

The Asian Online Game Wave– Changing Regional Competition in the Field of Digital Cultural Industries

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Abstract

After the bubble economy it became clear that the Japanese economy was characterized by a dual economic structure. On the one hand, the world had seen the rise of highly competitive international companies. Many of them, world leaders in their respective industry, with industrial tools such as lean production, just-in-time and *Kanban*. On the other hand, the Japanese economy had shielded many sectors from international competition through subsidies and regulation. In the period following the bubble economy, the first group of companies have successfully continued to compete on the global market. The most successful companies can almost all be found in the manufacturing sector. In a world where the largest share of the economy in the most advanced economies is dominated by services, Japan have lost momentum in finding new prosperous sectors to develop. In fact, the second largest economy in the world is lagging behind many of the most advanced OECD countries in terms of service sector share of the GDP and service sector share of total employment. The Japanese economy has been far from as successful in the service industry as compared with the manufacturing sector. As the other East Asian economies such as Korea and China have developed rapidly, the regional competition has strengthened.

In contrast to the service industry in general and the software industry in particular, Japan is a world leader in the video game industry. The Japanese companies in this sector became the fore-runners in developing markets in this segment. Since the early 1980s the dominant actors on the world market has been Japanese, with well-known brands such as Nintendo, Sega and Konami. This might be an indication of that there are certain business characteristics that might be similar to the manufacturing industry. After many years of success, the late 1990s brought more difficult times for the software part of the game industry. By focusing on the console game market, the PC market and the subsequent growth of on-line games for that platform was left to others. As a result Japan is now a late mover, striving to gain leadership in this field as well, with the on-line supported consoles. Extensive broadband development, government support and trade restrictions are reasons why Korea has emerged as one of the world's leading players in the field of PC based on-line games. Due to the rapid spread of the broadband in the late 1990s the niche expanded rapidly into becoming the leading areas of digital content. In what has

been described as the second Korean wave, Korea now stands out as a strong competitor in the international digital entertainment industry. The consistent market approach together with a focused industrial strategy has been driving forces behind this development. Another recent player is China, with ambition to become an international actor in the growing on-line game industry. A combination of a growing Chinese domestic market and government incentives generates a strong foundation for Chinese on-line game companies. Today, three Asian waves compete for leadership in the game market.

Our aim is to compare how the Korean, Chinese and Japanese video game industries have evolved and their future potential, in creativity and regional economic growth. Through empirical examples from different Asian game companies, we explain how the former successful Japanese industry developed and how it has been affected by new competition in Asia. Further, we describe the changing markets in Korea and China, where the on-line game industry currently comprises an extensive part of the digital content industry. Similar to the former dominant position of Japan in the international video game market, Korea and China strives for a parallel position within on-line games. We conclude by analyzing the potential future direction for these three waves in the digital cultural industry

Introduction

Through a formidable economic development path, Japan rose to become the second largest economy in the world in the late 20th century. Several explanations exist on how the country achieved this rapid economic growth. Apart from a resilient industry structure and a the successful developmental state approach, the Japanese innovations system was well equipped to match and take advantage of the rapid domestic and international economic development in the post-war period. In the early 1990s, the prolonged economic growth period came to a halt. The country had seen economic slumps before, through the two oil crises and the impact of the rapid appreciation of the currency in the 1985 Plaza Agreement. However, the bursting of the bubble economy, threw Japan into economic turmoil both in the corporate and government sectors. The stock market plummeted, real estate fell sharply and bank became stock with piles of non-performing loans. After years of large public investments, loose monetary policy adapted by the Bank of Japan, the 1990s became labelled the “lost decade” in Japan (see e.g. Katz, 1998; Callen & Ostry, 2003). Competition in Asia has also changed and moved rapidly into future growth sectors such as services. The question is how the digital wave will affect the regional competitiveness.

Aim of the paper

Our aim is to compare how the Korean, Chinese and Japanese Massively Multiplayer Online Games, (MMOG) have evolved and their future potential, in creativity and regional economic growth. Through empirical examples from different Asian game companies, we explain how the former successful Japanese industry developed and how it has been affected by new competition in Asia. Further, we describe the changing markets in Korea and China, where the MMOG industry currently comprises an extensive part of the digital content industry. Similar to the former dominant position of Japan in the international video game market, Korea and China strives for a parallel position within MMOG. The rest of the paper is structured as follows. First a brief literature review is made on the general development of the East Asian competitiveness of the service industry and the reasons that can explain the initial success of the Japanese computer game industry. This will also be the general theoretical framework through the results will be analyzed. This review than narrows into the study of the MMOG industry in Korea, Japan and China. The last part of the paper is devoted to a discussion of the findings and suggestions of potential further research.

Increased competition in services

After the bubble economy it became clear that the Japanese economy was characterized by a dual economic structure. On the one hand, the world had seen the rise of highly competitive international

companies. Many of them, world leaders in their respective industry, with industrial tools such as lean production, just-in-time and *Kanban*. On the other hand it was clear that, the Japanese economy had shielded many sectors from international competition through subsidies and regulation. Large parts of the service sector could be found in here (Ono, 2001). In the period following the bubble economy, the first group of companies have successfully continued to compete on the global market. The most successful companies can almost all be found in the manufacturing sector. In a world where the largest share of the economy in the most advanced economies is dominated by services, Japan seems to have lost momentum in finding new prosperous sectors to develop. In fact the second largest economy in the world is lagging behind many of the most advanced OECD countries in terms of service sector share of the GDP and service sector share of total employment (OECD, 2005; Ström 2004). It gives an indication of that the Japanese economy has been far from as successful in the service industry as compared with the manufacturing sector. Even if the service sector is disaggregated into specific sub-sectors the pattern still exists. The knowledge intensive professional business service industry, which has been a strong driving force behind international success of many OECD economies, has had difficulties to successfully strengthen and move abroad from Japan (Ström & Mattsson, 2005). In contrast, however, the Japanese computer game industry has showed international success. The Japanese companies in this sector became the fore-runners in developing markets in this segment. Since the early 1980s the dominant actors on the world market has been Japanese, with well-known brands such as Nintendo, Sega and Konami. This might be an indication of that there are certain business characteristics that might be similar to the manufacturing industry. After many years of success, the late 1990s brought more difficult times for this industry. What has happened to this sector? Is it possible to regain strength?

The East Asian service economy – international differences

The Japanese economic development model shows a number of specific characteristics. One of the most debated factors is the government involvement in the economy through various forms of regulatory and support functions. The government has used an array of tools in the so-called developmental state. The most well-known measures have been the attempt by MITI to use preferential treatment for certain sectors in combination with regulation (Johnson, 1982, 1985; Okimoto, 1989). Supporting a number of potential industries for export promotion, regulation on foreign direct investment and the financial markets, and shielding domestic industries from competition are just a few examples of this government involvement. The Japanese business environment with large industrial groups, *keiretsu*, and rigid labour market worked in parallel with the regulatory environment in creating a rather unique model of rapid economic development.

A debate exists, however, on the real effects of these measures for the industry. Some parts of the

economy certainly was helped by the government involvement, but there are also examples of companies going their own way or simply taking advantage of the existing favourable market conditions (Friedman, 1988). The high level of involvement did not always create the expected outcome. The result has become a dual structure with competitive and uncompetitive firms. Today, the economy has changed and the government acknowledges the importance of foreign direct investment and the need to restructure the labour market. The life-time employment system of the high-growth era has now transformed and the labour market is now less rigid. Nevertheless, there are sectors that are in need of restructuring to compete on the international market. The service sector is one such example. The service industry has not received the same government attention as other manufacturing sectors in terms of industrial development assistance. Instead the sector has been kept shielded from international competition in the domestic market. This has created weaker service sectors in general in Japan in comparison with other advanced economies (Ström, 2004, 2005). Apart from lower share of GDP and employment stemming from the service sector, Japanese services have a limited international success. In international trade Japan runs a large deficit in services trade. This shows a completely different picture of the Japanese economy than usual in the case in manufacturing trade. The export ratio in services is also very low. This gives a clear indication of that the economy has primarily had a manufacturing focus. A further indication is that there has been a problem with productivity within the sector and that the Japanese companies in general have experienced low profitability (Wainai, 2001; Wölfl, 2003).

Japanese service firms found at foreign locations has primarily been following a Japanese client. The Japanese banks internationalized through the international success of manufacturing companies. The situation is similar within insurance, financial consulting and other professional business service firms. A common characteristic is that these firms had problems in expanding their client base outside their main traditional Japanese clients. The feared competition even from Japanese service firms that existed in the late 1980s proved to be much less than anticipated (Enderwick, 1990; Johansson, 1990). As the Japanese clients abroad were pressured by competition, in combination with the domestic problems in the Japanese economy, many of the service firms became forced to seek non-Japanese clients to keep their business running. This has been a very difficult task. Many Japanese service firms have chosen to withdraw from non profitable markets. Sectors such as, construction, insurance and retailing, have all seen this development. The local knowledge in combination with a long experience of the business environment helps to explain this situation. There might be several reasons behind the problems of internationalization among the Japanese firms. On the one hand, the lack of clear strategy and limited international brand recognition are important. On the other hand, services have traditionally been seen as something which should be free in Japan. There has not been the same tradition in charging for information or knowledge. Instead this should be included in a larger package, such as a product or a loan from a bank (Ström, 2004, 2005). This has created a business environment where services have been

internationalized through an introvert approach, mainly using the already existing business relations to Japanese clients (Ström & Mattsson, 2005). Within this environment, the case of the video game industry tells a completely different story. It is the only one part of the software industry which has gained international success. Japanese companies became to dominate this industry, and achieve success both in hardware and software, with a base in game consoles in the early 1980s. To understand this exception it is necessary to study how management and innovation have been conducted within the Japanese industry.

In several manufacturing sectors, Japan has also seen increased competition from neighbouring countries. Korea has become a world leader in the automotive and electronics industry, just to mention a few. The Korean service sector, however, shows a number of similarities with the Japanese. Even though the economy has been growing rapidly over the last decades, the service sector has not developed at the same pace. Even compared to the Japanese situation the Korean service industry is lagging behind. One example is the fact that the contribution GDP by the Korean service sector was 57.2 percent in 2003 (OECD, 2005). In Japan, the contribution was 68.0 percent. Ten years before, this difference between the companies was about the same. The data shows that the Korean economy is still dependent on the international competitiveness of the manufacturing sector. Regarding the share of total employment of the service sector the difference between Japan and Korea is smaller. In 2004 67.1 percent of the Japanese labour force was found in services and 64.4 percent of the Korean (Ibid.). This is an indication of that the Korean economy is moving ahead to become a service and knowledge dominated economy, with a strong government push in this direction (Kim, 2003). The tendency to leave the manufacturing dominated economy exists in many of the East and Southeast Asian countries. Even countries like China have many areas with rapid growth, where the service industry is booming. The competition in East Asia has changed and moved into new industries apart from cars and electronics. It is now a question of which countries that can make the most out of the possibilities that new technology and the network economy can bring. With technical ability and strong innovation systems countries can leapfrog in economic development. ICT clusters in Korea and China stand strong in the new knowledge based economy (Masuyama & Vandenbink, 2003). The technological development and innovation strategies implemented by governments push competition in new sectors. Today competition is rapidly increasing in high growth sectors such as video- and computer games. Japan that for long led the way in the manufacturing industries in East Asia, and early became the world leader in the video console game industry, has seen competition rise in the online game market. This market has been pushed by the technological development, but the Japanese firms seem not to have realized the full potential of the market.

The Japanese management and innovation system

Porter et. al (2000) are analyzing the industrial structure in Japan and what sectors that have been gaining

from government involvement. Additionally they examine the underlying reasons for competitiveness on the international market based on the “Diamond-framework”. On the basis of this analysis, they discuss the importance of strategy for creating long-term success. A general conclusion from the analysis is that management systems in combination of government support have formed a number of successful industries. There are also sectors that despite government involvement and similar management strategies have not been successful. The framework for analyzing the government involvement comprises measures for entry, rivalry, operating subsidies, technology, suppliers and demand. The result shows that many of the strategies that have been hailed as explanations for Japanese industrial success show in many cases that they simply do not work. In the special case of the international competitiveness of the video game industry, the government involvement was almost non-existent. Within the framework it was only in the supplier segment that the government involvement had any significant impact on the general industrial development. It shows that some of the more successful industries in Japan have become successful simply because of the low level of government engagement. Porter et al. (2000) acknowledges the support to the semiconductor industry as an important part of the successful video game industry. Government regulation and various forms of subsidies in technology and demand creation helped to establish the industry on the international market.

The well-known “diamond-framework” (Porter, 1990; Porter et al., 2000) helps to understand the underlying reasons for the success of the video game industry. Since government involvement was not behind the initial success, other factors help to explain this better. Regarding the initial factor conditions, Japan is said to have had a large pool of skilled persons in the fields of cartoon artists and game developers. The demand structure has furthermore played an important part in strengthening the industry. The Japanese customers are demanding and constantly seek new versions or products. The high penetration in general of video games in Japan also shows the great demand. This constant pressure for new titles generated a perfect platform for game developers. Game sales, however, has dropped since the late 1990s, but we will come back to this issue. The rivalry among firms was yet another of the diamond characteristics that worked in favour of the industry. Early on, a large number of companies competed and as an example, over 500 firms supplied game software to Sony. Even if software development was important, the rivalry that existed in hardware (consoles) has been an important driving force also in game development. The competition between Nintendo and Sega pushed the software development to take advantage of the latest technological frontiers. With the launch of the Sony PlayStation in the mid-1990s, the hardware competition has accelerated even further. The market position of the hardware then influences the game development. Naturally, the software producing company focuses on the most influential consoles presently on the market. Both sectors are tightly connected and due to increasing development costs sharing costs have become paramount. Finally, the surrounding industrial structure, labelled as related and supporting industries creates a broader supporting frame. The Japanese comic book

and animation industries are examples of these kinds of related industries. These companies are often world leaders in their respective area. It is also within the related industries the semiconductor industry can be found. Without the technical leadership it would have been difficult for both the hardware and software video game industry to develop. The effects of this continues technological up-grading is for example seen in the coming consoles where completely new chips are included and new standards of storing devices, such as Sony's Blue ray discs are promoted. The cluster dynamics within the related industries involving comic books, animation, games and character based consumer products help to keep both creative and technical development on competitive levels. When the industry started to grow many of the pioneers came from a background within the publishing industry. The experience of animation and entertainment market in combination with seed financing helped to create smaller game development companies.

The divergent pattern of the Japanese videogame industry

For almost two decades the Japanese game industry was a success story of uninterrupted growth. In a period ranging from the end of the 70s to the middle of the 80s, Japan managed to become market leader in both hardware and software in all electronic games platforms (arcades, handheld games, consoles) except home computers and their successor the PC. This remarkable success was achieved despite that they were second movers in all of those platforms in relation to US companies. When Nintendo managed to become the dominant console company with *Famicom* after the video game crash of 1983 ("Atari shock"), Japanese companies were already market leaders in arcades and handheld games. In many cases they were able to reuse their capabilities in the growing console market (Jörnmark, 2005). In the decade that followed (1985-1997), the videogame market for consoles experienced high growth both in Japan and in the North American and European market. Japanese companies were able to retain and in some cases even strengthen their position as industry leaders in game hardware and software. From 1989 onward the strong Japanese position in videogames was further strengthened when the handheld games market entered a new period of strong growth with the introduction of Nintendo GameBoy. Japanese companies' market share in the international arcade market increased as well and the Japanese arcade market continued to grow until 1996. However, due to a prolonged stagnation in Europe and the US from 1982 onward, the worldwide arcade market diminished in importance in relation to other game platforms (Williams, 2004).

The rise of the Japanese video game industry has the bewildering dual nature of both being a part of a general pattern and an exception. Many studies saw the dominant Japanese position in VGH as consistent with the overall Japanese success in electronics during the period. The remarkable worldwide successes of Japanese game software, on the contrary, became an area of interest and wonder (Porter, 1999). It

diverged from the general pattern of limited international competitiveness of Japanese service industry in general (Ström, 2005) and the software industry in particular (Porter, 1999). During the early 1990s, the plumber Mario (with Sonic the hedgehog running closely behind) became a symbol of the possibility of Japanese worldwide success in software and popular culture (Sheff, 1993). Subsequently, the game changed. From 1998 onward, the market conditions for Japanese videogame companies have worsened considerably. While Japanese game companies still retain worldwide leadership in hardware, Japanese game companies have encountered severe problems in the area of VGS (videogame software). Over a period of a few years, many major Japanese game companies were weakened by a *3 force threat* as (1) the domestic market for VGS decreased, (2) they lost market share in the international market and (3) Non-Japanese companies became dominant in the new, fast growing online game market.

The business model is changing

When computer games entered the internet era and partly transformed into the niche online games, the industry also moved into a new area of the service entertainment industry. As long as the industry was focused on consoles and PCs, marketing, distribution and the massive impact of hardware on the global market characterized the main challenges for game producing companies. Due to the rise of the internet and other related technical possibilities, the challenges to reach market segments changed. The rapid introductions of broadband connection generated possibilities for players to stay connected for longer time and interact with people from all over the world. This became the rise of MMOGs. High-speed internet connection has pushed the industry more towards the direction of complex knowledge intensive services. In order for games to function and gamers to stay satisfied and willing to continuously pay the game fee, the entire value chain had to become more integrated. The game must work properly and be attracting for players, the internet connection must be stable. As the games grew more complex with the increase of players, virtual worlds and characters, the game suppliers saw new challenges arise, which had not been there before. One example is the need for data base handling. To store all the information that players generate during their time connected to the game, giant data bases with a large number of connected servers. To run these technically demanding networks, game developing companies have felt obliged to work with other service professionals in the area. Companies that specialize in data base building and processing have been brought in on a consulting basis to help with these problems. Another problem that was not present before is the fact that hundreds of servers put together at one location need a lot of electricity. Increase in technical possibilities of the online games tends to move in parallel with various public and private incentives to strengthen the information technology industry and the telecom sector. The development is evident in the rapidly growing economies in East and Southeast Asia. Large investments have been made in areas to up-grade the information technology sector (Masuyama & Vandenbink, 2003).

In all, this part of the digital entertainment industry now resembles the networks and supply chains that have been found in manufacturing and knowledge intensive business services. The industry now faces multiple challenges, such as building networks that fit complex product development, finding the right pricing model that can help to attract players and generate good profit and which people should share these economic gains (Castronova, 2005). Another aspect that is difficult to deal with in synthetic worlds is the legal framework for ownership of virtual items. The increase in development costs and complexity of operating the games has also generated a need for outsourcing. Before most parts of the development chain could be handled in-house, but the market demand have pushed companies to contract external expertise. This kind of production system has traditionally not been the strong points of service production in Asia (Daniels, 1998, 2001; Ström, 2004, 2005). The interesting question is whether the initial success of MMOGs in countries such as China, Japan and Korea can be sustained with ever changing markets and development processes. The fact that there seem to be a preference towards Asian style games indicates that the sheer size of the online game market, makes it necessary for Western firms to closely follow the market and cultural trends in Asia.

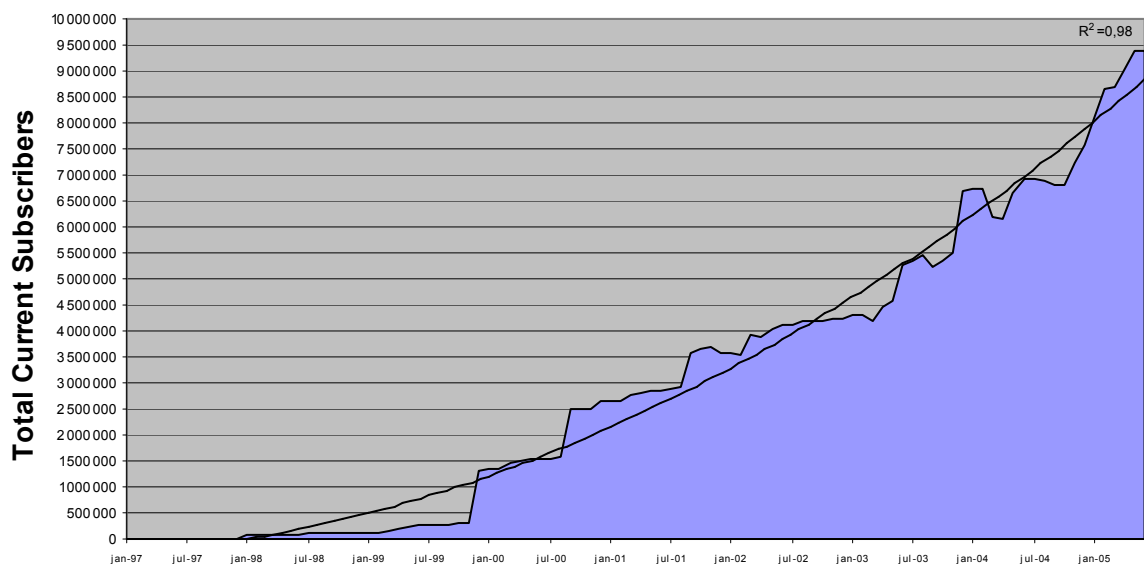
The growth of MMOG

Massive Multiplayer Online Games where in many ways a disruption in the game industry. In three decades the growth of the game industry had been driven by Moore's law. The constant improvement in processing capacity enabled constant improvement in graphics, complexity, AI, physics and other features that ensured an ever richer experience of the game world. With online games, the play became social.

There is no unanimous definition of MMOG and how many players there should be for an online game to be "massive". There is also different ways to measure the success of a MMOG, but there is not possible to discuss that further here (for a discussion of these issues, see Terra Nova (2006) and Castronova (2005). If we only count successful MMOG as those games that have >100.000 active players worldwide during some time of there lifecycle, the first successful MMOG was Ultima Online, Lineage, Ever Quest and Asheron's Call, all released in the 1997-1999 period (table 1). They where the successful breakthrough games that defined the genre and with some exceptions for Asheron's Call, they have all had a long successful lifecycle that currently (2006) have lasted in 7-9 years and still have >100,000 active subscribers. After those initial pioneers, it would last until 2001 before a second wave of games with >100,000 active subscribers would emerge (table 2). The most recent success is that of World of Warcraft that had over 5.5 million active subscribers worldwide in the beginning of 2006 (Blizzard, 2006). There is not possible to generate exact number of MMOG players worldwide, but one analyst estimated that their was 15 million paying MMOG people worldwide at the beginning of 2006 (Terra Nova, 2006). To that

number an unknown number of people playing non subscription based or free MMOG should be added. The many different payment models available are only one thing that makes comparison between different countries and different MMOG difficult (Castronova, 2005). The high growth of MMOG subscriber worldwide January 1997 until June 2005 is visible on Figure 1. During this period, the MMOG market had an average annual growth rate of over 40%. Today when a number of business models based on income from other types of revenue sources have increased, total active subscribers have to be combined with other types of measures to give a clear picture of the worldwide MMOG market.

Figure 1. Total MMOG Active Subscriptions (All MMOGs)



Source: MMOGchart.com

Table 1: The first wave of successful MMOG 1997-1999

Name	Release Year	Developer (country)	Publisher (country/region)	Peak active subscribers (month, Year)	Worldwide Active Users as of September 2005
Ultima Online	1997	Origin Systems (US, Texas)	EA (North America)	250,000 (2003)	157,000
Lineage	1998	NCSOFT (Korea)	NCSOFT (Korea)	3,212,000 (2003)	1,865,000
EverQuest	1999	Sony Online Entertainment (US Kalifornia division of Sony Japan)	Sony Online Entertainment (US Kalifornia division of Sony Japan)	550,000 (dec, 2004)	454,000
Asheron's Call	1999	Turbine Entertainment (US, Massachusetts)	Microsoft (North America)	120,000 (dec, 2001)	N/A

Source: MMOG chart., Morgan Stanley Research, www.MMORPG.com

Table 2: The second wave of successful MMOG, 2001-2005

Name	Release Year	Developer (country)	Publisher (country/region)	Worldwide Active Users as of September 2005
Dark Age of Camelot	2001	Mythic Entertainment (US)	Mythic Entertainment (US)/ Wanadoo (EU)	175,000
RuneScape	2001	Jagex (UK)	Jagex (UK)	N/A
Final Fantasy XI	2002	SquareEnix (Japan)	SCE (Japan)/SquareEnix (Japan)	650,000
Ragnarok Online	2002	Gravity (Korea)	Gravity (Korea)	N/A
Star Wars Galaxies	2003	Sony Online Entertainment (US Kalifornia division of Sony Japan)	LucasArts (US)	255,000
Lineage II	2003	NCSOFT (Korea)	NCSOFT (Korea)	1,787,000
City of Heroes	2004	Cryptic studios (US)	NCSOFT (Korea)	150,000
EverQuest II	2004	Sony Online Entertainment (US Kalifornia division of Sony Japan)	Sony Online Entertainment (US), Ubisoft (EU), SquareEnix (Japan) Gamania (China, Taiwan)	278,000
World of Warcraft	2004	Blizzard (US)	Vivendi Universal Games (EU)	4,500,000
Westward Journey II	2003	NetEase (China)	NetEase	2,000,000
Fantasy Westward Journey	2004	NetEase (China)	Netease	3,000,000
MU Online	2001	Webzen (Korea)	Webzen (Korea)	1,000,000
Guild Wars	2005	ArenaNet (US, division of NCSOFT Korea)	NCSOFT (Korea)	1,000,000
Legend of Mir II	-	Wemade Entertainment (Korea)	Wemade, Game Network (EU)	1,000,000
Legend of Mir III	-	Wemade Entertainment (Korea)	Wemade Entertainment (Korea)	N/A
Yulgang	2005	Beijing 17 Game network (China)		N/A

Source: MMOG chart, Morgan Stanley Research, www.mmorpg.com

MMOG as a Disruptive innovation

Most innovations that emerge are sustaining innovation, which means that established business leaders through their existing resources, processes and values are better suited to exploit the opportunities that the innovation offer than completely new firms. However, occasionally new innovations requires completely different resources, processes or values than what the existing firms in an industry excels in and in many of those cases new innovations can be disruptive and enable opportunities for new firms to emerge (Christensen, 2003). Clayton Christensen (2003) has studied the effect of competence destroying innovations on business models. He could show how common it was for established leading firms to fail when new technological innovations are disruptive in the sense that they (1) create new growth opportunities, (2) attract customers away from the core of the mainstream market and (3) make it hard for incumbent firms to respond by developing a different value chain (Christiansen 2001). While the resources necessary to acquire to compete through a new innovation is often easy to understand for many incumbent firms, many often have lack an understanding and appropriate strategy of how a disruptive innovation favours a different set of processes and values to succeed (Christiansen, 2003 Chapter 8).

The online game industry has been dominated by new companies both in the publishing part of the value chain and in the development part (table 3). To a large degree, this can be attributable to the fact that the online game industry was disruptive in relation to the existing traditional console and PC game industry. To understand why Japanese video game companies had difficulties to get into the market for online games, we describe the differences in business models between MMOG and offline games (traditional console and PC games). Based on this, we then discuss how the resources, values and processes necessary differ between both markets.

Table 3: Differences between Stand alone games and MMOG

	Stand alone Console and PC games	MMOG
Player	The average videogame player in the US is 30 years old and spend 6.8 hours/week playing games	The average MMOG player is 26 years old and spend on average 22 hours/week playing MMOG games. 80% play with someone they know in real life.
Business models	Box sales	Box sales, monthly subscription (10 -15 USD), sales (most common), trade of in game items, advertising,
Market concentration	Relatively high concentration among publishers, but a large number of games.	High, a few MMOG have the majority of the market with World of Warcraft having >1/3 of market, and Lineage I & II having >1/3.
Market characteristics		
Risks (Stability)	High, more likely to actually reach the market than MMOG games, but products have a very short lifecycle in which they should recoup the investment.	High, both a risk that the complex development project never reach the market and if they do, the increasing development costs requires a considerable number of users. A few major MMOG dominate the market and is highly profitable.
Quality Assurance	All testing in house before the game is released	A long beta testing period in many months with free play before numerous patches have made the game reliable enough to release.
Development Process	12-24 months	Often >24 months
Crucial development resources	Game design, programming, content creation (graphic/artists), QA, sound,	Except those mentioned for VG, server technologies, database financial system, service and support.
Crucial game development and publishing capabilities	IP creation and retention, marketing, game design,	Except those mentioned for VG, community service (understanding and catering user motivation and needs), server maintenance, database maintenance, financial online transactions.
Development costs for AAA game	4-6 million USD (Xbox 360), sometimes more.	2-5x of stand alone games (20-30 million USD, sometimes more)
Complexity of game		Size 3x of console games, complexity 10x
Entrance Barriers	High, especially as cost rises	High and increasing as the market gets more crowded and cost rises.
Genre Differentiation	The market is diversified with a large number of genres and titles.	Low. Fantasy RPG games dominate the market (85%). Besides this a smaller part is taken by Sci-Fi/Superhero RPG (9.5%), Combat Simulation/FPS (1.3%) and social/other (4.0%).
Sales of the game	Retail dominate	Online and Retail, with Online sales dominating in many Asian countries.
Product Lifecycle	Short, sales almost zero after 20 weeks in Japan,	Different. Some of the first most successful games (e.g.

	while some US titles have a little longer lifecycle. The majority of sales 4-6 weeks after release.	lineage) do still have >100,000 active subscriber, while smaller MMOG games have lost most of their subscribers. A lifecycle of >2 years common.
OEM	Common and increasing.	Increasing.
Financing	Game Publisher finance most of the game development. Sometime developers share part of the development cost.	Game Publisher financed games dominate, but venture capital financing is common as well.
Licensing	Large amount of licensing of sport, music, movies, comic books, TV series and books. Many of the major companies (e.g. EA, Activision, THQ) have make long term (around 10 years) licensing agreement with sport stars, movie companies, sport clubs, comic book companies. A study by NPD from 2004 showed that licensed games accounted for 57% (7.8 billion USD) of all total sales to GBA and 6th generation of consoles until then, with licensed sport video games accounting for over 1/3 of that sales (2.7 billion USD) (NPD, 2004).	Since 2002 some MMOG based on licensed properties from outside the game industry have emerged (e.g. Sims online, Star Wars Galaxy and Matrix online) but so far they have not been as successful as anticipated. Licensed titles based video game properties (e.g. World of Warcraft and Final Fantasy XI) have fared better.

Sources: *ESA (2005), IGDA (2004), KGDI (2004) The Daedalus Gateway (2006), Castronova (2005), Hosoi (2004) Yee (2006), Shintaku et al., (2003).*

Resources, Processes and Values for MMOG development

Compared to stand alone games, MMOG requires some additional resources in development like servers, database knowledge, large support and financial system. In many areas, considerable more resources are also needed as the size of online games is 3x larger than most games and 10x more complex. As a result, MMOG are considerable more expensive to develop and just like stand alone game, their development costs increase as the hardware development and game complexity follow suit (table 3). Although many of those resources are a major obstacle, they represent obstacles which many MMOG companies can overcome.

The major obstacle in MMOG game development does not lie in the resources, but in the processes and values that a successful MMOG company must build up. The major differences between MMOG games and stand alone games are the social interaction on a massive scale and the persistent nature of the worlds. These are also their major difficulties and what constitute the disruptive nature of these games. Creating a

world in which player could enjoy socialising in and continuously service them so that they stay and enjoy their game experiences is a capability on which successful MMOG companies like NCsoft today can build their competitive advantage. Just like for other advanced service companies in other industries, this is a difficult capability that require considerable time to build up.

“The company which can make the greatest games will be the winner in the end; but even to that there is a condition, which is very important to online game companies, and that’s the know-how to create a player community. If you compare online gaming and console gaming, there’s a big difference, and that difference is the user community.

When you compare them, the technology used in online games and console games is almost the same; the user experience during gameplay is also almost the same. So the big difference is that players can enjoy the game together; it’s the know-how to get your users communicating in the game, in an online world. Gaining that know-how is very difficult.”

Tack Jin Kim, CEO, NCsoft (Fahey, 2005)

Roughly speaking, the differences between a stand-alone-game and an MMOG is the differences between producing an entertainment product and producing an entertainment service. In this sense, it has been argued that MMOG games are “partly a piece of software but mostly an ongoing service” (Castronova, 2005 p.127). MMOG companies have to build up a service organization that facilitate and regulate player interaction, constantly upgrade the online world and modify it accordingly to users need. Managing the online world is as important as developing it. No other type of games is as close to the players and reliant n users feedback as MMOG since companies both needs to develop a game that is demanded by a certain players, market it and then constantly monitor and improve it once it has been released. Being Persistent Worlds, they are never finished but a constantly ongoing project.

MMOG in Korea

Beside all cultural expression which normally is associated with Korean wave such as movies, music and TV-dramas, the Korean online game industry has been the fastest growing part of the wave in recent years. The online game industry in korea has been so successful that it has been described as the second Korean Wave (Jin-seo, 2005). At least in terms of economic impact, it is also the strongest part of the Korean Wave. According to Korea Culture and Content Agency, video games account for 43.3 percentages of the total entertainment and culture-related exports (thereby far surpassing export of music, movies, TV dramas, book and animations) (Jin-seo, 2005). One example of the economic impact of online games is that the Korean MMOG game Lineage II is expected to earn the Korean game company NCSOFT 22

billion won in royalties, more than 10x the amount of exports of the TV drama “Jewel in the Palace” (Taejanggung) (Jin-seo, 2005). Despite its impact, online games have not yet earned the same recognition as the more traditional part of the Korean Wave and for example KNTO (Korea National Tourist Organization) is not even mention it on its homepage devoted to Hallyu (KNTO, 2006).

Korea’s achievement in ICT combined with the advancement in creative industries proved to be a very fertile ground to build up an industry. It is often put forward that the rapid, early broadband penetration and the dominance of PC and PC bangs in Korea was an important ground to build up an MMOG industry from (KGDI, 2005 and DTI, 2004). This provided a fertile testing bed and opportunity for MMOG companies to build up their capabilities and know-how in the field of online games which they later could use to expand their market internationally. While all this is true, Korea has also developed what is probably the world’s most extensive industry policy in the game field. In addition to many other countries policy in the field of games, the Korean example is a very successful example of how competition at home has fuelled success abroad. After its creation in 1999 KGDI (Korea Game Development and Promotion Institute) have been able to introduce comprehensive 6 part policy (Table 4).

The PC bang (internet cafes) was initially the most important venues for MMOG playing in Korea, but more recently playing MMOG games at home have experienced high growth. At the same time the number of internet cafes have decreased but the size of those left have increased which means that PC bangs still have experienced growth. The restructuring process among internet cafes is driven by a demand to cater to a more diverse audience and offer additional services. Currently, there are around 20,000 internet cafes in Korea (KGDI, 2004) and the users are 36% under 20, 43% in their 20s, 18% in their 30s and 3% over 40 years old (KGDI, 2004). Although Internet cafes could be used for other things than playing games, like internet surfing, chatting, email etc. game playing dominate them and around 75% of the visitors had game playing as their primary activity (KGDI, 2004).

Table 4: KGDI six part policy

Area	Implementation (year)
Laws related to the game industry	The Act of Law on Records and Video Products (1999) have regulation with regards to promotion of game creation, cultivation of specialists, establishments of infrastructure, distribution structure and rating system of games.
Investment and firm creation	Cross (2002): Supporting facilities for new game firms, incubation, investment and financing of game content, marketing support. Game awards, industry information publications.
Education	Game Academy (2000) educates 250 game specialists (game design, programming, graphics) annually as well as long distant courses.
Internationalisation of game firms	Support participation in game exhibitions like E3 (1998). Support foreign language version of Korean games Information of foreign markets Establishment of network of foreign game companies to facilitate relationship between them and Korean game companies (2000)
Development and distribution of game related technologies	Game Institute (2000) development and distribution of 3D game engine and development tools. Seminars and research articles on game technologies.
Public knowledge of games	Rating system of online games (2002) Council of Gaming Culture Promotion (2002): game seminars, game camps, game music concerts, gaming culture campaigns PR ambassadors.

Source: KGDI (2004), DTI (2004).

NCsoft pioneered the Korean MMOG game industry, and although there are a number of other Korean MMOG game companies, none of them can measure their success with that of NCsoft and their profit margin. In many regards NC soft stands as a model for a successful MMOG company, not only in Korea but worldwide and many analysts rank their development capabilities as the strongest in the industry (Morgan Stanley, 2005). The success has been enabled both by an aggressive international expansion and acquisition of specialist talents in the industry. NC soft has been setting up development offices in all major regions to cater specific market needs and their acquisition strategy has enabled them to buy Destination Games in 2001 which was lead by the original creator of the Ultima series Robert and Richard Gariot (which now leads NCsofts US development). Thus far, NC soft has had considerable success in the US with “Guild Wars”, but due to differences in markets, their lineage franchise is still far from as successful in the US market as it is in Asia.

MMOG in Japan

Japanese VGC (with Square Enix as an exception) has been reluctant to enter the fast growing online game market segment in recent years, especially the MMOG segment which currently dominate the market (Shintaku et al., 2003). In the meantime Korean, US and Chinese companies to has been able to build up capabilities and dominate the market (Table 5).

Table 5: Japan Online Game Market, Peak Concurrent Users

Title	Company	Rank
Final Fantasy	SquareEnix	170,000
Ragnarok Online	GngHo Online	104,559
Lineage II	NCsoft	38,000
Nobunaga no Yabou Online	Koei	21,000
Lineage	NCsoft	17,000
Douwa Monogatari	Success	10,000
Gundam Network Operation	Bandai	6,000
Gundam Network Operation 2	Bandai	5,000
Knight Online	Terra Corporation	3,680
Godius	Success	3,000

Source: Morgan Stanley (2005).

Today, the Fantasy RPG genre which Japanese companies dominate in stand alone games are dominant the MMOG market (Woodcock, 2005). Genre wise, Japanese companies would have had a great advantage entering the MMOG market when it made its commercial breakthrough at the end of the 90s, but several things constrained this development. Since PC is still the platform through which most people play MMOG games, the small PC game market and late breakthrough of broadband in Japan worked as a disadvantage. As a result of the weak domestic user base in Japan, the dynamics whereby Japanese companies had built up there capabilities in console game through competition in its demanding home market and thereby afterwards captured an international market was less conceivable in the field of MMOG. Some of the problems that Japanese service companies in general have may also have contributed to the limited success thus far in the Japanese MMOG market. The Japanese VGC structure of a few big horizontally diversified companies and the limited venture capital market may also have been disadvantageous.

More recently, a number of Japanese VGC have started to make effort to penetrate the MMOG market and the 7th generation of consoles with its emphasis on online features might provide the opportunities to build up a larger domestic MMOG market in Japan that could potentially strengthened Japanese

companies skills. However, thus far Japan is a late mover in the field that may be a major disadvantage as some have argued that the accumulation of know-how from previous development and management could be especially important in the field of MMOG games. (Castronova, 2005). Thus far, most companies in the international MMOG market are companies that have been started in the late 90s, often with help of venture capital and with specific business models built around the MMOG market. Although we can not delve in the issue further in this paper, the specific development, distribution and consumption characteristics of MMOG might mean MMOG games have elements of a disruptive innovation(Christensen, 2003), making it difficult for many existing VGC to adapt their business models to the market.

Sony's US division Sony Online Entertainment have been very successful in Online game development, but the only successful Japanese MMOG company thus far is Square Enix. With the devise "Network is the Game. Everything Plays Game", SquareEnix have taken measures to restructure their business to their vision ubiquitous network games. They are now focusing on cross platform network games and have embraced a strategy of closer interaction with the players in which player created content and company created content should be developed together. It remains to be seen the effect of this strategy, but their first venture into MMOG with "Final Fantasy" for PC and PS2 in 2002 (will be released on Xbox 360 during 2006) has thus far exceeded over half a million paying active subscribers. In their annual report, SquareEnix described the difficulties of going from an developer centric company to the service, user centric company that is necessary to be competitive in the MMOG space:

"We are aware that we also have a weakness, which lies in our corporate culture and how we succeeded in the past. We excelled selling top quality packaged software. Our emphasis on perfection, however, could have appeared to some as arrogance, particularly when dealing with the supporting role of customers' activities. In this new era, it is important to change our mindset so that our relationship with customers is content, and the quality of content is something we improve over time working with customers."

Yoichi Wada, President Square Enix, July 2005 (Square Enix, 2005)

MMOG in China

As been noted, there is a strong correlation between the internet bandwidth in a country and the potential growth of the online game users as well as game developers. China that has seen the GDP grow by about 10 percent yearly in the decade (IMF, 2005), has also tried to up-grade its information technology sector. Already in the Eighth Five-Year Plan in the early 1990s, the government pushed forward to create infrastructure that enhanced the possibilities for future growth in ICT. Since that start of these government initiated programs, the PC usage in China increased rapidly. In 2000 China was the third largest PC

market only behind the US and Japan (Li, 2003). The manufacturing of IT hardware has also been a priority area in China and it has been one of the fastest and most important industrial sectors in the country (Ibid.). One example of the committed drive for IT hardware leadership is the recent acquisition of IBM's PC division by the Chinese Lenovo brand (e.g. McKinsey, 2001). The combination of government dedication towards the IT industry and the strong capabilities of the hardware manufacturers have created a solid base of PC usage in China that is a potential growth market for service developers in the MMOG industry (Ren & Yang, 2005). Table 6 below gives an overview of the Chinese market.

Table 6: Number of China online players

	Internet Users (million)	Online players (million)	Paying online players (million)	Paying players/Total players ratio
2001	33.7	4.95	0.4	8.1 %
2002	59.1	9.5	3.5	36.8 %
2003	80.0	12.95	7.1	54.8 %
2004	104	19.76	11.3	57.2 %
2005 (est.)	132.6	25.19	15.91	63.2 %

Source: iResearch, 2004.

It is clear that the online game market has developed rapidly in China and that further growth is expected. The single player PC games market in China has slowed down due to the fact that online games have gained market share. Pressure from piracy in the Chinese market also helps to hold back the growth of single player PC games (iResearch, 2004). The huge internet population and the development of Chinese online games have generated solid growth for paying players. For further development of the game development companies based in China, the possibility of getting paid and earning a stable income on the games is important. The fact that the online games are not affected by piracy and copying helps to drive the industry. Instead, players need to have the game, but also the relevant installation software. Additionally, companies can then earn money on different forms of buying and selling taking place in the synthetic worlds that they supply. New possibilities to make money have also helped to transform the distribution. Online game operators have moved in to self-controlled channels, and thereby decreased the market share of pure distributors (Ibid.).

In relation to the content of the MMOG market in China, research lists role-playing game, chess & board and casual action as the top three game types. In more detail, Chinese style knight legend is by far the most popular game type on the domestic market followed by Western style fantasy and classical Chinese

myth style (iResearch, 2004). The fact that the Asian market is of such great importance makes it necessary for Western game developers to position themselves to fit the Asian trends. Interviews with Western game executives underline the importance of closely following Asian trends and create characters that look and move according to Asian preferences. Ren & Yang (2005) presents the Chinese company *Shanda*, and tries to explain the success of this firm (see also Morgan Stanley, 2004). One of main reasons is said to be the focus on 'core-competence'. This is said to be linking technologies together rather than developing the pure technology. They also state that several Chinese firms have difficulties in recruiting skilled labour and that the industry in China would need more external competence and expertise through foreign direct investment. Even if many Western and other Asian firms are interested in investing in China, problematic issues to solve are issues of intellectual property rights and the fact that the Chinese government imposes censure and control on the internet.

Differences between Asian and North American/European MMOG

Many have argued that Asian and North American/European MMOGs differ in many regards in terms of game design and look (Kosak, 2006; Dillon 2005 and Rosignol, 2006), while the difference between e.g. the Korean and Chinese market is not that big. Some people see this an effect on deeply ingrained cultural values between Asia and the west. In this regard such features as Asian MMOGs focus on graceful movements, community related interaction, beautiful and cute style is PvP (Player versus player) oriented and players goal to be a little better than everybody else has been put forward. In contrast to this, it is argued that western MMOGs are more focused on realistic movements, expression of individuality, a combination of beautiful and ugly style, is more PvE (player versus environment) oriented and the players goal is to express there individuality. However, everybody does not agree that the differences primarily is a reflection of different cultures, but argues that it is rather an effect of the different origin of MMOG games in asia and the west and that the differences between both markets have decreased in recent years. This is for example the argument put forward by Richard Garriot which means that the differences is mostly attributable to differences in culture between PC and videogame console culture and not traditional country specific values:

“In the U.S., the market is very "videogame oriented." Because we have *giant* videogame businesses over here. In Korea, videogames were illegal until about a year and a half ago. So the whole market developed around PCs, which led to a giant PC game business. PCs, by development, are more hardcore than videogames, so they have a more hardcore audience than we do, and we have a more casual business than they do. But that's changing!”

Richard Garriot, (Kosak, 2006)

The recent success with World of Warcraft (>5.5 million active subscribers worldwide) in all major markets (Asia, North America, Europe) is a testimony that it currently is possible to develop MMOG games that becomes hugely successful all over the world. While we still believe that there is some cultural values that might affect different MMOG play, a number of other factors like those mentioned by Richard Garriot might have also have influenced these differences. This is still an area in which are largely unexplored, and a fruitful one for further research.

Spreading the Wave: the prospect for further internationalisation of the Korean, Chinese and Japanese MMOG market

This paper has tried to show the new wave of digital entertainment that has been established in East Asia. It shows that the old economic structure can rapidly change through technological advances and economies can leapfrog in specific sectors of the economy. One such example is the MMOG, where Japan's leading role in East Asia has been challenged by knowledge intensive investments and companies from particularly Korea and China. Furthermore, it is likely that the success in the MMOG market can push the overall development of advanced services in the region.

The MMOG market is still in its infancy, but compared to the stand alone console and PC game industry there is an enormous potential for further growth. To further spread the online game wave, international expansion to the still growing US and European MMOG market and the capturing of new user group are two of the most important possibilities for further growth. The MMOG market will make this transition, but many individual MMOG companies will not. In this regard, we believe that Console market which already has made this transition could offer some insight into the MMOG market. The problems that the Japanese video game industry have experienced since the end of the 1990s after two decades of uninterrupted success was related to their inability to capture new user groups in their domestic market and compete with US companies in the more diversified game market that appeared abroad. From the late 1990s it was increasingly important in to find new strategies in the console video game industry to expand the market to new user groups. Having a highly diverse product line-up was not enough to succeed in the market. The accomplished success based on high quality in-house product development processes in combination with innovative games could not sustain the market dominance. Other firms outside Japan improved on these aspects. The more manufacturing oriented approach in development that had been key for the initial success of many Japanese video game companies, disappeared when the market changed and needed more flexible and complex project management. The development process of the US competitions, primarily based in California had comparative advantages in these areas. Problems such as limited outsourcing, low level of international cooperation and a will to be to diverse in service supply, that had held back many other Japanese service sectors now became visible in video game development.

The constant increasing development costs pushed US companies to take advantage of outsourcing and use of middle ware. These necessary changes in production were something that the Japanese firms were slower to adapt to. In addition, US competitors were more aggressive in marketing and the usage of licensing. They were also more focused on developing games for specific users. A good example of this strategy is the so-called life-style games like the Grand Theft Auto series. Games started to differ between markets. Before, the sophisticated domestic market in Japan had helped companies to take their products abroad. As differences based on culture grew, the need to adapt to local markets increased. The change also involved more influences from other entertainment industries and sports. New forms of licensing became an important strategy to catch part of the mass market. Networks outside the video game industry became much more important along with intense marketing efforts. The close connections to Japanese *Manga* did not help Japanese firms abroad, when market conditions changed. Companies have to constantly keep track of what is going on both within the industry and at the culture and lifestyle among consumers. As a technological-cultural hybrid, an ability to adapt to both technological and cultural changes has become crucial in the ever more diversified videogame industry, but Japanese companies currently have problems in both those areas. A manager at a Japanese company expressed this opinion:

“Even people who are making games here, programmer, designers, partners, they have no exposure to these interesting foreign games. They don’t play those games. In order to stay, any industry has to keep learning, what is going on, new technologies, new ideas, new directions. But we are not doing it. It is a negative spiral. Just keep on going down the hill.”

Author’s Interview with Japanese game company manager

When the MMOG market will reach a larger consumer group, they will be more attached to lifestyle elements and cultural elements from other entertainment industries. Although MMOG games based on licenses thus far has not reached the same level of success as some original MMOG, game companies will eventually learn how to incorporate those elements in a proper way and build up a well functioning social world as well. The expected increase of MMOG games on the next generation consoles (Xbox 360, PC3, Nintendo Revolution) will fuel this development. In all industries, firm build their competitive advantage on hard to imitate capabilities and resources, but these change over time. The know-how of how manage the social aspect of online games which today is a competitive advantage for a firm like NCsoft might be a necessary, but not sufficient capability for success in developing MMOG games in the future.

In their aims to develop MMOG games for broader audiences, we could see such projects as All Points Bulletin developed by some of the former GTA creators through the company Realtime Worlds and published by the Korean MMOG company Webzen. Through the game, players will be able to wither play the gangsters violating the laws or the cops upholding it. The game will most likely be a source of considerable critique when it will be released (scheduled for 2007), but it will probably only be the

beginning of a number of controversies over the content of MMOG games in the future. If cultural protectionism increases, this might be a considerable problem for the MMOG industry in some Asian countries.

In Korea, NCsoft and Webzen are already highly internationalized and through their development offices, subsidiaries abroad, M&A and strategic partnerships they have come a long way to build up capabilities to address the specific needs and cultural differences between different markets. Thus far, Chinese MMOG companies are less prepared to this shift. Many Japanese videogame companies have restructured their business in recent years to better be able to address foreign markets and if successful, MMOG games might help them to turn around the negative spiral that the Japanese video game industry has encountered the last 7 years. The trend towards increasing development costs and complexity of games that has been a result of the constant improvement in hardware will continue. As a result, the “blockbuster” strategy we have seen in console games in recent years will most likely be more important among MMOG games. This will probably result in a shakeout among MMOG companies in the coming years in which a few companies with a portfolio of a number of MMOG games and well developed processes and values to work with MMOG games will increase in importance while a number of smaller firms will not be able to stay in the business due to the higher development costs or because they can not afford that their only new MMOG game fail on the market, but eventually they do.

In recent years we have seen the increase of outsourcing and middle-ware tools as a way to deal with the increasing development costs. This trend will most likely continue with firms increasingly specialising on various parts of the value chain. Challenges that are in need of further study is the role that government can play in helping establish, sustain or up-grade an industry like MMOG. Technology changes and the flexibility to move with these changes are paramount for keeping international competitiveness. The question of censure is also vital. The growth and development of the Chinese market puts this to the test. Overall, more comparative research is needed, not only in East Asia, but also in the US and Europe to enhance the understanding of the dynamics of the MMOG industry.

In the end, the fact that millions of people all over the world are playing together in persistent online worlds might have much larger impact on than any other forms of globalization of entertainment.

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