A Study of Entrepreneurship in the Computer Game Development Industry

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Abstract:
This study aims to explain the situation in the Swedish CGDI (Computer Game Development Industry) today, question the role entrepreneurship as an economic force might have played for the development of the Swedish industry and what should be emphasized among game developing firms for future growth. The result shows two sides of the matter as there is an ongoing consolidation in the CGDI, on a Swedish as well as on an international level, at the same time as the industry is diversifying through new platforms for gaming and firms that niche themselves by for example specializing on smaller parts of game production. Results from the research also show that entrepreneurship has proven to be an unavoidable trait in order for companies to become successful on this market, at the same time as it has created a conflict. Many firms have failed and either been bought up or gone bankrupt because they have lacked the ability to combine their creative and innovative skills with entrepreneurial ambitions, thinking that one would give the other. To some extent this reflects, according to the research, the traditional self image among many game developers of themselves as unique from other types of firms and industries and that they do not need other competences than just being skilled programmers. This self image might partly be a cause why there is a situation today where the industry has a hard time gaining a serious image in society, but rather just get attention for its content and effect on children’s behaviour. This is however changing, as the industry is standing before a shift; more and more people within it have realized that in order for the Swedish CGDI to survive and also maintain an internationally competitive position, it has to gain a more influential position in society, build a closer relationship with the government but more importantly become more business oriented as the competition and pressure from the international market is increasing.

Introduction
The actual problem being penetrated in this thesis is what has been driving the Swedish CGDI (Computer Game Development Industry) since the end of the last century, and what will drive it in the future. By being a young, fragmented industry that’s competing on an international market and whose products builds and depends on creativity and innovativeness, the Swedish CGDI could be assumed to show a lot of entrepreneurial ambition and activity. However it remains questionable whether entrepreneurship, which in many articles is emphasized as a crucial trait for economic development, really has had a prominent role for the development of the CGDI in Sweden. Several press articles the last couple years show various problems that the industry is facing such as lack of financial funds, insufficiently skilled programmers and incapacity to produce games for the new and more advanced consoles. Therefore, this

1 Business Student with major “International Business”, Instructor for thesis: Thomas Bay
study aims to explain the situation today, question the role entrepreneurship might have played in the industry and what should be emphasized among game developing firms for future development of the Swedish CGDI.

When looking at the event of consuming a video game, one might find that it in many ways resembles the post modernistic view of consuming products. Video gaming gives the consumer an opportunity to step into her own reality, or as a matter of fact, any reality of her choice, it also allows her to produce her own experience by interacting within the frame of the game, rather than just consuming it, as would be the case with a book, movie or a song. The same way a post modernistic approach may help explore and give new perspectives on consumption, it also opens up for a hermeneutical analysis of how the problem is explored and questioned throughout this thesis. Further on this allows the author’s own presumptions and impressions to have a determinant effect on how the empirical results of this study will be gathered and analytically perceived. This might be necessary since no earlier studies on academic level similar to this one have been found and because of this “shortage”, the validity of this research could be questioned. However, a relatively high validity level is granted through objectively presented empiric data and supporting reports and articles from and about the industry, concerning the problem discussed in this research. These contemporary reports show that the Swedish CGDI is growing at the same time as it is consolidating, and has during the past year gained interest on a medial as well as political level. Therefore a research of what is affecting the development of the Swedish CGDI is of high relevancy, and should perhaps be emphasized more in academic studies around this industry. An economic theory called the capture theory is used to help explain the situation in the Swedish industry today, and to define the government’s role in a young, internationally competing industry, in other words it becomes the tool for how the entrepreneurial situation in the CGDI is analyzed in this thesis. The impact from the capture theory is that describes a scenario, a “capture phenomenon” of when interest groups push their government to imply actions to balance or protect the market, depending on the viewpoint of the interest group.

Since the industry started generating multi million dollar projects and revenues and new consoles such as XBOX 2 and PlayStation 3 set higher limits as well as standards for how a game should be able to perform, the pressure on the game developing organisations became much higher. From then on, the demands on the developers had changed, and other skills than just programming were required in order for developing firms to survive on an increasingly hardening market. Nowadays, developing firms need to on top of having skilled programmers also have stable organisations where knowledge of how to conduct business is important in order for them to be internationally competitive, for instance a good “sales pitch” could be crucial for finding financing to produce games. However within the CGDI there has among developers traditionally been a strong focus towards production of games or finding a technological edge, rather than building their firms into strong, solid organisations. This allowed for an relatively unstructured way of working and might have been an prominent factor for generating the common image of a game developer as sitting at home in the basement in front of the computer, working day and nights to polish his programming skills or complete a project, but also causing society’s image of game developing firms to reflect this image. The importance of this image shows in some of the problems actors within the industry is facing today, when trying to create a more serious image of the CGDI and increase its acceptance in the Swedish society.

3 “Nya XBOX födkrok för svenska speltillverkare”, Niklas Dahlin, Ny Teknik, 2005-05-13
The method for gathering data is through personal interviews with a range of people from companies with different sizes and goals, as well as with people that look at the industry from a political view. Other data come from daily scanning for articles on the internet, as well as visits to fairs and conferences regarding the CGDI. The majority of the gathered data comes from primary sources and the authors own experiences through the research. The secondary data come from academic and press articles and is primarily intended to verify the impressions and facts that come from the primary sources, thus through their accessibility still leave an open door for contributing with some empirical data as well. Another area of use is to find inspiration for new perspectives on the problem. It appears the actors in the Scandinavian countries consider themselves to be one market, since, according to them this is how the rest of the world sees it, and considering the small size of each country, it is probably a rational view. Therefore the perspective of the international market shall not be confused with the Scandinavian, but be considered to describe the market outside of Scandinavia, however it should be noted that the focus for this thesis is Sweden, though some conditions in here might turn out applicable on the other Nordic Countries.

The CGDI

An overview

Being closely related to the IT-industry, the technological development in the CGDI (Computer Game Development Industry) gained speed during the last decade, resulting in new and more advanced platforms for gaming, such as XBOX, Playstation 2 and Nintendo Gamecube. These new and modern consoles gave opportunities for more advanced games but also increased the costs and enlarged the budgets, resulting in that the market started growing economically at a much higher speed. Today, the CGDI stands before opportunities as well as obstacles, as the market becomes more and more concentrated around a few actors, where the remaining 95 % has to find new ways of making business and develop their products. Console games have the biggest share of players, though alternative platforms for new games are developed as well as being explored in terms of their capacity. For example games in cellular phones keep getting more and more advanced, giving a sign that the industry is far from mature, as more developers are wanted for developing games for this platform. The Swedish market consists of around 80 developing firms, during 2004 it had a turnover of little over 100 million dollars and is estimated to grow with at least 20% per year in the coming years. This can be compared with the total CGDI which during the same year had a turnover of 26 billion dollars, further on the corresponding figure in the total film industry were 33 billion dollars, which give an image of the size of the CGDI. The average gamer is described as a male around 29 years of age, however 40 % are women and the age span goes from 3 years of age and up.

Everyday, the CGDI gains more and more attention in media and shows figures of increased sales, meanwhile, the marketing of games is also increasing. For instance, nowadays it is not unusual to see a commercial for the latest “FIFA” or some adventure game for the new XBOX console, hinting that the game producers are looking for new segments among the

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4 Interview with Bo Andersson, CEO and founder of Grin AB, 2005-11-04
5 “Få Svenskar tillverkar spel för mobilen”, Jonas Ryberg and Niklas Dahlin, Ny Teknik, 041201
6 http://www.spelplan.se visited 2005-10-20
7 Media Department of Royal Institute of technology, “Framtidens Datorspel”, report, spring 2005
8 Interview with Per Strömbäck, CEO of the branch organisation www.Spelplan.se, 2005-11-04
consumers in order to increase their sales. What is being described above however is mainly reflecting the big companies, and there are few of those in Sweden. A closer look at the Swedish market shows that its size for many becomes an obstacle, since firms based in Sweden from the very beginning often are dependant on international companies, in order to get their product out to a sufficiently large market in order to get a positive return on their investments. Further on the constant technological progress allows more advanced products, but eventually also demands it. A situation is therefore created where even though the Swedish firms are free to decide in what direction they want to build their company, they need to adapt to the larger companies in order to reach their market, meaning that they do not really control their own market.\(^9\) Instead, the developers have to rely on that their financiers will support them through the whole process of creating the game, thus leaving them less control of the projects they work on. For instance in order to manage a certain deadline at a certain budget, a developer might have to outsource parts of the production to other firms outside of Sweden where the costs are lower, for example Eastern Europe and China are common targets for this. However this could make it harder to maintain a certain quality of the production because of differences in knowledge, skills, culture and approach, resulting in a less good product, lower sales and perhaps also a worse position toward the publisher.\(^10\)

The industry is rapidly developing and in a constant phase of change changing, meanwhile the international and Swedish markets are consolidating towards fewer and larger firms, on the developing side as well as producing and distributing side. At the same time as this brings down the numbers of actors on the market, it also diversifies it, as smaller firms, and especially developers, are forced to find new ways of staying competitive if they can not keep up with the demands and capacity among larger companies. Going back 10 years, one finds a market that had lower demands on its actors, and also allowed a much more unstructured way of working. The image of the “garage developer” sitting up night after night producing new games was established, an image which remains among some people even today, which also will show later in this thesis. This less structured way of working that was good for those days though, does not seem as applicable today, something many did not realize though until it was too late, especially developing firms.\(^11\) This resulted in a mass filtration among firms in the market, and many smaller companies went broke or just could not find financing for their projects anymore, creating a big vast between those who barely survived, and those who could keep on working as before.\(^12\) Today there are only 5 developers left that have the capacity to produce and develop games for consoles, in most cases multi million dollar projects. However these companies more and more seldom develop the whole game themselves, instead parts like graphics and design are outsourced to smaller companies that have chosen to specialize in these areas, in Sweden, Eastern Europe and China. The only difference is that these other firms work mostly on a contract basis and with much smaller budgets, making them even more fragile for changes in the industry than their bigger clients. They become more like consulting companies, where other firms can outsource knowledge and resources they can not afford or want to possess themselves. One can only speculate in whether this is a result of the fast technological development in the industry, which makes it very difficult for companies to keep up on every single part of creating a good game, or a sign of that an effective way of working is becoming more and more vital. But the market has also diversified in other ways, for example several smaller firms have found their niche by developing games for the mobile industry, other focus on the internet; virtual worlds, online

\(^9\) Interview with Oscar Wemmert, CEO and founder of Upside Studios, 2005-11-09
\(^10\) “Nya Spellkonsoler knäcker Svenskar”, Jonas Ryberg, Ny Teknik, 2004-11-25
\(^11\) Interview with Christofer Sundberg, CEO and founder of Avalanche Studios, 2005-11-15
\(^12\) “Högre krav på spel”, Per Danielsson, “Computer Sweden”, 2004-10-22
gaming and even betting. Through this, some developers become their own publishers and distributors by selling their products directly over the internet, also called digital distribution. This could give a hint that the system for how a game is produced and passed through the value chain before it reaches the consumer is going through a shift, further explored below.

**The “CGDI Value Chain”**

Traditionally, the value chain for a game project starts with a developer that creates a prototype to show for a publisher, whose approval allows the actual game production to start. The finished game is then brought to a distributor and then to a retailer where the end customer buys it. It should be noted though that the publisher usually has the most responsibility for the process, since they invest most money in the project, but therefore also receives the highest share of the end-price in revenue. When it comes to the value creating process, the developer naturally has a very large responsibility, however, without proper marketing, product placement and good distribution channels, the game can be the best in the world but no one will know about it. However, often this value chain is not as complicated as it may appear, several parts of it can exist within one firm that for example would develop, produce and market the game, but maybe have someone else distributing it, though few companies are financially strong enough to handle this. The amount of partners involved in the making of a game differs though depending on the size of the companies and of the project. Through advanced technology and complicated processes, it can take a lot of specialized staff to complete every single part, also, therefore the amount of projects that outsource skills for graphic or design for economic purposes, as has been mentioned above, are increasing. This set different demands on the game developing organisations, as the more actors that get involved into a project, the more difficult it becomes to hold together the production process and keep an evenly high quality. However as the stakes becomes higher, the market becomes more competitive, setting tougher demands on its actors for the productions to become better and more effective, which eventually could result in a slight change of the value chain structure. For example, earlier, a game developer did not have, or was even expected to have, the knowledge for how to make money out of their product in other ways than of just making it a good game of high quality. Instead it was the publishers that withheld these skills, and therefore were the ones to make the most money out of each product. This is however changing, as the developers today to at least some extent are required to have some knowledge of how to do business in order to be able to survive on the increasingly tougher market. However an option for them rather than having these skills in-house, is to outsource them to agents, who then would become a key player in keeping together the production. This could change the value chain structure from being a step-by-step straight line through the production where the publishers “pick up” the projects which appeal to them most, to more of an image of a wheel, where the network is essential. Further on, in this new image someone else but the major investor would carry the responsibility for the quality of the product.

**Entrepreneurial Theory**

When thinking about entrepreneurship, many probably find themselves either questioning what it is and what it really means for economic research and discussions, others start reflecting of their own view which often answers the question of who the entrepreneur is. The commonly shared view, by academics as well as among people in general, is the “Schumpeterian” combined with the resource based view of the shrewd individual who starts up new businesses or innovative concepts, someone who can bring an idea into action by

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13 Interview with Christoffer Sundberg, CEO and founder of Avalanche Studios, 2005-11-15
14 Interview with Martin Walfisz, CEO and founder of Massive Entertainment, 2005-12-06
gathering the necessary resources, and then manage them in order to become successful.\textsuperscript{15} This view is so strongly associated that we probably would need a new paradigm shift in order for it to evolve into something different. Much research within entrepreneurship has though been criticized for lacking a uniform approach and a clear theoretical direction, but as is being suggested by Low & MacMillan, this might be a result of that it is a concept of many perspectives, though how one chooses to use it for the purpose of research is crucially dependant on what is to be examined.\textsuperscript{16} For example the individual approach is mainly a functional view of who the entrepreneur is, what characterizes and stimulates him/her and how the individual affect its’ surroundings, in other words what the impacts are of individual behaviour. Another approach is the interpretive, suggested by Shepherd & Krueger where the process of opportunity recognition is in focus, and entrepreneurship is conceptualized more as a phenomenon and perception of how business is conducted.\textsuperscript{17} This could be seen as more modern approach, or even post-modern if one pleases in the sense that it tries to look beyond the functionalistic traits that often is referred to in literature on entrepreneurship, and more to how the individual grow with their own projects and thereby opening up for new and creative perspectives of studies on entrepreneurship. One could argue that according to postmodernism later studies on entrepreneurship becomes through its increasing diversification more of a post modernistic framework for explaining economic development, rather than search for a simple definition.\textsuperscript{18} Characterized for the interpretive approach is also a focus on processes, cognition and a theoretical diversity, meaning that on top of the interpretive approach other academic areas may influence the research for how entrepreneurship is being studied, for example psychology or philosophy. Often associated with entrepreneurs is risk, and according to Ulhoi the entrepreneurs have traditionally been seen as to a higher degree being “risk-takers” than the average manager, which he also argues in a recent article\textsuperscript{19} during a study of culture’s impact on entrepreneurship. Regardless of whether this view is sustainable or not, this thesis takes the standpoint of the entrepreneur as a “risk-manager”. This is based on the many external factors that influence entrepreneurial behaviour, which becomes especially relevant in a young immature industry such as the CGDI, which will be explored further below. Furthermore, it is also in line with the post modernistic approach which is undertaken in this thesis.

**External factors**

R. Russell and C. Russell present in their article\textsuperscript{20} a model for various factors that affect the organisation and its entrepreneurial strategy. The model is based on three areas which have a direct or indirect impact on the entrepreneurial behaviour and acting, primarily on managerial level. First is organisational structure which is measured in terms of decentralization, informality and complexity, where it is suggested that a high level of each of these, facilitates innovation and gives room for entrepreneurial behaviour. This ought to be the case in developing firms, where informality is a prominent characteristic through casual wear and flexible working hours, the programmers work independently and the product contain high complexity. Many elements are often combined in the production of a game such as graphics,

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\textsuperscript{17} “An Intentions-Based Model of Entrepreneurial Teams’ Social Cognition”, Dean A. Shepherd & Norris F. Krueger, Entrepreneurship Theory & Practice, 1042-2587-01-262, Winter 2002


sound and programming, together with the varying content in the actual games. However on a business level the complexity shows in the often very different backgrounds among the people that work in these types of companies. Second is environmental uncertainty, where companies that have a high level of this, also have higher tendency of opportunity-seeking, since things are changing quicker around them. Russell states that uncertainty either can influence the entrepreneurial activities on a market, or vice versa, meaning that a lot of entrepreneurial activities can create an uncertain market situation, causing ambiguity which in turn might stimulate stronger entrepreneurial behaviour. Third is the culture which makes out the norms for innovation, beliefs and behaviour within the company, this will be explored further below.

**An Entrepreneurial Culture**

An external factor which influences entrepreneurial behaviour is culture and ethnicity according to Schnell & Sofer, who in an article suggests that depending on the individual’s background, the conditions for succeeding in entrepreneurial activities differs. It is exemplified through Christian culture which historically has shown a high degree of flexibility and adaptability to other cultures, and also a high level of entrepreneurial behaviour, though the positive aspects of this are questionable considering the many relatively hostile actions which have accompanied this progress. However, Christian culture could stand as an example of a culture which is built on entrepreneurial activities, and has resulted in a strong economical growth in countries whose society builds on this culture.

There is a link between the development of the CGDI and the culture which has been created alongside it which to some extent could be claimed to resemble the example of Christian culture above. Being a part of the entertainment industry results in that like books, movies and music, inspiration for new products is gathered from everything and anything. For example in many games historical events is a common theme, as well as old and modern sports, all taken from some culture, be it for example Western or from somewhere in the Russian mountains, giving the CGDI a link to cultures and different societies all over the world. This makes it a relatively large culture, involving many people from many countries and shows that the CGDI culture is open for influences from seemingly anywhere or anything. As with most programming, the language for gaming is English, which eases for people from all over the world to communicate and share experiences with each other of their common interest. This culture is to a large extent depending on the internet as a communication platform, and as a result of this, it is not so much local and different between countries, but very much international and therefore similar across the world. Furthermore as in the movie industry there is within the CGDI a large amount of independent productions, hobby programmers who distribute their programs and games for free over the internet, some for the sake of it, other’s for showing what they are capable of. It could therefore be argued that internet as communication platform has helped people from all over the world through their individual achievements build a culture which stimulates and to some extent even rewards innovativeness, creativity and to do "the own thing". Something that could be stimulated further by the many differences in backgrounds among the people involved in this industry across the world. It can though be discussed whether the CGDI culture should be seen as pure entrepreneurial, it is however beyond doubt that these cultural norms, according to the theories described above, show some entrepreneurial traits.

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21 Interview with Christoffer Sundberg, CEO and founder of Avalanche Studios, 2005-11-15
23 Interview with Tommy Palm, founder of JadeStone Studios – 2005-10-21
Looking through the Capture Theory Window

“The economic theory of regulation suggests that much regulation is not imposed on firms but is demanded by them. For some industries, new regulation can be a powerful instrument in rent-seeking strategies when market entry and prices can be influenced according to the interests of existing firms. Regulation then could simply go to the highest bidder.”

The capture theory explains why and how regulations occur on a market and also help analyze their effects, and may help explaining and triangulate what is happening in the Swedish CGDI today, in terms of entrepreneurial activities. The impact from the capture theory is that describes a scenario, a “capture phenomenon that occurs when various interest groups try and affect the government’s actions on a market to their own advantage. This can be from the view of a misbalanced market or from the view of that the market should be regulated in order to secure specific sources of income such as natural resources, for a specific country or region. Early views on regulations of why and how they occur, and the intentions behind them, saw them primarily as measures to balance unbalanced markets, which presumably was being dominated by one or a few actors, giving smaller firms a better chance for survival. Research made by George Stigler between 1960 and 1970 from which the Capture Theory evolved, eventually changed the mainstream view on regulations. He showed that regulations, even though meant to protect the consumers, more often resulted in profiting large companies and producers by creating monopolies. Stigler even went as far as to claim that governments hardly ever aim to reduce the harmful effects of monopoly, as many had believed before, but rather use regulations to prevent competition, and thereby support large producers, often state owned companies. So from being considered to be governmental measurements to balance the market, regulations were later on rather viewed as to give the government more, in some cases even total, control of the market.

Theorist Richard Posner from the University of Chicago was another prominent economist who also made research on regulatory capture, he argued that: "Regulation is not about the public interest at all, but is a process, by which interest groups seek to promote their private interest”. This approach to regulation echoes in the Chicago School Economics traditional attitude towards market economy, where also George Stigler made his contribution to these theories. Their thoughts and ideas mainly focused on deregulation of the market, free trade and retreat of state intervention. Instead, they supported the theory of a competitive market as a regulatory system in itself.

A regulated industry?

So then why is this theory brought up in a research around the CGDI, an industry which so far has proven to be anything but in need for regulations in order to develop according to the respondents of this research. Well, one could argue that because of the economic potential that exists in this market, this would be an incentive interesting enough for governments to want to get a share of it by creating their own companies that would take the role as publisher, much like how the Swedish film industry works. However so far, no sign of such a

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28 http://www.sfi.se visited 2005-11-15
development is to be found, rather ignorance of the industry is a more common trait, since the industry has received little attention or support from a governmental level, even though there are only a few countries in the world that has the skill and capacity to produce games of this level and keep a net export, of which Sweden is one.29 But even at a fast glance of the Swedish industry today, one can see a structure, close to as if some large governmental cooperation was through monopolistic actions “ruling” the over it, however now the regulators are international companies. To a large extent these companies control the industry, deciding who is in or out, and other firms have few other choices but to adapt to what they do and decide in order to survive on the market. For example in order to be able to produce games for a certain console such as Sony’s PlayStation, Microsoft’s XBOX and Nintendo’s GameCube, developing companies need licenses30 which are handed out by these console owners and thereby creates a regulatory system for who will get the large productions. Another example is the IP’s31 for games, where even if a developer come up with a new IP, it is often hard for them to keep it within their own company since the publishers often either buy or take over the rights for it, possibly since they are taking the highest financial risk for exploring it. Naturally, these companies have little interest in pushing the Swedish governments for market regulations, however a situation has developed where the “suppressed” firms, and to some extent the Swedish industry at whole, in order to protect the “local” market have started to “push” governmental organisations for support, both financial and structural. This is a good example of what Stigler is arguing in his “Capture theory” as a source for why regulations occur, in other words lobbyist and industry organisations “pull” them out in order to make the market them more competitively even.

**Critique against use of the Capture Theory**

There are many aspects of how and why markets develop in the ways they do, theoretical frameworks of all sorts describe the fluctuations as well as individual factors which affect them, on a global as well as local scale. The situation for a single market today is very different from how it was for as little as 10 years ago, as the global economy allows connections between different markets and industries across the world. At the same time as the world becomes more “connected”, it also concentrates industries and production to certain geographical areas as well as certain companies, most easily exemplified by the growth in China and Eastern Europe in the last years because of foreign investments from a few large corporations who wishes to lower their costs. Further on, this development allows a single market to be connected to other, geographically very distant but communicably very near markets, as long as there is a mutual interest of some sort. As a result a situation in one market may have impacts on others and create a chain of events which eventually may be the end of another. So, based on this, frameworks such as the Capture theory may help seize the factors and help understand why certain events occur in markets, even those who so far have not been affected by regulations, such as the CGDI, at least not in Sweden. However this is where the problem for this particular study occurs, as even though the capture theory is merely meant to help explain the situation in the Swedish CGDI, it offers less help when looking at how things

29 “Game Development”, report from ISA (Invest in Sweden Agency), 2003
30 It should be noted regarding Licenses that the Console Developers for platforms such as PlayStation, XBOX and GameCube release licenses to those programmers who have the capacity to produce games of a sufficiently high quality level, as a way to set and keep the standards of the games that they want to achieve and also to make more money out of each product. As a result this limits the amount of game developers who are aloud to produce games for these consoles, and result in a higher concentration on the companies that make money of the international CGDI.
31 “IP” stands for Intellectual Property, in the CGDI this is the phrase for a game concept, an idea or character such as Indiana Jones, Star Wars or Pokemon.
will continue develop in a market, which has its focus outside of the country boarders. Because even though as the theory describes how interest groups lobby the government to take action in a certain direction, the impact of their activities will be small, close to insignificant from an international perspective. Based on the assumptions in the beginning of this thesis, the theory though still remains useful for explaining the various events that take place in the industry, even though their goal might not necessarily be to achieve regulations, for example in the case of the P.I.L.O.T. project which will be further explored below.

The World from a Game Developer’s eye

-“It must be considered a “good game”, without that, it simply won’t sell.”

An international Perspective

Today there exist 5 areas in the world that is considered to have the skills, knowledge and technology to in the future be able to compete on an international level, where the biggest is North America, the others are Scandinavia, Northeast Asia, Australia and Western Europe. However the CGDI market in general, and the Swedish in particular, is consolidating, have been so for the past four years and will probably continue this way, primarily because of the trend towards more concentration around those companies that have proven able to handle the pressure from the market by either having strong organisations or a successful product. The effect from this could result in that Swedish companies might in the future either have to merge or at least cooperate in order to maintain the capacity for delivering sufficiently good products. This could result in a development with further consolidation where more Swedish firms will disappear unless they have strong enough partners to withstand the competition. One could argue whether this development should be considered destructive for the Swedish industry or rather just be a healthy development of a heavily fragmented industry. One sure thing is that there will come few, if any, new firms that will produce games, at least for consoles since the requirements for managing such projects are too big without earlier previous experience of handling them. Instead there will be a development where more developing firms will have to look at alternative platforms such as mobile or handhelds for sources of income, alternatively niche themselves towards smaller parts of game production such as special effects, graphics and design.

A recent study, presented in March 2005, explores Sweden as a base for entrepreneurial activities by looking at factors such as welfare, tax and other social systems and the bureaucracy that they contain. The research aims to show the effect of these factors on how entrepreneurship is being emphasized by people in general, as well as by companies. The conclusion made however weigh these factors mostly on the negative side, since high taxes, together with an extensive welfare system and complex bureaucracy for new business start-ups, create low incentives and to some extent even boundaries for entrepreneurial activities. Despite this small and new businesses have been an important factor for creating new jobs in Sweden over the last few decades, showing a contradictory reality of the focus by the Swedish government. These are however conditions all small firms face on Swedish markets today in

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32 Interview with Christoffer Sundberg, CEO and founder of Avalanche Studios, 2005-11-15
33 Lecture with Chris Mottes, CEO of Deadline Games (DK) “How to Secure Nordic Content in the Future” during Nordic Game Potential, 2005-11-23
34 Interview with Bo Andersson, CEO and founder Grin AB, 2005-11-04
general, but become prominent in an industry that is characterized by high internationalisation, such as the CGDI. Another condition is the increased growth in Eastern Europe, where the average technological level and also the perceived quality of their products still is lower than for example Sweden. This could however be seen as a threat as well as an opportunity.\(^{37}\) UK and France both have a dominant position in Europe, worth to mention is that these are countries that have shown a relatively liberate view of fees and taxes for companies in the CGDI, which could be seen as an important factor to the fact that they also have several large companies that have gained relatively strong positions on the international market, technologically as well as economically.\(^{38}\)

Since the home market is small, it becomes hard for Swedish developing firms to build a “home base” that can get them started before expanding and being able to take on bigger projects that could generate more income, or work on their own projects, rather than just take on available jobs from the publishers.\(^{39}\) Comparing the Swedish market to for example the American, the conditions for receiving risk capital into new projects or a company, varies extensively. In Sweden the tradition for investing risk capital into new firms have been low, except for a slight change during the IT-hype, where even a game developer could receive this kind of financing\(^ {40}\). However afterwards this recoiled back into becoming even harder for smaller firms to receive this type of funding. In America the scenario is however slightly different, since the tradition for investing risk capital into projects and firms are much higher on that market,\(^ {41}\) revealing yet another factor which makes it hard for Swedish developers to compete internationally. The problem of file-sharing and illegal copying should of course be mentioned as a major problem for many developers, in Sweden and internationally. But even though this is true, the amount of illegal copying is something that’s been a huge part of the CGDI from the start, and actually lowered from around 95 % in the eighties to 67 % today.\(^ {42}\) Therefore this is not considered a main problem among developing firms, though as the costs for producing game increases, the need for getting revenues on each game becomes greater, which could result in that the problem of file sharing will be more important in the future.

**Effects on and from the society**

As the CGDI is growing, in Sweden but also in the other Scandinavian countries, at the same time as it is consolidating, there is a debate going on as of where the focus should be, in order for it to stay competitive on an international level. Just as the discussion mentioned above, this debate does not limit itself to Sweden, but as the rest of the world consider the Scandinavian countries as one market, so does the actors within it, meaning that the debate also include firms in Finland, Denmark, Norway and Iceland. This has also resulted in increased activity through for example events such as conferences, forums, competitions and awards.\(^ {43}\) Recently a conference was being held in Malmö in the south of Sweden called Nordic Game Potential, where future development of the CGDI was the main topic.\(^ {44}\) It appeared during the conference that there are some differences among the parties involved in the Nordic industry, some argues that the larger, already established companies that already

\(^{37}\) Interview with Bo Andersson, CEO and founder of Grin AB, 2005-11-04
\(^{39}\) Interview with Oscar Wemmert, CEO and founder of Upside Studios, 2005-11-09
\(^{40}\) “Datorspelsindustrin 2003”, Erik Robertsson, IGDA (International Game Developers Association) – 2004-02
\(^{41}\) Lecture in Entrepreneurship with Jan Smolarski, Professor at The Business School, Stockholm University, 2005-10-17
\(^{42}\) Interview with Per Strömbäck, CEO and founder of ASGD and Spelplan, 2005-11-04
\(^{44}\) [http://nordigame.net](http://nordigame.net) visited 2005-11-05
have had some international success should be in focus for continued development, and thereby work as “locomotives” for the smaller, less developed firms and for the industry as a whole, since a higher international recognition could result in more foreign investment, allowing more firms to grow bigger. Other’s arguing that more help and support should be given directly to the smaller companies, which might not have the time or resources to expand on their own. Another hot topic is of the CGDI as a cultural phenomenon and expression where one interest group in particular strive to lift computer games as an important part of the Swedish culture and through this gain financial support to preserve the Swedish cultural heritage in new games.\textsuperscript{45} They argue that by giving the industry a higher cultural status, as was mentioned above, it might receive more respect and acceptance from the society, and through this also gain more economical support and eventually grow bigger and more stable. Opponents of this claim though that the investments demanded for this to happen, would be better of as direct financial support to developing firms. This topic has become even more relevant during the fall as the cultural ministries of the Nordic countries have decided to in a mutual act spend a certain amount of money during a five year plan.\textsuperscript{46} The purpose is to create incentives for game developers to create and produce their games in a purely Nordic fashion, meaning no external companies outside of Scandinavia will participate in the production. A problem arises though as of exactly where this money should be spent and on what productions which at the time this thesis is being written still has no solution.\textsuperscript{47}

In media videogames is becoming a popular subject with game reviews in several newspapers and TV shows. Meanwhile debates that explore the role of games in the society are also common, though most often they focus on negative aspects, for example concerning the impact of games on children.\textsuperscript{48} One could argue that the debate becomes rather one sided, since media tends to angle their content for it to become more spectacular, and because of that little attention has been given to the positive aspects of videogames, nor of the economic potential that the industry withholds.\textsuperscript{49}

\textit{A shift}

Within the group of developers the perspectives of the general situation differ, naturally depending on the size of the company and previous experiences on the market. For example, after the millennia shift, the industry started growing more rapidly, with the result that many smaller firms were out levelled by their larger competitors, but primarily by the industry itself. However some managed to survive and many have even started on new after this shift, though with various results. Those who did well and gained some success with their products along with revenues that allowed them to work more freely with their projects pertained a more positive view. Some even had publishers that gave them relatively “free hands” to continue work on their projects with financial support, allowing the developer to be more in control of their own business. However for many their days of independency were to be counted, as without a proper organisation to support their business, smaller firms had a hard

\textsuperscript{45} http://www.sdsi.se visited 2005-10-19

\textsuperscript{46} "Nordiska pengar till datorspel", Tomas Lindman, article published by the Swedish Ministry of Education, Research and Culture, 2005-10-26


\textsuperscript{48} Ghatan, Per Hamid, "Var fjärde kan inte sluta spela", retrieved from http://www.fair-play.se 2004-12-06

\textsuperscript{49} Positive aspects can be educative uses of videogames, in schools as well as in companies, and the military. As was mentioned in the chapter of an entrepreneurial culture, the CGDI brings together cultures from all over the world, which lead to better understanding of different cultures. Also, “multiplayer” functions allows people to play together and interact within teams, giving a social dimensions to videogames which might be difficult to achieve in other forms of group activities.
time surviving on the increasingly hardening market. While some could go on as they were, others found new focuses and niches for their businesses such as to produce games for online gaming and for the mobile phones. But even though they found other ways of keeping on developing games, another problem arose in that the need for bringing in new people to enhance the competency range of the management, conflicted with the need to start generate income on their games and for many have become a “vicious circle”.

The CGDI market stands before a shift into becoming more business oriented, rather than production oriented which more reflects the common image of the programmer described earlier. However there is a lag in that many smaller developing firms lack sufficient knowledge and skills about business development, which might be a result of a traditionally high focus on producing games, and to do “the own thing”. This is however changing, mainly because these companies are forced to adapt to new circumstances in order to survive, otherwise they could face the risk of being put aside by other companies and thereby not get the contracts for new projects. As Russell & Russell points out that a high complexity level provides stimuli for entrepreneurial behaviour, the CGDI often associates with complex productions, which in turn builds on differentiated, complex organisations or production teams. For instance a game such as Call of Duty 2 that pictures the Second World War and is developed for the latest console should in order to keep a high quality give a close experience of almost being there. This is a highly complex production since it sets high requirements on details, graphical as well as historical, the characters have to move and act trustworthy for the player to get a feeling close to actually be a participant in the war. In order for this to be possible, much research and knowledge is required in for example history, graphics, strategy, tactics and maybe also in physics, mathematics and psychology. Though these complex conditions might bring entrepreneurial behaviour, they also set high demands on the management of these organisations. As the market is going through a shift this raises the demands on the management further, from only managing a complex production to also know how the game should generate revenues. This transition might not be so difficult for a larger company that already have different positions established with different responsibilities, however in smaller firms, the resources for keeping a comprehensive management are much more limited. They might for example already have spent 1-2 years developing a product, but in order to be able to expand and hire people, needed to start sell their product first. So, despite entrepreneurial ambitions or efforts in the organisation a small company that can not afford to house these skills, might not be able to take advantage of them, expressed by several respondents as a “Catch-22”.

**Company structure**

- “The developers need to take a look at their own organisations if they want to become more competitive, rather than just blaming others for their misfortune on the market.”

As been noticed earlier, the main focus for game developers have traditionally been on just producing games, naturally with a vision of eventually make money on it, though the primary reason appears to be for being able to do what they like best, make games, which show in the way many of these companies are built. It may appear strange that little emphasis has been put on sales or building strong organisations, since one could expect small firms to have at least some desire to control the way they profit from their products. But the developers have not

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50 Interview with Patrick Hansson, CEO and founder of D.O.M. Games, 2005-11-24
51 Interview with Tobias Sjögren, CEO of Peligroso Entertainment Group, 2005-11-29
53 Interview with Tobias Sjögren, CEO of Peligroso Entertainment Group, 2005-11-29
needed to bring in that sort of competence into their organisations since these skills and knowledge traditionally has been provided by the people financing them, the publishers.54 In many ways the developers created their own situation, since they through the traditional focus have made themselves too dependant on other parties. Many game developers have seen themselves and their industry as something unique and different from other industries, consisting of hardworking individuals who is sitting up working nights to complete their projects, however mainly to show what they as programmers can do and not thinking so much of what the consumers want.55 But when the industry went from being driven by hobby programmers to becoming controlled by business oriented international giants, this resulted in that many of these firms fell behind. Their approach worked as long as the market was relatively fragmented, and as long as there were a multiplicity of game concepts and IP’s open for exploitation. This has however changed during the past 2 years, as the IP’s have either been overexploited and become less attractive for new sequels, or localized to specific developers who the have a unique license56 to produce games for it.57 Though there are some exceptions of firms that started before the millennia shift and on an early stage reflected over the various competencies that might be needed in order to become and stay successful. One example is Jadestone Studios who though does not develop games for consoles, but have survived and do relatively well since their start-up in 1999.58 More examples of this is to be found as more Swedish firms gain success with their products, in Sweden but also internationally. All the developing companies that have had some sort of success in Sweden since the end of the last decade, have done so by having some sort of unique idea or concept, since it is very hard, if not impossible, for a small or medium-sized firm to succeed by just improving or copying what someone else already have done. The relationships between firms in the CGDI are often on a highly personal level, therefore it appears hard for a developer to get away with a “stolen idea”, although this has occurred even in the CGDI.59

It is been mentioned earlier that entrepreneurship is an important part of economic development in general, however mainly on a macro level for creating jobs and pushing industries forward. However the same trait could be just as important in a single firm, especially in a changing environment such as the CGDI. Going international has proven in some studies to give a greater base for future growth, since an early expansion tends to increase the organisational capabilities and make it more adaptive to the organisational changes that come with an internationalisation.60 Internet provides means for going international on an early stage, an example is online betting, which already has reached immense popularity through various poker games. This has been explored further through sites where people can win money on their skills in for example popular games like Warcraft or Counter Strike.61,62 Other sites exist with smaller and less advanced games though the players are given the same opportunity to win money by their skills in playing the games.63

54 Interview with Martin Valfisz, CEO and founder of Massive Entertainment AB, 2005-12-04
55 Interview with Tobias Sjögren, Peligroso Entertainment Group, 2005-11-29
56 See Notes for Licenses.
57 Interview with Edward Anton, CEO and founder of JunglePeak Studios and board member of SDSI (Svenska Datorspelsinstitutet), 2005-10-21
58 Interview with Tommy Palm, founder of Jadestone Studios, 2005-10-26
59 Interview with Bo Andersson, CEO and founder of Grin AB, 2005-11-04
61 “Pengar i siktet för actionspeller”, Björn Hedensjö, Dagens Industri, 2005-11-12
63 http://www.playray.se visited 2005-10-20
The idea is building on the concept of multiplayer gaming\(^{64}\) which has become a part of most new games that are being developed today. Though this diversifies the industry further and opens up for new opportunities for developers to for example get recognition and most of all paid for their games on an earlier basis, since the games not necessarily need to be very advanced, as long as the idea is good enough to attract players.

**Being a risk manager**

As the industry is in a constant phase of change, no one can tell what will sell in the future, what trends will affect the demand for games or how it will be affected. This puts a lot of pressure on the developers, as they face the risks connected with their current projects, but also for finding a new project to work with in the future. At the same time they do not know whether their firm will be able to remain as it is or be bought up by a larger company. Some sort of economic stability could therefore be crucial in order for firms to be able to handle these crisis or eventual shifts that may cause the industry to change path. Increased costs for making games make financiers more risk-averse, since a mistake or bad decision on for example what type of game should be produced, could have a larger impact. Within the CGDI, the financiers primarily consist of publishers who also are the ones who have to set the demands on the developers and make sure they can deliver what is being agreed upon. The relationship between publishers and developers therefore often become very personal, since problems often arise during the production phase, making support and a good communication very important.\(^{65}\) It can be argued back and forth who actually takes the highest risk when it comes to starting a new project like developing a prototype for a game or taking it into production. It is clear who invests most money, but in order to get a fair view of the actual risk, one should also consider all the resources invested in the project in relation to the total available resources in the company. A small developing firm might for example not have more than their time and energy to invest into a project, but if they have invested 2 years in something that does not sell, their loss could be much greater than for a publisher who loose 20 million dollars in one of their 10 projects.

**The Publishers role**

The largest Publishing Company today is EA Games\(^{66}\), an American company which not only publish games, but also develop them, accomplished by the use of in-house game developers. These are smaller firms that have been bought up by EA which gives them more control over the production and allows them to spread their risks and get a more effective developing process.\(^{67}\) This is not a surprising development because not only the developers see a tougher climate in the CGDI, the publishers are also being pressured since they depend on that the developers do a good job. The result of a tougher climate has been buyouts and takeovers and many smaller publishing firms have therefore disappeared, simply because they weren’t able to compete with the bigger ones. Many of these smaller publishers origin from developing firms who decided to publish their own, and others’ games, but lacking sufficient resources and knowledge for doing this. Regardless of the consolidation among publishing firms, all respondents that have been interviewed for this thesis agree on that traditionally and still today, the publishers have the most influence over the market, concerning what projects should be invested in and which developer should get the most attention. There is a problem

\(^{64}\) Multiplayer means that several players can play a game at the same time, further on internet allows people to play with each other without being at the same geographical place. This concept is included in many new titles that are released nowadays.

\(^{65}\) Interview with Bo Andersson, CEO and founder of Grin AB, 2005-11-04


\(^{67}\) Interview with Tobias Sjögren, Peligroso Entertainment Group, 2005-11-29
though, even from the publishers’ side, that it is harder to come up with something new today as most of the games produced are sequels of older titles, and few new ones see daylight because of the risks involved in exploring new concepts. When releasing a new game concept, which has not earlier been recognized by the public, there is a chance that it won’t live up to the players demand or desire of what it contains and how it performs, something which is becoming more relevant as an average gamer today is much more demanding than maybe five years ago. 68 However, with fewer and fewer IP’s left to exploit, the publishers today are forced to find new concepts and take some risks, resulting in a less predictable future regarding who and what will be successful in the future, showing that the problems the publishers face in many ways are the same as for the developers, unless they can afford to have their own game production in-house like in the example of EA.

The Governments role

The situation

One could argue that there ought to be an incentive for the government not to have industries, and especially successful ones, move out of the country. In a report from 2003 it is stated that Sweden so far is among the few countries in the world to actually have a net export of games alongside USA, UK and Japan. This has of course a lot to do with the small market Sweden is, but also shows that there exist some potential for further development of the industry in this country, and one could perhaps argue that the minimum goal should be to at least maintain this position. One of the main problems on political level is a lack of knowledge about the industry, what is required for the production of a game, what the technological and economical development looks like and what problems are faced among small firms. Another problem is a rigidity in the system as has been mentioned earlier, other countries with more flexible tax and fee systems have had a higher degree of growth and therefore also more large companies, developers as well as publishers. An example is France, who through relief’s in taxes and fees during the start-up or prototype process have made it easier for small firms to survive and grow to steady organisations. Unfortunately for the Swedish CGDI, it is against policy and Swedish traditions to make regulations in order to benefit certain industries, as has been done in France and Canada. 69

As the industry has gained speed, and developed both economically and technologically, the question whether the Swedish Government should do more to help the Swedish industry grow has become more relevant. According to the educative and cultural department, there has until recently been little push from the CGDI for support or regulations to help smaller companies grow. 70 However, medierådet, a governmental organisation underneath this department, work and strive for more self regulation to protect the society, and mostly children, from harmful or in other ways dangerous content in media. Another governmental organisation is NUTEK, where a spokesperson argues that too little has been done from actors within the industry, for the government to want to pay the industry enough attention to also stimulate entrepreneurial efforts within it. However, if research would be gathered and assembled into a report, showing that the industry is important enough for the government to emphasize its growth and international competitiveness, there might be more activity on political level.71

68 Interview with Bo Andersson, CEO and founder of Grin Studios AB, 2005-11-04
69 Interview with Björn Sandström, NUTEK (Swedish Agency for Economic and Regional Growth), 2005-11-24
70 Interview with Carl-Axel Gustavsson, Secretary of Ministry of Education, Research and Culture, 2005-11-30
71 Interview with Björn Sandström, NUTEK (Swedish Agency for Economic and Regional Growth), 2005-11-24
What’s being done?

A project, which is still in its start-up-phase, is a cooperation between the CGDI and the governmental organisation Vinnova. Where the idea is that the government will in a program currently titled P.I.L.O.T. during a 3 year period, provide seed funding to developing firms that have a publisher who are willing to finance their idea. The aim is to give the developers a stronger position during negotiations for how the revenues of the game should be divided, made possible through the fact that the publishers through this program do not have to make an as large investment for a game production to start, and therefore be able to let go of some control over the production. The vision of this project is to get more money invested into the Swedish game developing industry, and make fewer skilled people and firms leave the Swedish industry in search for better markets.

Lately a cooperation among some countries in Northern Europe have resulted in an agreement that more money should be invested in CGDI, with the primary purpose of supporting and maintaining efforts to develop games that focus on Nordic culture. This project currently goes under the title SPELIT, the intension is to during a 5 year-period invest 10 million Euro, starting with 1 million the first year, into a few projects that produce games for children, and aim to do so solely relying on a Nordic production chain. It should also be mentioned that during the last 5 years, there has been an increase in universities that offer programs and courses in game development and programming.

Conclusion

An Entrepreneurial Future

The data brought up in this study, may not have generated any revolutionary ideas on the issue of entrepreneurship within the CGDI, they have however helped structuring the way the problem has been penetrated. The thesis is built upon the assumption of the CGDI as being a young industry whose products builds and depends on creativity and innovativeness which reflects in how business is conducted and how the industry has developed. This has proven to be wrong and right, depending on how one chooses to look at it. It has for instance proven hard for many small companies to combine their creative skills and ambitions with managing a company, mainly since they have thought that their passion and programming skill will be sufficient to also build a company upon. Even though this has for some firms been true, it might also have been an important factor to the consolidation that still shows its effects in the industry. Further light on the consolidation reveals that it is based on more than one reason though. This thesis has argued the lack of knowledge in doing business among developers as one factor, however the orientation around a few actors is another point which should not be ignored. The fact that there besides PC games only exist three large consoles for which the owners are free to hand out programming licenses as they please concentrate the market power to a few companies, who then are able to grow to become “giants” and push the consolidation further. With this background entrepreneurship might not be an as prominent trait for the CGDI development after all, since the Swedish Firms act on an international market on which they have little influence, compared to these giants. Instead one could argue that traditional market forces, for example those suggested by Adam Smith as “the invisible

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72 “Statligt stöd ska rycka upp spelbranschen”, Niklas Dahlin, Ny Teknik, 2005-08-24
73 Lecture with Erik Robertsson, CEO of Redikod, “Nordiska stödprogrammet för datorspel – Spelit” during Nordic Game Potential, visited 2005-11-23
74 “Satsning på dataspel i Skövde”, Helsingborgs Dagblad, 2004-08-18
75 “Ny Spelutbildning i Kista”, Computer Sweden, 2005-03-04
hand”, are driving even a young and immature industry such as the CGDI. A sign of this is the decreasing amount of console game developing firms and publishers in Sweden during the last years.

However, when considering that all the respondents have argued that having some sort of unique idea or concept has been their own and others’ primary factor for succeeding in the industry, this gives a different view of what is driving the industry. Apparently, it is very hard, if not impossible, for a small or medium-sized firm to succeed by just improving or copying what someone else already has done. This is especially relevant in the CGDI, where many small firms have grown or live by a single game concept which they have invented themselves. As is being shown in the subculture of independent developers who distribute freeware just because they can, there appears to be a pride in doing “the own thing” and since the relationships between firms are on a highly personal level, it appears hard for a developer to get away with a “stolen idea”, even though it probably happens. Therefore, entrepreneurial ambition then perhaps should be argued for as actually being an important force driving the Swedish CGDI. Further on, a high concentration in the industry forces the smaller players to find new ways of competing and becoming competitive, in other words showing entrepreneurial skill.

Sweden has the potential for competing internationally on a technological level, but in a global economy more emphasis has been, and still is, needed on the business side of the development in the CGDI. This report shows that to live as an independent (self owned) developing firm is to wait for three scenarios to happen; being either bought up along with the company’s IP’s and perhaps also programs and game engines, become forced to bankruptcy for being unable to seal a deal with a publisher and having someone to cover the production expenses, or actually surviving through another six months of independency. The CGDI has been sort of isolated, because of society’s view and presumptions but also because of the developing people’s view of themselves and “their” industry. However, as the industry is gaining more and more attention, not only for its good or bad effects on children, but through fairs and conferences also of its economic potential an importance, it will eventually become an industry like any other, and a natural part of our society. Further on, as the industry is becoming less fragmented in terms of firms developing games for consoles, it is diversifying through more companies that focus on smaller parts of producing games or alternative platforms such as mobile phones and handhelds. This paradoxical trend, together with more advanced technology and higher costs, might force developing firms to keep on being entrepreneurial, in order to survive at all.

The report shows a high international focus among the game developers in Sweden, perhaps these firms would also benefit from looking for opportunities of expanding their business abroad in order to build a “home base” at an earlier stage. This could be conducted by for example building networks with publishers, distributors and agents and cooperate on developing game engines or together finding new markets for their products. Also, since the conditions for starting and managing a firm vary in different countries, a small or medium-sized firm might through this be given better chances of survival and be able to compete on a more equal level with its international competitors.

A Helping hand

The CGDI has so far managed without being regulated, however as the market forces have been able to run free, this has resulted in an extensive consolidation, as the industry started out as very fragmented. Few of the respondents during the research reacted positively on the
question whether some regulations should be imposed in order to “protect” the Swedish industry, the main reason is simply that the CGDI is very much international, and regulations on a local market which cannot survive on its own, could be devastating. However authorities that would help smaller firms protect their IP’s, and give advice as of how business negotiations should be conducted, is of course welcome. The Swedish society as traditionally governed through regulations and subvention systems might have a hard time adapting to the more “liberate” view in UK and France for helping the Swedish CGDI grow. However the industry may be helped by having more programs for developing prototypes, making it easier for smaller firms to expand and develop their business. This has to a certain degree been done, though in order for it to be enough, the government might have to pay more attention to how much is being done, from an international perspective, in order for the Swedish CGDI to stay competitive.

This last year have shown an increase in political initiatives for supporting the CGDI, partly on a Nordic culture level, but also on an international level, showing that the Scandinavian and especially Swedish governments are starting to open their eyes for this still young and immature, however possibly economically quite promising industry. This might however be necessary, since a traditional tough climate for small businesses with rigid tax systems might make it hard for Scandinavian companies in general, and Swedish in particular, to in the future compete internationally, and instead force people and firms to move abroad, where the conditions are better for them. On the question whether entrepreneurship in the CGDI could be described as a capture phenomenon, this must be considered to a certain extent be true. For instance the above mentioned initiatives have not come out of nothing, but is the result of hard work and persistent lobbying. However, as the study has shown, regulations might be the wrong way to go as it might result in making the Swedish market left out on the international arena. Instead support and economical incentives for small and medium-sized companies might help stimulate entrepreneurial efforts in the future, though the question remains whether they will be too late in order for the Swedish industry to become and stay internationally competitive.

**Future studies**

A post modernistic approach was taken on in the beginning of this thesis, mainly for allowing the research to include the capture theory, and give room for a hermeneutical and relatively subjective analysis. Though when looking back at the results that has appeared during this study, it can be concluded that this wasn’t necessary, as the subject of entrepreneurship within the CGDI is a highly relevant discussion, and therefore can be analysed from a much more strict perspective. This has however not harmed the quality of the analysis, but shows that the subject is open for other, perhaps more in-depth studies. Further on, this study aimed to contribute to the academic research around entrepreneurship, but also open up for further studies in the Computer Game Development Industry, by showing how a different and seemingly perhaps even irrelevant theory can be applied to analyze how the industry have and will develop. However, as the subject of entrepreneurship has during the last 10-20 years opened up for new perspectives, so will probably studies within the CGDI. However already there are institutes in for example Denmark that focuses on the cultural and psychological aspects of games, but the economic perspective could be explored as well. For instance might a thorough study of how to create a sustainable competitive advantage, according to the Resource theory, be of interest in the CGDI since limited resources makes small firms more fragile and dependant on other, often more influential actors. Further on these studies could discuss and explore other options of how to achieve this, rather than by just innovating new products or techniques. For example the intellectual capital is already a crucial and highly
important factor for any developing company, especially for firms on small markets such as Sweden who act on large, international markets, these firms could then benefit from perhaps growing certain strategies or routines for their organisations, making them more effective than others etc. Another discussion which has been scratched on the surface in this study is how risk capital could affect the CGDI. Would it for example help the Swedish industry and smaller companies grow or just result in further consolidation. This kind of research could be highly relevant while the industry still is young and open for opportunities, as this could be a fact interesting enough to attract risk capital, which, when mentioned among people within the CGDI, is a subject that generates many opinions and discussions.

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References:

Academic Articles:


**Articles from press, magazines and other publications:**


Computer Sweden “Ny Spelutbildning i Kista”, 2005-03-04 (author missing), retrieved from [https://www.retriever-info.com/services/archive.html](https://www.retriever-info.com/services/archive.html), 2005-10-05


Ghatan, Per Hamid, ”Var fjärde kan inte sluta spela”, 2004-12-06, retrieved from [http://www.fair-play.se](http://www.fair-play.se) 2005-

Hedensjö, Björn, ”Pengar i sikt för actionspelare”, Dagens Industri, 2005-11-12, retrieved from [https://www.retriever-info.com/services/archive.html](https://www.retriever-info.com/services/archive.html) 2005-11-16


Lindman, Tomas,”Nordiska pengar till datorspel” article published by the Swedish Ministry of Education, Research and Culture, 2005-10-26, retrieved from [http://www.regeringen.se/sb/d/5985/a/52178;jsessionid=aaQ8fWR52T](http://www.regeringen.se/sb/d/5985/a/52178;jsessionid=aaQ8fWR52T) 2005-11-03

Ministry of Industry and Trade, “FoU och samverkan i innovationssystemet” Proposition 2001/02:2, 2001-09-17, retrieved from http://www.sweden.gov.se/content/1/c4/21/09/a7c6ff100.pdf 2005-10-20


**Homepages:**

**Swedish Branch organisations**

http://igda.org/malmo visited 2005-10-20
http://www.asgd.se visited 2005-10-20
http://www.spelplan.se visited 2005-10-20
http://www.fair-play.se visited 2005-10-13
http://www.gamedev.se visited 2005-10-13
http://www.sdsi.se visited 2005-10-19

**Swedish Game Developers:**

http://www.dice.se visited 2005-11-04
http://www.grin.se visited 2005-11-04
http://www.jadestone.se visited 2005-10-24
http://www.junglepeak.com visited 2005-10-20
http://www.lockpick.se visited 2005-11-24
http://www.massive.se visited 2005-11-04
http://www.playray.se visited 2005-10-20
http://www.upsidestudios.se visited 2005-11-04

**Other:**

http://nordicgame.net visited 2005-11-05
http://www.his.se visited 2005-10-06
http://www.nutek.se visited 2005-11-10
http://www.peligroso.se visited 2005-11-29
http://www.sfi.se visited 2005-11-29
Publishers:
http://corporate.panvision.com visited 2005-11-09
http://www.gammafon.se visited 2005-11-09
http://www.ubisoft.se visited 2005-11-09
http://www.vugames.com visited 2005-11-09

Interviews:
Andersson Bo, CEO and founder of Grin AB, 2005-11-04 – in person
Anton Edward, CEO and founder of JunglePeak Studios 2005-10-21 – by phone
Gustavsson Carl-Axel, Secretary for Ministry of Education, Research and Culture, 2005-11-30 – by email
Hansson Patrik, CEO and founder of Disciples Of the Machine Games AB, 2005-11-24 – in Palm Tommy, founder of Jadestone Studios and board member of SDSI (Svenska Datorspelsinstitutet), 2005-10-26 – in person
Rosén David, Lockpick Entertainment 2005-11-25 – by phone
Sandström Björn, Entrepreneurship and Business development, NUTEK (Swedish Agency for Economic and Regional Growth) 2005-11-24 – by phone
Sjögren Tobias, CEO of Peligroso Entertainment Group, 2005-11-29 – in person
Strömbäck Per, CEO of the branch organisations Spelplan and ASGD, 2005-11-04 – in person and by phone
Sundberg Christofer, CEO and founder of Avalanche Studios, 2005-11-15 – in person
Valfisz Martin, CEO and founder of Massive Entertainment AB, 2005-12-04 – in person and by phone
Wemmert Oscar, Upside Studios, 2005-11-09 – by phone
person and by phone

Lectures:
Lecture in Entrepreneurship with Jan Smolarski, Professor at The Business School, Stockholm University, visited 2005-10-17
Lecture with Chris Mottes, CEO of Deadline Games, “How to Secure Nordic Content in the Future” during Nordic Game Potential, visited 2005-11-23
Lecture with Erik Robertsson, CEO of Redikod, “Nordiska stödprogrammet för datorspel – Spelit” during Nordic Game Potential, visited 2005-11-23

Visits: