ul>
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**Source: Interviews conducted with game developers**

#### 4.5.1 Start of the firm from home

In the literature on entrepreneurship it is often noted that individuals are more likely to start a firm in their own home town rather than moving away, this is dubbed as the home advantage (Figueiredo, Guimarães, and Woodward, 2001). What does the home advantage mean for the game developers interviewed? While often local ties and certain social relations are cited most of the developers had a more practical reasoning for choosing their home city as the location of firm: The first office location is at home. As one of the founders of 2monkeys puts it:

*“when you start your own firm, you don’t have earned much money yet so if does not feel good to have a location that is expensive”*

The firms do not possess that of a strong financial position early on in its lifecycle, this means that occupying an office space is costing them more than it offers. For Dutch game developers it is difficult to secure any kind of investment this leads to the owners having to invest their own money in order to fund the project (Dutch game Garden, 2015). This often leads to having to start the firm at home to save precious resources. The nature of the industry makes it so that it is hard in this phase to earn any kind of income since first a product of a game has to be made and launched. In terms of staff during the starting phase the firm mostly consist of just the owner or multiple owners when there are multiple founders.

#### The first office spaces

In general, the interviewed developers spend the first few years of the firm’s life time at the home location that is used as the base of operations. The size of the firm is mostly just the founders, when products have been created and a form of income is secured the firms tend to leave the home location and moved towards their first office space.

The reasoning for leaving the home location was not completely consistent among the developers. One of the main reasonings to acquire office space is the moment staff is hired.

*“when we started hiring staff we needed to have an office space”*

*“When we started it was just the two of us, later on a third person joined after that we moved to Amsterdam”*

When staff members are needed to grow the firm, there is a strong internal shift in the internal dynamic. The founders are no longer alone attached to the firms and now have to consider what is best for their employees. In terms of the hard factors there is a shift observed in that they want to accommodate their employees by being close to public transportation. This has implications that certain office location may be less desirable.

In addition to the need to acquire office space because of employees other reasonings for the first office location were given; they included the separation of work and private life and being taken seriously by clients.



#### 4.5.2 office locations as the firm matures

In the previous chapter it was established that most of the firms put an emphasis on the qualities of the building that they are currently located in. This raises the question if this was always the case or that this only comes in the picture later on as grows.

Once the firm has matured and its income sources are secured the factor of the quality of the building comes more to the forefront in the location choice. This was found to be of little importance during the earlier stages as illustrated by the CEO of Gamebasics.

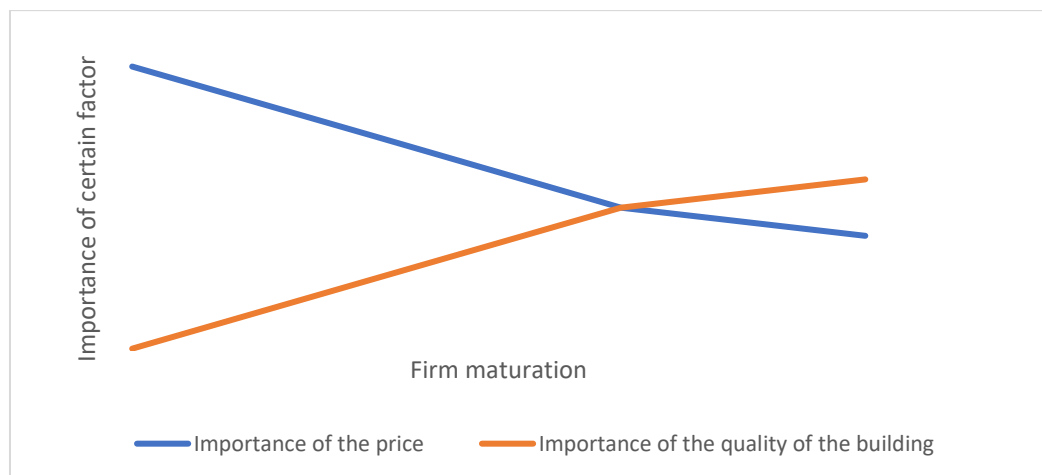
*“Then they first rented an incredibly ugly piece of floor close to the prison. (). But yeah it was small with low cost, in the beginning you can’t do anything yet. The locations grew with us”*

Similar answers were given by other developers. With their earlier locations the ecstatic quality of the building was not that important. Based on the visits to the different offices; and what was said by some of the respondents it can be noted that this is one of the most significant changes when comparing the early location choice to the later ones.

*“It is important to your employees, to get new employees you do want to be in an office location where people can feel at home and I think that we sort of achieved that now. At least that is what we think about the particular office location it’s a nice place”*

The main change that was observed in the interviews is that the firm grows and becomes more stable in terms of income. Once this level is reached these firms tend to look at office spaces that are nicer to be in. To come back to the example of Silverfit after they moved away from the home location they were in a location that was cheap and had enough space. At the time that was sufficient. However, after some time because of the poor quality of the location this location was no longer desirable. In figure 8 This idea is shown visually. As the firm become more mature and secures income, the importance of the price factor diminishes with each new property that the firm houses itself in. While the quality of the property itself is not at all important during the early locations it becomes a more prominent factor in the later choices of the location. Eventually they sort of become equal and based on the interviews may even overtake the importance of the price factor. The price remains important but is not as a defining factor as it was during the early stages of the firms live.

**Figure 8: Visualisation of the change in importance of cost versus the quality of the property**



Source: Own work based on the interviews

## 4.7 Cooperation between firms

Cooperation between firms is an important part of the cluster theory concept. Do game developers partake in collaborations or is this something that is rarer?

In terms of formal collaborations there is little evidence to suggest that gaming development firms tend to work together to create a product. The reasonings being that most firms are looking to work on their own product in the hopes of having a smash hit by themselves. Some cooperation's between firms come into existence because of the lack of qualified staff in the current city location. These kinds of collaborations take the form of one firm hiring a programmer or a content manager from another firm to work on a project. These kinds of connections fit with the ideas of Caves (2003) that there is a need for connections between firms (in the case of the Dutch game sector sometimes skilled individuals) that work on a project based on a clear negotiation what the actors want from each other. The use of freelancers of skilled freelancers that have their own firm or using other firms for services are connections that are observed.

Based on the interviews it seems that this is more likely done at the local level as firms did this with local partners as one the founders of firm 2monkeys put it:

*“For us the connection with other firms is less important, theoretically it could be an advantage. For several things like specific tasks that do not require fulltime employment. There a collaboration between firms could be helpful. This is something that can be achieved because of a shared or close location”*

This fits with the idea of Balland et al (2013) that firms that are geographical proximate to each other are more likely to cooperate. Some of the official collaborations are based on the personal connection that the founders of the firms have with each other.

*“Well yes, Verdun is a collaboration between two game studios, we are doing it together with a friend who has his own studio he also lives in Alkmaar. We have collaborated with Abstraction games who ported our game to console, they are in Valkenswaard. We collaborate with Gamedia because we hired a programmer from them. In the past we worked with Spill games.”*

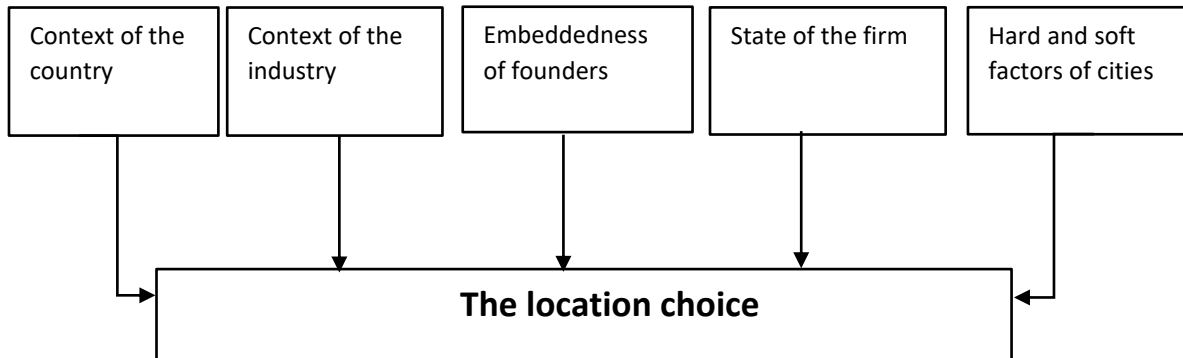
While collaborations between different developers are rather rare there are plenty connections to be found between different parties. The most common is that of a client relation where the developers create a specific product for the client. Most of these kinds of connections take place when the developers create applied products or entertainment-based products for a brand. There were also plenty of connections of game developers that make use of services like that of a marketing firm or having a product converted to be playable on different hardware. These connections are established over a distance and do not suggest that it is necessary to move to another city to be closer to these service providers.

## Discussion

### The location choice a mix of factors

In this study multiple factors were discussed that could potentially influence the location choice of game developers. In figure 9 a visualisation of the results is shown. This figure can be interpreted as five main group of factors that influence the location choice. In this chapter the different groups will be discussed.

**Figure 9 : Overview of the group of factors that influence the location choice.**



### Factors related to the context of the country

In this particular study the context of the Netherlands influenced the location choice of the game developers. The relation between the context of the country and the potential location choice of a firm is therefore included in this discussion chapter.

How the Netherlands as a country influenced the location choice can be explained in a number of ways; having cities near each other with little travel between is one of them. This has diminished the need for firms to move to other cities to acquire staff members. This can be linked to the location choice as certain hard factors that are associated with the city level like qualified staff diminish in importance. This has allowed firms to stay in their own home town while still making use of the regional pool of talent. The spread of gaming related education throughout the country can also be viewed as a factor that can aid in explaining why some firms do not move to other cities. Firms are able to recruit enough of graduates since they are more spread throughout the country in different regions.

In order to translate the findings to a broader group the context of the country needs to be somewhat excluded. The question is how well this can be done. In the methods chapter it was discussed that for this study there is a low amount of external validity when talking about applying the results to another country setting. An example is the study of Murphy et al (2015). Dublin and Ireland are the context in which the study was done. When comparing Ireland to the Netherlands it is easy to note some significant differences. Ireland has a much lower population (17 vs 4 million) and the cities are further apart. This could mean that creative individuals or firm owners may be more likely to move to the biggest city in the country in the form of Dublin. In that case firms that are located there are less able to recruit employees from other cities. Traveling time can take several hours. This is not the case in the Netherlands where travel times are lower. This is a piece of context that may seem trivial but was found

to be somewhat of an important factor that has to be included in the argumentation of the location choice of Dutch game Developers.

#### **factors related the context of the industry.**

For game developers the location choice is partly based on the industry that they operate in. The main influence comes from the idea that in the gaming sector it takes some time before any kind of income can be secured. The strongly varied amount of staff members needed to create games is also something that is of note. For the creation of small games, a handful staff members will be enough. For larger productions the amount of staff members can get up to the hundreds (Ponce, 2013). This has implication on what is perceived as important when selecting a city location.

Another important characteristic is the low amount of investment. This industry characteristic leads to most of the founders starting their firm from home. The need to invest their own funds into projects may also be a reason why many of the gaming firms remain of small size even after years of running.

The context of the of the industry is something that may be somewhat undervalued in the literature as it can present a rather harsh limitation on any found results. In the case of the creative industries you can ask the question: Are the results for these game developers in anyway applicable for other sector that are a part of the creative industry? This is a problem that the broad scope of the term creative industries brings with it.

#### **Factors related to that of the founder and his or her embeddedness.**

In this study these group of factors were found to have a significant influence on the location choice. Most of the interviewed developers wanted to stay in their current place of residence. The influence of the personal situation of the founder could be stronger when the size of the firm is smaller as the owners may accommodate themselves more strongly.

The main reason why the entrepreneur plays an important role in the location choice is because they are owner of the firm, but also the most important employee. This means that perhaps more attention needs to be paid towards the entrepreneur in terms of the influence that they have on the location choice.

In the study of Dahl and Sonderson (2009; 2012) it was found that entrepreneurs who have the skills and knowledge about an industry can set up a successful firm even from a location where an industry is not that strongly represented. This notion is somewhat supported by the findings of this study as many of the entrepreneurs have had prior experience in the sector and where therefore able to navigate the sector more easily even from location where the industry was less present. Most of the interviewed founders shared this characteristic of knowing how the industry works because of prior experience.

#### **Factors related to the state of the firm**

The results of this study support the idea that the location choice is influenced by the state of the firm. Firms that are just starting out are rather conscious about the amount of money they can spend on their office location. Another way of looking at the state of the firm is the amount of staff that is needed. A large firm that requires a significant amount of employees is perhaps more likely to settle in the larger cities where they can exploit the advantage of a bigger labour pool.

The state of the firm may also relate strongly to the entrepreneur and his or her embeddedness. The argument that can be made here is that a firm that is larger is less influenced by the individual founder

(entrepreneur) compared to a smaller firm. This is the argument that was made in the results chapter and is somewhat supported by the findings in the interviews. For a larger firm the location choice may be more in line with the characteristics of the city like that of acquiring staff while the founder has little influence on the location choice.

#### **Factored related to the characteristic of the city.**

The choice of the city was found to be related strongly to the entrepreneur but also to the industry context. Certain factors that are associated with the city that could be a strong influencer for other sectors where found to be not prominent for gaming firms they include:

##### Access to a market.

This factor is not applicable for gaming firms since the product that they make is digital. The western games market they try to access is mostly in the form of digital market places that are found on one's smartphone for example (Kunstkapverdat, 2017; Dutch game Garden, 2015)

##### Presence of related firms.

This study findings suggest that the element of having related firms nearby is not that important as is generally perceived. However, the limitation is that most of the cities where interviews were done only one or a few developers were active, in that sense it may be more logical that this factor was not cited as being of importance. However, in the gaming sector there may be not that much of cooperation's between game developers themselves.

##### Transportation cost.

Like the market access this factor is not that relevant for game developers as most of the sales of the product are done online. While some sales are done physical in general its presence has diminished greatly in the industry of today (Kunstkapverdat, 2017).

The harder factors that have lost some of their importance can be linked to the context of the industry.

#### **Factors that are relevant.**

The factors listed below were found to be of a significant influence in the location choice.

##### Cost of office space.

this factor has proven to be one of the most relevant in terms of the location choice. The developers were found to be aware that they needed to make sure that the cost that they make are not too high. Having a good deal on the office space that they use is an important consideration. However, when considering the choice of the city it was not mentioned as a factor in the city choice for most firm. The cost of office space is something that was more relevant in choosing a certain district and the specific location rather than the city itself. This raised the question at what scale hard factors are applicable. For some firms the availability of office space is something that influenced their city choice but at the same time it did not took priority over the personal connection of the founder.

##### Access to qualified employees.

This factor is rather interesting in the scope of the gaming sector in the Netherlands. The gaming sector is what many have described as a knowledge intensive sector where there is an emphasize on skilled individuals (Musterd et al, 2007; Wright, 2015). The gaming sector is described to be divided into different specialized communities that together make the product of a video game (Caves, 2003). This

has implications on the amount of people that are needed at certain periods, this was confirmed by the interviews as the amount of staff fluctuated. The idea that human capital is the main assets of firms is underpinned by individuals such as Glaeser that put human capital as the main driver for economic success of cities. Firms want to exploit the human capital that is available (Glaeser, 2011). In the interviews it was made clear that the staff of the firm is the most important assets as without them the game could not be created.

There is a strong element of speciality involved in the game sector as seen in the use of freelancer that do specific tasks that the firm itself cannot do. While the need for staff may suggest that firms tend to move towards the larger cities like Amsterdam or Utrecht because they need these specialized individuals, this was not observed in the conducted interviews. This does not mean that the element of qualified personnel is not relevant. The amount of staff members needed for many Dutch game developers is rather low and can be substituted with freelancers both in the country but also abroad in some cases. This factor may strongly relate to the entrepreneur and his or her unwillingness to leave their current living conditions.

When considering where the larger firms are in the Netherlands (the Randstad area mainly) there does seem to be of an influence that these larger cities have on attracting or the growth of the firm. However, for the smaller firms this factor based on the interviews may not be a strong of a driver in selecting a city. The choice of the city as described by the developers is not based on the notion that it is easier to attract staff. They do acknowledge that it would be easier to be in Amsterdam to attract staff, but it was not that important to move the firm there.

#### Applying hard factors in the location choice

When talking about hard factor and certain city characteristic the questions becomes how much of an influence they can have on the location choice of the firm. For some of the hard factors the context of the industry has made them mostly obsolete like the access to the market. In general, the hard factors were found to play a small role in the selection of the city. As mentioned already the importance of the city may matter more for larger firms or firms that are coming from abroad (Murphy et al, 2015).

#### **The characteristics of the city: Soft factors and the location choice**

For this study it can be argued that on the level of the choice of the city soft factors seem to be of limited importance. This is in accordance with the conclusion of the study of Murphy et al (2015) on creative firms located in Dublin. The soft factors were found to play a larger role when taking into consideration the location choice of firms from abroad rather than indigenous firms. The findings of this study support this notion; hard factors were of greater importance compared to the soft.

The issue with implementing soft factors is that they are somewhat hard to measure. The soft factors are about aspects of a city such as the level of tolerance (Florida, 2002). This is harder to quantify compared to the harder factors that have a more physical presence in a city or district. Another issue with the soft factors is that they may be harder to apply for firms rather than individuals. The work of Florida is more applicable for creative workers on the individual level. The factors that are considered soft are therefore harder to translate to factors that may be applicable for a firm. The finding of this study also supports this notion since at the city level soft factors like level of tolerance or diversity were not found to be of an influence. These factors are perhaps more suited to test at the individual level. A founder of a firm may have chosen a certain city because of soft factors, soft factors in that case relate stronger to the individual and not the firm.

When translating the factors to a lower level like that of specific districts than soft factors can indeed be a good way to measure where firms want to be. This is also what was done in the study of Musterd et al (2007) where the soft factors were translated to a lower level.

### **Concluding**

In this discussion chapter the challenges regarding explaining the location choice is highlighted. The issue with translating specific findings from both the industry and the country is apparent as some of the conditions that they create can be of a great influence on where firms locate and where they do not. At the same time the influence of the entrepreneur and the state of the firm is also relevant to take into account.

The location choice of any firm is a string of different factors are therefore hard to compare in some cases. Firms that are smaller and where the entrepreneur is of a stronger influence are more easily explained when applying theories that are based on entrepreneurship. For larger firms where the entrepreneur is no longer a driving force the more classical industrial theories of the location choice can be more applicable. In that case the location is more viewed from the perspective of certain economic advantages rather than social ties of individuals.

With this discussion chapter the argument has been presented that when talking about location choices of any firm it is hard to make a statement based on only one group of factors as in reality it is more likely that there are many at work and they also may influence each other.

## Conclusion

This explorative study based on several semi structured interviews tried to give an answer to the location choice of game developers. As discussed extensively in the previous chapters the location choice is divided in the choice of the city and the choice of the location within the city. In this conclusion chapter firstly, the sub questions will be answered, secondly the main question will be answered. After this the limitations of the study will be discussed this chapter will conclude with the reflection on the research tools. The final section will be about advice for future research.

***What location factors(s) are found to be of importance in deciding the city and the location within the city?***

### ***Choice of the city***

The results found in this study point towards the fact that neither hard nor soft factors played a significant role in the choice of the city for most of the firms interviewed. The connection of the city was established by the finding that most of the founders lived in the city where their firm is currently located. In addition, for most of the firms the inception of the firm happens at one of the founder's home location. Most of the firms spend some time at the home location before any other office space is acquired. Being an entrepreneur is perceived as a risky endeavour and coupled with the volatile nature of the gaming industry can prove to be a dangerous combination. Starting the firm at home is something that is understandable from the perspective of the founder since being at home bears no additional cost. At the same time having employees is not that common at this phase because no money has been earned yet.

These findings suggest a strong degree of personal and social embeddedness with the city and not wanting to move anywhere else. The findings in this study lean more on the literature on entrepreneurship where the entrepreneur is the central actor and has a significant influence on the location choice based on his or her personal connections.

Once the firm starts to grow some staff is acquired that is usually from the region. Substitution with freelancers is common as well. Since the staff are the firms most valuable assets it is unlikely that the firm will move to other city as they may lose the staff that they have as they will not move with the firm.

### ***Choice within the city***

When considering the choice of the location within the city the situation is rather different, while the framework of hard and soft factors was unable to a certain extent explain the choice of the city. Hard and soft factors can be used to explain the choice within the city. The current location of most game developers interviewed are in the city centre or near to it. The main reasoning given was the need to be close to the public train station to ensure that employees that live outside the city can reach the firm easily. Some more soft factors in terms of a better and more fun atmosphere were factors that also seemed to play a role in the location choice.

Still the hard factors were found to be leading and the soft factors played a role when the conditions of the firm in terms of hard factors were met. This is in accordance with the findings of Murphy et al (2015) on the creative sector in Dublin where the hard factors were needed to be satisfied first before soft factors rise in importance.



### ***Is the importance of certain location factors different for entertainment and applied developers?***

When comparing the results concerning differences in location choice factors in applied and entertainment focused developers, it was found that there were not strong differences. For both kind of developers, the start of the firm was in most cases at home.

Since the applied developers work with clients there could have been a stronger element of being representable in the location. The developers argued that most of the contact with the client happens via digital communication tools or more likely face to face at the client's location rather than the other way around.

In terms of other location factors, they were roughly like that of entertainment develops: Strong accessibility and affordable office spaces were found to be of importance just as it was for entertainment focused developers.

### ***Does the importance of certain location factors change as the firm has matured?***

As discussed in the previous chapter, the importance of some factors become stronger or diminish over time as the firm matures. Especially the cost of the office space was found to be the most important driver for the location choice early on. The importance of the costs factor diminishes once the firm has been around for some time and has secured a stable income. The importance of the soft factors in terms of the quality of the building and the environment were strongly present in the location choices in the second or third location for most of the developers. The cost of the office space is still considered important but not as much as during the early stages of the firm's life.

### ***What is the influence on the personal situation of the founder concerning the location choice?***

As covered already in results and discussion chapter; the influence of the personal situation of the founder was found to be of great importance especially for the smaller firms that were interviewed. Most firms originate from the founder's home location meaning that they are strongly connected to the city that they are currently living. When the firm matures the connection with the city remains strong as firms do not tend to move that far away from the founders living conditions. For smaller firms it is more likely that this remains a strong consideration as the founders are the most important person associated with the firm and is solely responsible for what the firm can and cannot do.

### **Main question**

#### ***What location choice factors are important for game developers in the Netherlands and what is the role of the founder(s) in the location choice?***

Based on this study for game developers the main location factors are found to be relevant is that of having good accessibility for employees, an attractive office building that is not too expensive, located in an authentic district. This is a mix of hard and softer factors but as discussed earlier the softer factors only rise in prominence when the firm is more mature and has secured a baseline of income. Until that point the soft factors are of little influence as most firms tend to look for office space that is mainly cheap.

The influence of the founder of the firm was found to be of great importance. The personal situation of the founder in most cases was prominent in the choice of the city for the firm. This was mostly based on where the founder lives. When staff is acquired they do not tend to move to other cities but stay nearby. This suggest a strong degree of social embeddedness as other cities are usually not considered

as a viable option. This means that the social aspect weights stronger than the potential economic advantages that moving to another city may bring in the form of more staff or more related firms.

### **Scientific implications**

What scientific implications does this study have? In the introduction it was discussed that there was still a lack of studies when it comes to the location choice of game developers. This gap is something that this study aimed to fill. Based on the findings some care needs to be applied when trying to apply the findings on different situations. This study can be considered a building block into answering why game developers are located where they are. The main takeaway from this study is that a different array of factors influences the location choice consisting of country context, the industry context, the characteristics of cities and the embeddedness of the entrepreneur.

The results of this study are somewhat in line with the literature on entrepreneurship when stating that it is mostly the entrepreneur himself that decides where his or her firm is going to be located. The personal connection that the person has with the city is leading here. Based on the previous discussion there could be an argument that especially for creative firms that are small more emphasis needs to be put on the entrepreneur. When it comes to the choice of the city as this may be strongly related to their personal situation.

The location choice within the city itself is less based on the personal dimension and in this case hard and soft factors were found to be a suitable way to explain the location choice and put them into the greater theoretical perspective. The findings of this study are somewhat in line with the findings of studies like that of Murphy et al (2015). However, in studies like that the context of Ireland and Dublin is strongly different to that of the Netherlands. One additional argument is that of the context of the industry and how this can influence the findings. The gaming industry is young and rapidly changing, factors that were important now may become obsolete in a few years' time, an example of this was the need to create a physical product. This aspect may be somewhat undervalued as it can influence the location choice.

### **Societal and policy implications**

As mentioned in the societal relevance this study aimed to provide insight for both game development firms and policy makers alike.

#### **For other game developers**

For game developers this study can provide some interesting insights that may help them formulate their own thoughts about what they find important for their location. This is especially applicable for the newer generation of game developers. They can learn from their peers that the game sector is a challenging environment and that it may take some time before they are financially secure. The location of the developers reflected this with rather poor office buildings (in their own words) during the earlier years. The advice provided on what needs to be done to be successful can be rather useful as well for new developers as a thinking point what they need to do with their product to ensure that the company that they run is able to survive. I believe that this may be the most important contribution of this piece for these developers.

#### **For policy makers**

The policy implications of the research deal with the notion of how cities can try to stimulate the sector. Based on the interviews the game developers exhibit a strong degree of inertia. This means that these developers are not that likely to move to another city. Cities like Utrecht have therefore chosen the

correct strategy when it comes to their focus of the start-up climate in the city. Making sure that the hard factors are sufficient is a good starting point to start building a climate suitable for gaming firms to prosper and be an asset for the city.

At the same time there is the problem of lack of investments in regarding what game developers can achieve. This is something that is important to be aware of. Studios that rely on their own funding are not that likely to grow strongly unless they have a (number of) smash hit(s).

This is something that was observed in the interviews as most of the firms remained modest in size. Therefore, policy should not be aimed at trying to create the next big triple AAA studio in the city without a perspective of significant funding from investors. Having a climate of small firms may therefore be an asset to a city but it is relevant to keep in mind that the economic impact of these small firms will be limited.

## Limitations of study

The main limitation of this study is that the scope is rather limited. Gaining access to the owners of game development firms has proven to be a challenging thing to do. This means that many contacted persons were not willing to commit to interview. Instead several of them stated the reasoning for their location in just a couple of sentences over the phone or via email. This makes the data pool rather harder to use. The small answers provided have been considered, but the full interviews are of greater importance. The analysis presented in the result chapter is solely based on the interviews and the coding that was done.

Another thing is the number of interviews that have been used to construct the results chapter, since it was hard to get the interviews arranged the amount is lower than what was expected when designing the initial research plan. Luckily the interviews that were done gave similar reasonings for the location choice meaning that the saturation point was still reached after around 8 interviews. The main reasoning that this saturation point was reached is that the firms interviewed were somewhat similar in nature. The firms were independent, and the owners of the firms have had a large say in the location choice of the firm.

Unfortunately arranging interviews with developers in the larger cities like Rotterdam and Amsterdam was unsuccessful apart from some small answers via email. These answers were however similar in nature to what was already learned in the various interviews (live in the city, cheap office space, and well connected to the public transport). Because of this it was concluded that a rather complete overview of the industry was achieved.

Another thing to keep in mind with this research is that mostly older firms were used these firms have a different dynamic in terms of the location choice compared to start ups. This means that the results of this study are mostly applicable for firms that have been operating in the sector for a long period of time. Even though this was not the intention it proved to be difficult to set up interviews with larger game developers both applied and entertainment. However, two larger firms were interviewed giving them representation as well and making sure that the data pool is more balanced.

The final limitation can be contributed to the context of the Netherlands itself. The gaming sector in different countries are not on the same level in terms of how developed the structure is. In the Netherlands are still behind compared to the United States or other European countries like France where the industry (on the developer site) is larger. The found results are mostly applicable for independent developers that are of a small scale that are not funded by investors. It is to be believed that

the location choice for these kinds of firms would be to different compared to the smaller firms since the element of personal embeddedness has diminished.

## Reflection on the study and the research method

This study used qualitative tools as a base. The main reason why this was done was related to the main question that were a part of this study. The main pieces of information that this study aimed to uncover question ware based on why questions, as in why are you located in a certain place?

Another important factor in this is the notion that there is a lack of understanding why the developers are where they are. This would mean that setting up an enquiry would be rather difficult. The advantage of using interviews as the data tool is that it becomes possible to gather data without having to formulate clear hypothesis beforehand. This is also the main reason why a more explorative design was chosen.

Another issue that arose during this study is the spread of the interviews that were done. In practice it was easier to connect to smaller firms that were not located in the larger cities. The number of interviews that were done outside of the larger cities may present a bias in the results that one has to be careful about. When considering doing conclusions about gaming firms outside the Randstad Area there is more data gathered to make conclusion. As mentioned in the limitations the results found are more applicable for the smaller firms. The advantage of the Dutch gaming sector is that there are significantly more smaller firms. This makes translating the results to the general population easier in the scope of the Netherlands.

### The interviews

For the interviews a more open way of questioning was used. This was something that may have made the data less specific since the questions where less directed resulting in a wide array of information. For the interviews the decision was made to make sure that the theoretical concepts were not discussed directly with the respondent. This means that when for example a question was asked about the choice of a location within the city this was asked openly. The questions used was “what the reasoning was why your firm is located here”. The answer given by the respondent would also be broad and open and would than later be classified using the framework of hard and soft factor or embeddedness.

Since the research questions where not directly about hard or soft factors this would not compromise the answers to greatly. However, for the interviews it would have been possible to give the respondents a bit more information about this theoretical framework and then ask if it would be applicable. The advantage here would be that the information would be more focused but on the other hand it would steer the answer given by a greater deal than when opting to ask the question more neutral and open. In the ideas of the grounded theory and the open attitude of the researcher the choice to be more open and broader seem to have been the correct decision.

One minor point about the interviews was that some factors were left a bit unexplored mainly the choice of the city as a place of residence could have been more elaborated upon. For most of the owners it was known by the interviews that they currently live in the city where their firm is housed. However why they ended up living in this city was not always answered (in some cases it was), this information could have been used to determine the strength of the tie that the person has to the city and could have made it easier to explain why the firm stayed in the city it was founded.

## Future research

In this study it was found that most of the firms started from home and then moved to another office location usually within the city that they live. It would be interesting to see if this is different for firms that are now starting, do they still start from home or do they now have more options because of incubator locations? Another interesting thing to track is where do these firms go to when they are growing and seek new and larger office space, do they move back to their city where they started, or do they stay in the city where they were able to be a part of the incubator projects.

A study like this would be one of a longitudinal design where these firms are tracked over a long period of time. This way clear patterns of movement would be identified and can be plotted on a map. This allows to view at a change how mobile game developers are and if this changes over time.

For more specific information these firms could be interviewed to see what motives are relevant for these relocations. For this part a similar design like this study could be used. Another element is the tracking of the survival rates of game developers and where they are when they go bankrupt. Do gaming firms have a bigger change of survival if they located in a certain city?

Tracking this also allows to see if the behaviour of the location becomes different compared to the findings in this study. The reason why this may be interesting is because only recently is the Netherlands developing a supporting structure for gaming firms to flourish. There is now more education present in many regions and policy makers are recognizing the potential of the industry. The question remains if this is something that has an impact on the decision making of firms.

Do these potential economic factors weigh up against the element of social embeddedness. In other words, do entrepreneurs still tend to return to their home town or do they stay and set up firms making the sector more regionally clustered than it is now.

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## **Appendix: Topic lists**

### **General information about the firm and the staff**

- Can u tell me something about your firm
- Follow up questions

### **Staff members**

- how many staff members does your firm have?
- Is the amount of staff members constant?
- *(do you work with freelancers)*
- Do the staff members live in the same city as the firm is housed or the surrounding area?

### **Choice of the city**

- Can u tell me more about why your firm is located in this specific city?
- Are there any disadvantages of being located city?
- there advantages of being located in this city?
- Did you ever consider moving to another city?
- Why or did you not consider this?

### **Choice of the location within the city**

- can u tell me more about the reasoning to locate at this specific location?
- Aan welke voorwaarde moet een locatie voldoen? What conditions must the location adhere to?
- Wat is voor u de meest belangrijke factor in de locatiekeuze? What would you say is the most important factor in deciding the location?

### **Relocation of the firm**

- Did your firm move office spaces many times?
- What where the reasonings behind these moves?
- Did the conditions on which you select your office space change over time?

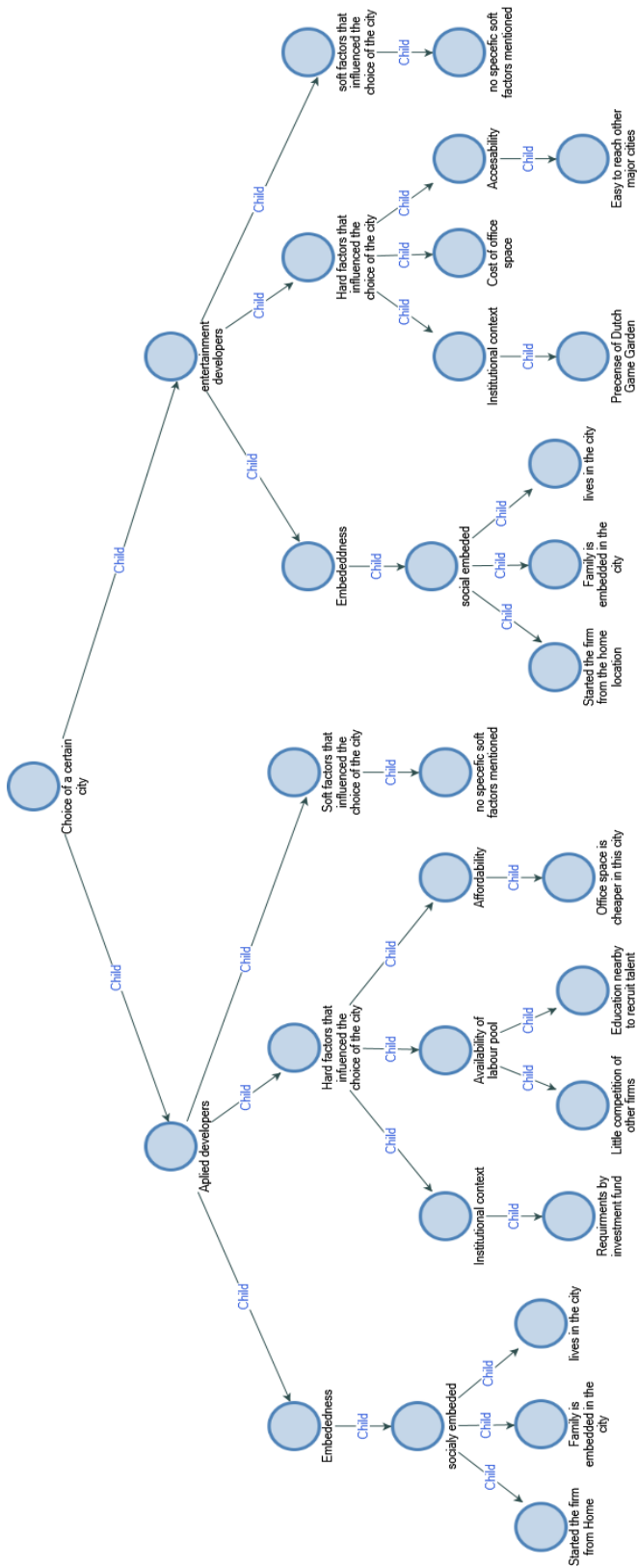
### **Cooperation between firms**

- Are there any other game developers located in the city?
- Do you work with other game developers or other parties within the industry?
- Do clients visit your office space?

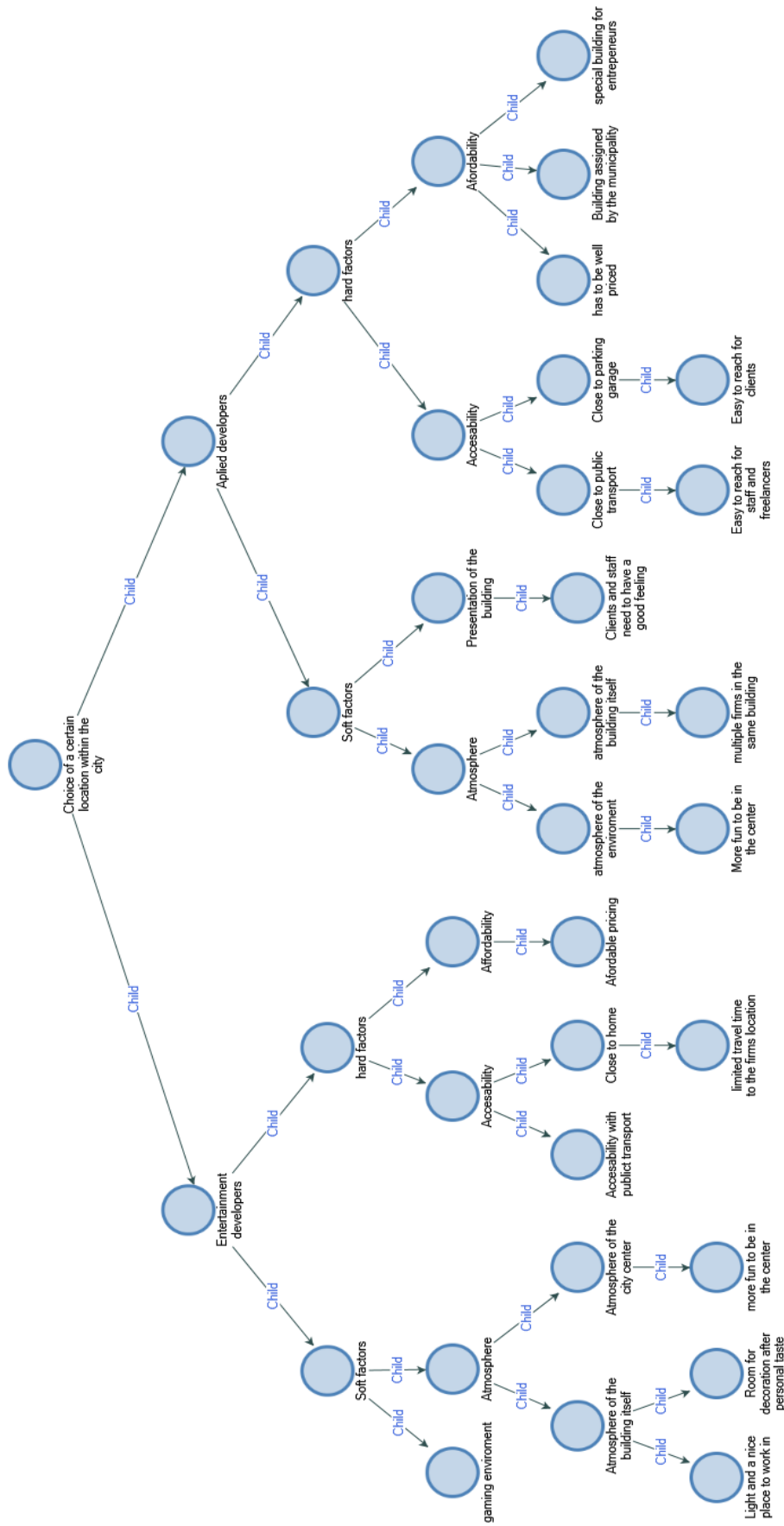
### **Other topics that may arise during the interview**

**Appendix 2: different code trees for the numerous subjects covered in this study**

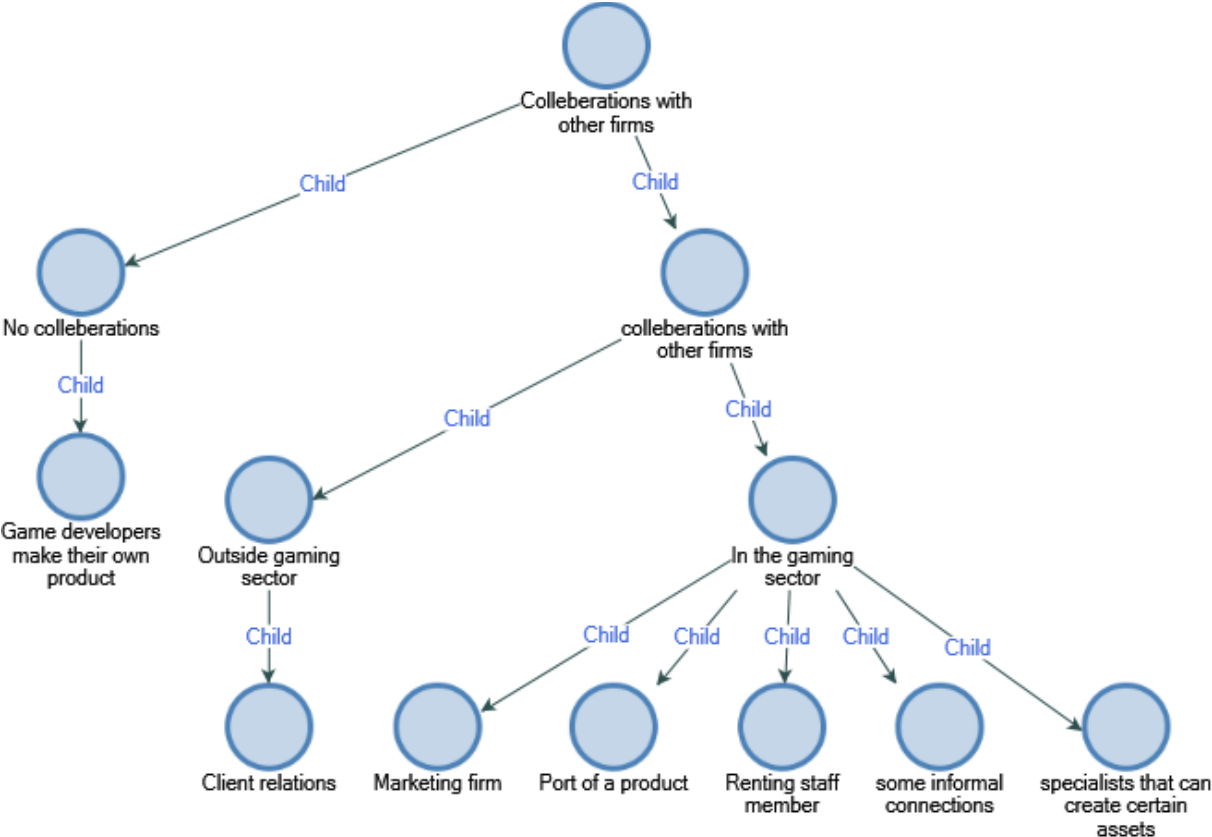
**Choice of a certain city:**



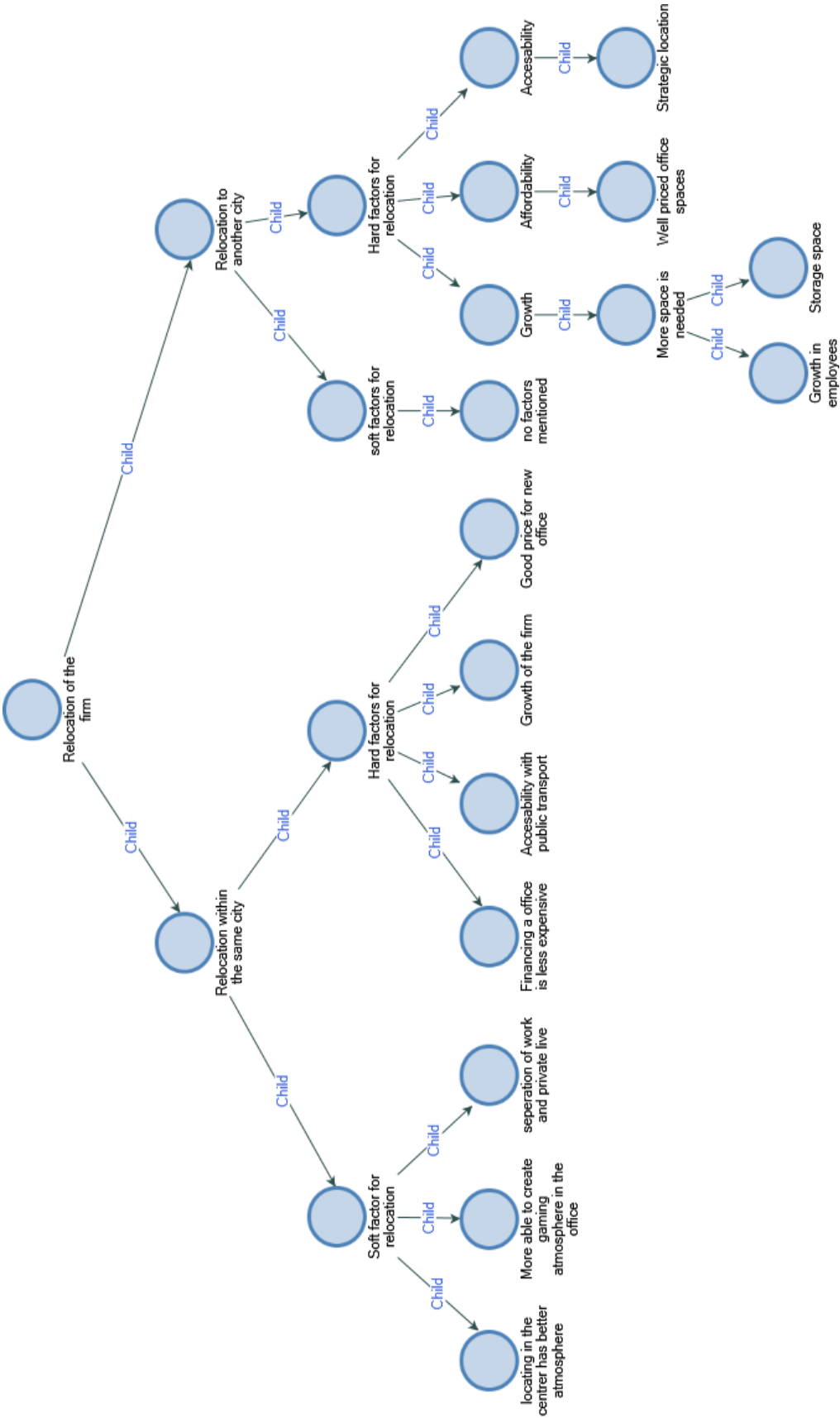
# Choice of a location within a city



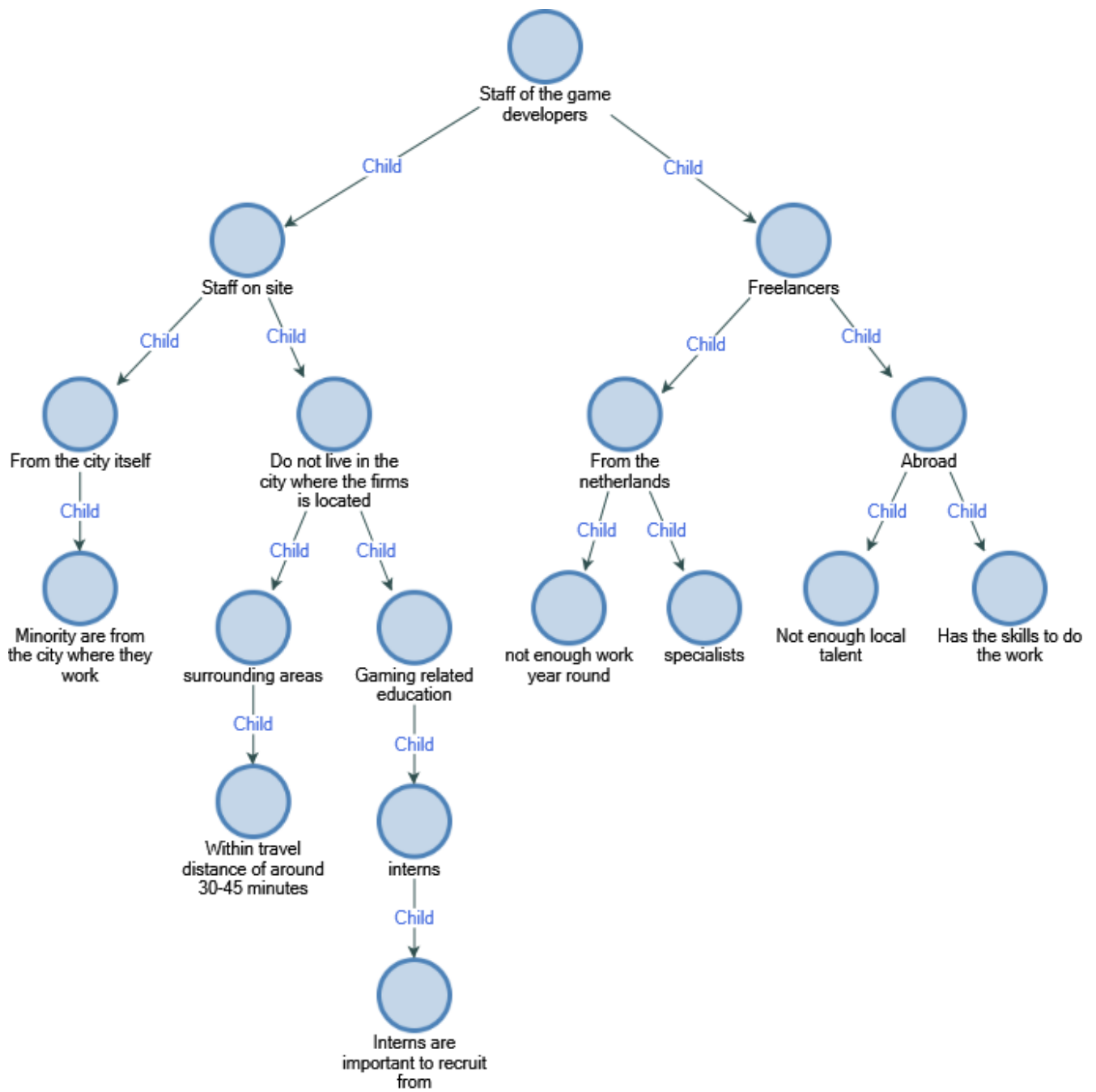
Collaborations between firms



Relocation of the firm



## Staff of the game developers



## Surviving in the gaming sector

