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Chapter I – Introduction

1.1. Abstract

The primary objective of this report is to expand on the value creation system and the value added process of the MMOG industry as a whole. In the group report we focused mainly on the Middleware industry business model and how it adds value to the products while in this individual report I will attempt to shed the light over the MMOG industry as one industry with several separate processes/sub industries (Middleware, Game Development and Publishing).

1.2. Literature Review

1.2.1.   Introduction

The list of the concepts and frameworks used in this report together with its explanation and references are listed in table 1.1.

Table 1.1: Concepts and Frameworks

Concept	Description	Reference
1.0 Competitive advantage	A condition that enables a firm to have an edge over its competitors either in efficiency in operations or product/service quality which results in higher profits for the firm.	Porter M (1985) 'Competitive advantage' Free Press, New York.

Table 1.1: Concepts and Frameworks *(continued)*

Concept	Description	Reference
2.0 Business model	- A framework for modelling how a business works and earn money - The framework includes all relevant parties in a business (e.g. suppliers, customers, the firm itself etc), the working relationships and the roles they play with each party, business activities, the sources of revenue and other relevant components that is in a business. - The revenue model of the business is also described in the framework.	Afuah A, Tucci CL (2001) 'Internet Business Models and Strategies: Text and Cases' McGraw-Hill, Singapore Alves TR, Roque L (2003) 'Using value nets to map emerging business models in massively multiplayer online games' Businessmodeldesign.com Amitt R, Zott C (2001) 'Value creation in e-business' Strategic Management Journal Vol 22 pg 493-520 Hedman J, Kalling T (2003) 'The business model concept: theoretical underpinnings and empirical illustrations' European Journal of Information Systems Vol 12, pg 49-59 Osterwalder A, Pigneur Y (2002) 'An e-business Model Ontology for Modelling e-Business' 15th Bled Electronic Commerce Conference, Bled Timmers P (1998) 'Business models for electronic markets' Electronic Market Vol 8 Issue 2 pg 2-8

Concept	Description	Reference
3.0 Value net methodology	- Value is what a customer is willing to pay for a firm's product and services. - Value net is a strategic tool used to analyse a set of activities (or value creation system) that creates value for customers. It creates a visual map of these activities and shows the relationship with each other. - A value creation system are activities carried out by using a firms resources (both tangible and intangible) linked by flows of information, material and financial components to create value. - The value net brings fresh and holistic perspective to a firm on how it creates value for customers.	Parolini Cinzia, 1999 'The Value Net: A tool of competitive advantage' John Wiley & Sons, West Sussex.

Concept	Description	Reference
3.1 Porter's Value Chain	- The value chain is intended to be used as a framework to analyse the internal activities of a firm to discover where and how a firm adds value. - The value of each activity adds up to increase the margin (i.e. profitability of a firm). - The value chain is made of primary and support activities.	Dobson P, Starkey K, Richards J (2004) 'Strategic Management: Issues and cases' Blackwell Publishing, Cornwall Porter M (1985) 'Competitive advantage: Creating and sustaining superior performance' Free Press, New York.
3.2 Porter's Value System	- The values system is a stream of activities that is made up from individual value chains. - The value chains starts upstream from the supplier until it reaches downstream to the customer. - Value is passed through the system from the supplier until the customer.	Porter M (1985) 'Competitive advantage: Creating and sustaining superior performance' Free Press, New York.

Competitive Advantage concept is important to understand and apply its content of concepts and frameworks to achieve and sustain a competitive position for the company that would enhance and sustain its competitiveness in a highly competitive and fast growing market. The concept of the General Environment analysis (PEST + Legal) is the basis of understanding the industry as a whole from which we can use this understanding to determine what is the added value of the industry and its components in addition to how the individual components (the separate three industries) can provide additional value throughout the chain.

Every organisation operates to generate additional value – whether for shareholders or stakeholders – and it needs a framework to properly value the company. I will try to broaden this concept from individual industries or components to the bigger MMOG industry and comment on the final consumers' perspective of the final product's added value.

This will be visually illustrated through the use of business process flow from specialised middleware components to the final consumer to show the value creation system throughout the MMOG industry.

1.2.2. <u>Competitive Advantage</u>

The general environment factors analysis as a component of the competitive advantage framework is essential to gain an understanding of the general environment in which the MMOG industry operates in. In addition, it helps gain an understanding of the individual industries' strengths and how these factors filters through the business processes' flow which would help Monumental Games understand where it should focus to create value for the games developers and how the later can build on the added value from the

middleware developers to add their components to produce a game that would add value to the publishers and therefore the final consumers.

The general environment includes political, economical, social, technological, regulatory and other factors. Political factors include (for example) governmental & regional stability, tax policies and government spending policies. Economical factors include disposable income by the customers, interest rates, exchange rates, business cycle and economy growth rates. Social factors include population demographics, income distribution, education levels and lifestyle changes. Technological factors include new discoveries or developments whether in the firms industry or in a related industry, speed of technology transfer and rates of obsolescence.

An analysis of these factors can be performed through an audit of environmental influences, identify which of the different sorts of general environment factors have influenced the past performance and development, the current factors affecting the environment and considerations of which will remain an effect in the future.

1.2.3. <u>Business Model</u>

The common understanding of the term 'Business Model' is that it is a framework/description of how a business makes profit by creating more value for customer than its rivals. Though this definition is related to single entities, we can generalise it and use it for the MMOG Industry as a whole by considering the other industries as rivals (e.g. traditional video gaming and other entertainment/leisure industries).

The term business model was not often used until the advent of the internet boom in the 1990's. During that period, internet entrepreneurs often used the

term when selling their business ideas or plans to investors and banks. It was the 'hot' word at that time.

In academic literature, the term was more often used in the field of e-business and entrepreneurial research than others. However, the concept has surfaced in the past in strategic and management theories. One of the earlier concepts was proposed by Porter (1985) which was his three generic strategies. The option of a low cost leadership, differentiator or a focus strategy is essentially at its core, a 'business model'. McGrath & MacMillan (2000) and Schumpeter (1934; 1950) have describe key components and processes which all could be part of the business model concept (Hedman & Kalling, 2003).

One of the earliest definition and most widely cited is by Timmers (1998, p.4) who defines it as 'An architecture for the products, services and information flows, including a description of the various business activities and their roles; a description of the potential benefits for the various business actors; and a description of the sources of revenue'. The view of the business model as an architecture of business components and its processes is shared by Weill and Vitale (2001) who defines it is as 'A description of the roles and relationships among a firm's consumers, customers, allies and suppliers that identifies the major flows of product, information and money and the major benefit to participants'.

Peterovic et al. (2001) and Osterwalder & Pigneur (2002) however, share a slightly different perspective. They see the business model as a different component from the business processes but state that they are interlinked. Osterwalder & Pigneur (2001) define it as a conceptual and architectural implementation of a business strategy and as a foundation for the implementation of business processes.

Figure 1.1: Business logic triangle
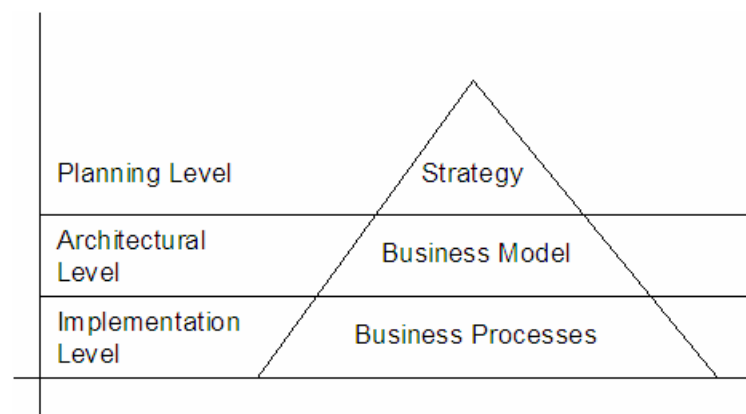
Source: Osterwalder & Pigneur, 2001

Although they share different views, it was agreed that a business model needs to have a strategy for the implementation process.

Most of the earlier research on business models has been concentrated in the field of Information System (IS) and e-businesses. Hedman & Kalling (2003) grouped the research into two complimentary streams. The first stream aims to describe and define the key components of e-business models. Some of the papers in this stream are by Afuah & Tucci, 2001; Amitt & Zott, 2001; Osterwalder & Pigneur, 2002. The second stream aims to describe specific e-business models. Timmers (1998) specified 11 different models; Applegate (2001) classified 22 models while Weill & Vitale (2001) defines 8 models.

Pateli & Giaglis (2003) also analyzed the bulk of main e-business research. They came up with a framework to analyse business models which was constructed by understanding the patterns of 22 most cited papers (from 1998 to 2002) in the business model literature. The framework is based on six research sub-domains.

1) Definitions
2) Components
3) Taxonomies

4) Representations

5) Change methodologies

6) Evaluation Models

They further elaborated the sub-domains into two aspects, integration (the degree to which each sub-domain builds upon research conducted in other domains) and timeliness (the degree of maturity of the sub-domain).

Figure 1.2: framework for structuring business model research sub-domains
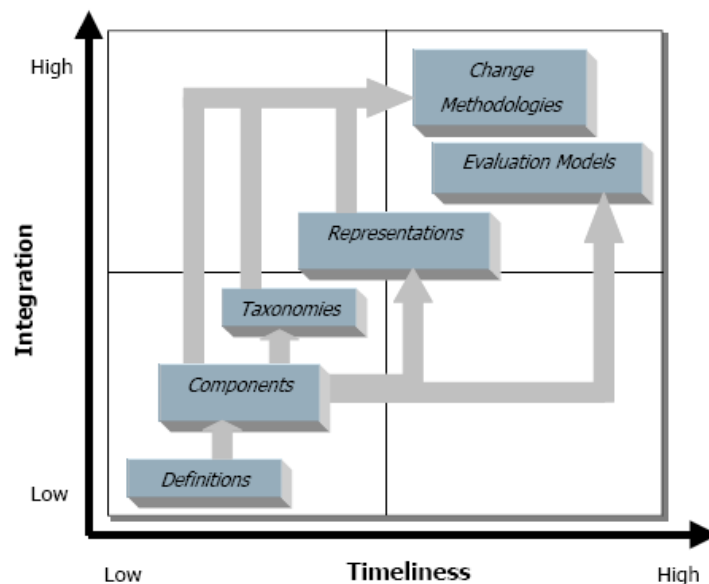
Source: Pateli & Giaglis, 2003

Their analysis shows that the business model field has matured past the initial stages of definition towards in depth analysis. Furthermore they also found the research of business models during that period has little link to strategic and management theories and contends it need this link for business model research to be recognized and independent of e-businesses.

Coincidently, Hedman & Kalling (2003) in that same year produced a business model framework that integrated with traditional theories of industrial organisation, resource base view and strategy process. They produced a

generic framework that incorporates seven business components, namely (1) customers, (2) competitors, (3) offering, (4) activities and organisation, (5) resources, (6) supplier and (7) a longitudinal process component.

Figure 1.3: The components of the business model
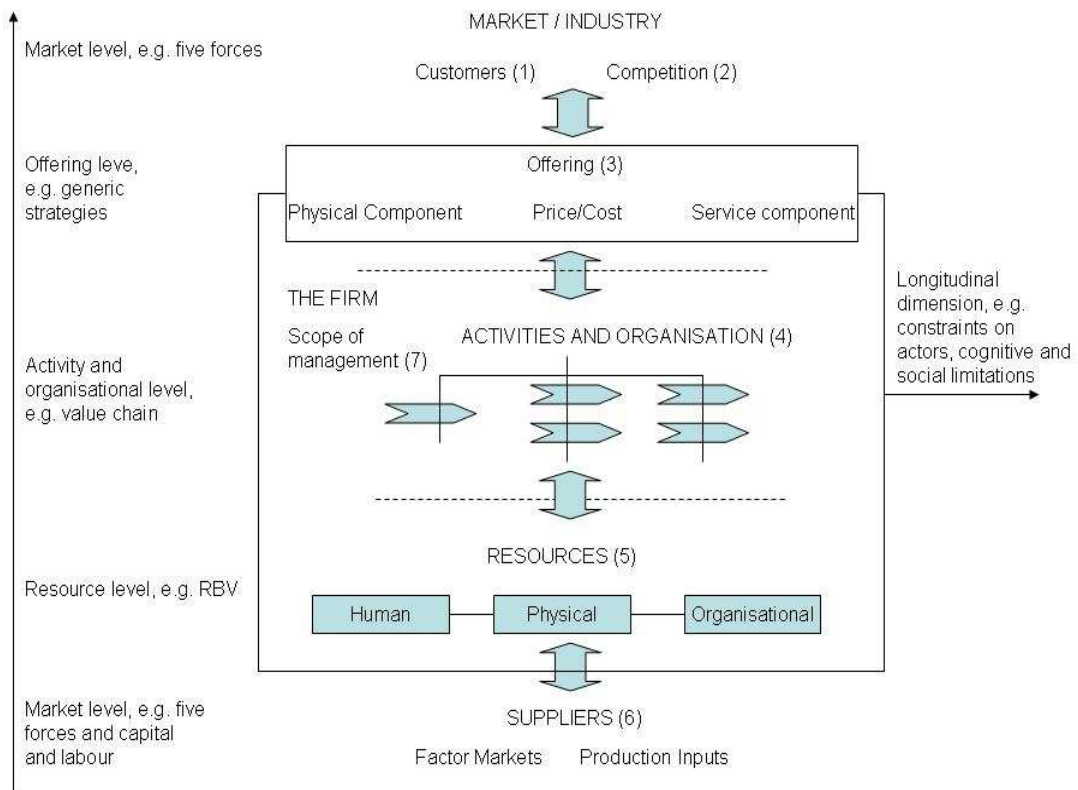
Source: Hedman & Kalling, 2003

The framework shows how the different components interact with one another to form the business model. Hedman and Kalling state that the business model has to be managed and developed over time which is part of the strategy process.

Another novel approach to business models was by Alves & Roque (2005) who used the Value Net methodology (Parolini, 1999). They used the value

net constructs to visually map out the value creation system of a business model; in their case MMOGs.

1.2.4. <u>Value Net</u>

The value net methodology was introduced by Parolini (1999) as a strategic tool to analyse the value creation/consuming system of a business. The methodology is based on value-creating systems (VCS) as the fundamental object of investigation. A VCS is defined as:

- As a set of activities creating value for customers that are carried out using sets of human, tangible and intangible resources.

- Linked by flows of material, information, financial resources and influence and influence relationships;

- Include consumption activities, as the value perceived by the final consumers is also a function.

- Final consumers not only receive and consume the value created, but can also participate in value-creating activities

- Activities may be governed by the market, a hierarchy or intermediate forms of coordination;

- Various industry firms may participate in a VCS by taking responsibility for one or more activities;

- An industry firm may participate in more than one VCS.

There is however issues related to VCS. By its definition, VCS do not have any perceived boundaries of analysis. For example, if taken to the extreme, VCS for manufacturing a laptop computer would include silicone and metal production (for the processor) activities. A VCS could have such a large number of activities that it would be too complex to analyse and render it useless. So it is up to the analyst to define and set the boundaries when specifying a VCS to be analysed.

Others have also explored the subject of a value system. Porter (1985) proposed the value chain as a framework for analysing the internal activities of a firm. The value chain analysis considers where and how well a firm link all of its various activities to add value (Dobson et al 2004). Porter (1985) states that a firm's value chain is embedded in a larger stream of activities called the value system.

Figure 1.3: The value system

Source: Porter (1985)

Later in this report, I will produce a value chain and business model illustration for the three industries and describe the overall structure of the MMOG industry value chain.

Value is passed through the system from the suppliers and eventually ends in the customer. Gaining and sustaining competitive advantage depends on understanding and how well a firm's value chain fit in the overall value system.

The Value Net has a fundamentally different perspective. Instead of analysing value through a single chain (Porter's value system) with sets of economic players, the Value Net perspective emphasises on viewing VCSs as set of activities (rather than players). These activities start from the customer's point of view as shown below.

Figure 1.5: The value net perspective
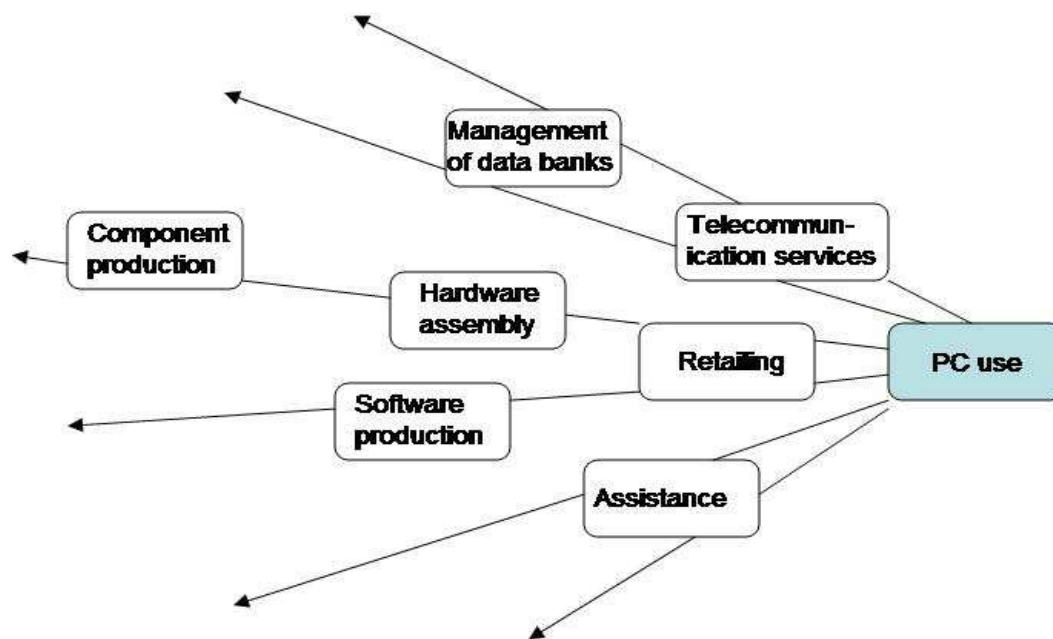
Source: Parolini 1999, pp. 71

As mentioned earlier, VCSs are connected by flows of information, material, financial and relationships. These can then be mapped out using nodes and arrows, which essentially makes up the Value Net.

Figure 1.6: The value chain
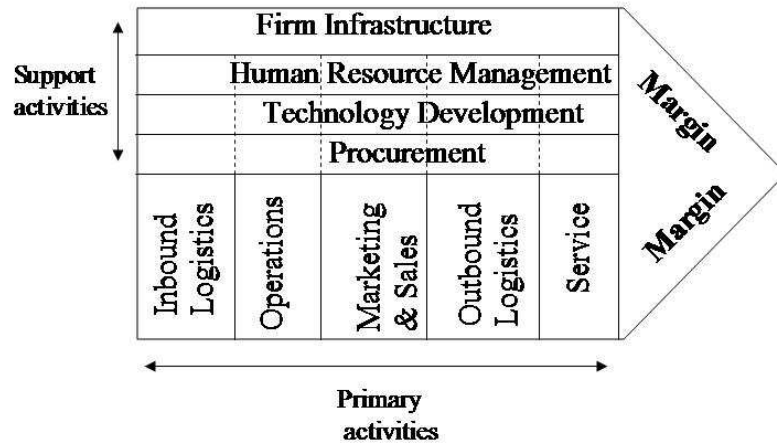
Source: Porter, 1985

As can be seen in the value chain, the primary activities are divided into 5 distinct entities; inbound logistics, operations, outbound logistics, marketing & sales and service. Each of these activities has support activities as well, which are divided into firm infrastructure, human resource management, technology development and procurement.

The Value Net has a different classification from the value chain. VCS are classified into three broad groups; external transaction management, support and realization.

Figure 1.7: The classification of value net activities

Source: Parolini 1999, pp 89

Parolini states that this is due the difference in interpretation of the nature of activities as well as in analytical perspective. The Value Net emphasises the economic structure and the contribution of value of the activities rather than 'part' they play in the 'operations'.

Concepts and the examples

Table 1.2 lists the concepts used and the relevant examples sourced for the report.

Table 1.2: Table of concept and data with sources.

No.	Concept	Example/Data	Source
1.1	MMOG Industry PEST + Legal analysis	Political e.g. political stability, social issues Economic e.g. economic growth rate Social e.g. available skill set, Online game addiction Technological e.g. technological advancement, internet advancement	Industry reports Economic reports Online news/articles
2.1	Offering (Middleware	Products: MMOG Middleware Technical specifications Technological overview Services: Customer service & Consulting Game Development: Football Superstars Untitled Game	Interview with Alan O'Dea (Monumental Games) Interview with Rocco (Monumental Games) Company website
2.2	Revenue (Middleware)	Licensing options and terms Support services Royalties Upfront fees Other services e.g. consulting	Interview with Alan O'Dea (Monumental Games) Interview with Rocco (Monumental Games)

No.	Concept	Example/Data	Source
2.3	Suppliers (Middleware)	Specialized modules e.g. SpeedTree, Havok Hardware suppliers e.g. IBM Human resources e.g. legal solicitors, programmers	Interview with Alan O'Dea (Monumental Games)
2.4	Customers (Middleware)	MMOG Game Developers e.g. Neogence Studios MMOG Publishers e.g. Electronic Arts, Ncsoft Non Game Applicators e.g. Academic institutions, Government	Interview with Alan O'Dea (Monumental Games)
3.1	Offering (Middleware)	Products: MMOG Middleware Technical specifications Technological overview Technical comparison Services: Support, Consulting services Customer service Billing Engineering Game Developments e.g. Simutronics Hero's Journey	Technical brochures Competitor Website Questionnaire/Interviews Online Forums

No.	Concept	Example/Data	Source
3.2	Revenue (Middleware)	Licensing options and terms for each competitor Support services Royalties Upfront fees Other services e.g. consulting	Technical brochures Competitor Website Questionnaire/Interviews Online Forums
3.3	Suppliers (Middleware)	Specialized modules e.g. Aria Systems, SpeedTree Other services e.g. hosting, bill and customer management Hardware suppliers e.g. IBM Human resources	Interview with Alan O'Dea (Monumental Games) Competitor Website
3.4	Customers (Middleware)	MMOG Game developers e.g. Bioware, MMOG Publishers e.g. Electronic Arts, Ncsoft Non Game Applicators e.g. Academic institutions, Government	Interview with Alan O'Dea (Monumental Games) Competitor Website
3.5	Revenue (Middleware)	Licensing options and terms for each competitor Support services Royalties Upfront fees Other services e.g. consulting	Technical brochures Competitor Website Questionnaire/Interviews Online Forums
4.1	Industry (Middleware)	Industry overview Sources of funding Industry players/actors	Interview with Alan O'Dea (Monumental Games) Interview with Rocco (Monumental Games) Competitor websites
4.2	Industry (MMOG)	Industry overview Future forecast Industry players/actors	International Game Developers Association White Papers Industry reports Interview with Alan O'Dea (Monumental Games)

Chapter 2 – Massively Multiplayer Online Gaming Industry

2.1 Industry Components and Relationship

One of the main conclusions of the group project was the close relationship between the component industries of the MMOG industry (i.e. Middleware developers, Game developers and the publishers).

Figure 2.1 MMOG Industry relationships
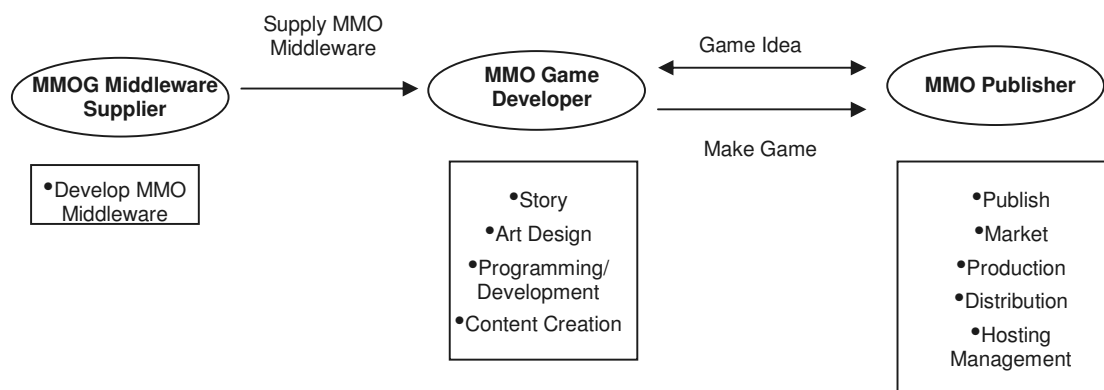
We have also established the distribution of power stating that the publishers have the greatest power in the chain as they possess the funds required to finance the development of a game in addition to controlling the flow of the funds to the game developers by setting milestones of development process on which the timing and amount of the next stage funds are determined.

We have not stated the power distribution between the middleware developers and game developers as each have their own unique characteristics and components which add value to chain to produce the final product.

A note over the power distribution relationship with adding value should be made is that although the publishers seem to retain much of the power in the industry, it does not necessarily mean that they are the most value adding to the final product as the product development (programming and design) is completely made by the game developers using the middleware provided by the middleware firm. The relationship between industry power and value adding needs further research and analysis which is beyond my scope due to time and resources limitations and might be an interesting subject to undertake in the future.

In this report, I will explore in more details the processes of each industry and how each process in each industry adds value to the final product from the final consumer point of view which is going to be based on my personal experience of being a gamer.

In addition, I will go through briefly with the counter argument that the MMO games do not have any adding value characteristics even they are being destructive from the social and economic points of view.

2.2 **General Environment Factors**

2.2.1. **Political Factors**

Political factors include political stability and governmental policies towards the industry including governmental attitude towards tax, employment, trade restrictions and technology transfer. These factors are general an applicable to many industries.

Factors that I believe are specific for the industry include controversies over specific games and games' genres, ratings and addiction.

One of the most important political factors in the video and computer games (including MMOG) industry is the rising concern over the controversial games. These include violence, racist, drug use, sexual content, alcohol consumption and propaganda games.

The criticism is mainly led by parents' groups, psychologists, religious organisations and politicians. The concerns led to adopting rating systems by the industry such as the ESRB in the United States and the PEGI in Europe which had the goal of informing parents of the games their children are playing or want to purchase in addition to enhance the image of the publishers regarding their concern of the welfare of their customers and to show that the publishers are not targeting the controversial games to the children.

These controversies limit the industry's ability to publish certain games in certain genres or have to rate them as Adult games which would limit the numbers of users and players.

Another major factor that has a rising concern is the addiction of players – whether the player is susceptible to addiction or the games are designed to be addictive.

Revenue generation of an MMOG is mainly based on the monthly subscription the players are willing to pay; therefore, the publishers require sustaining the gamers as long as possible. This can be achieved by well designed and attractive games and future expansion pack releases.

Well designed and attractive games could result in an addiction by the players – whether the publisher intended the game to be addictive or the players' have an addictive character – which required the intervention of pressure groups and governments. For example, China limited the players of MMOG to only three consecutive hours of play to combat the addiction to online role-playing games

such as World of Warcraft and Lineage II in which the player's character would suffer serious limitations of their character's abilities and by the time of 5 hours consecutive playing, the characters are effectively severely limited (Source: BBC News 24). Another example is derived from an interview with Sid Meir (the creator of the Civilization title series) where he stated that the most important feedback of his game was its addictive nature and that he has never intended to develop the game in that manner.

2.2.2. Economical Factors

Economical factors include the current and projected economic growth, inflation rates, interest rates, unemployment, impact of globalisation, the impact of technological changes on the economy and the likely change of economic environment.

Additional factors specific for the industry include disposable income which would determine the available funds with the public to spend on leisure activities and more specific to the gamers additional ability to spend excess income on buying, continuous subscription and virtual items purchase.

As shown in figures 2.2 and 2.3 below, the UK disposable income has increased over the period 1997-2005 as in the US for the past 3 years. This is an indication that the population is able to spend more funds that can be targeted by the MMOG publishers.

Figure 2.2: UK Disposable Income and Internet Access for the period 1997-2005
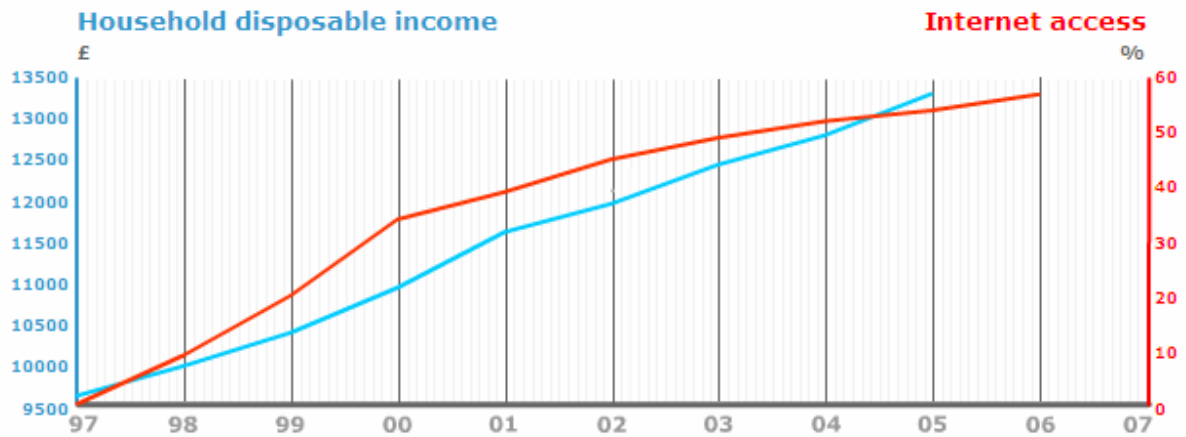
Source: BBC news 24

Figure 2.3: US Disposal Income graph for the period 2005- July 2007
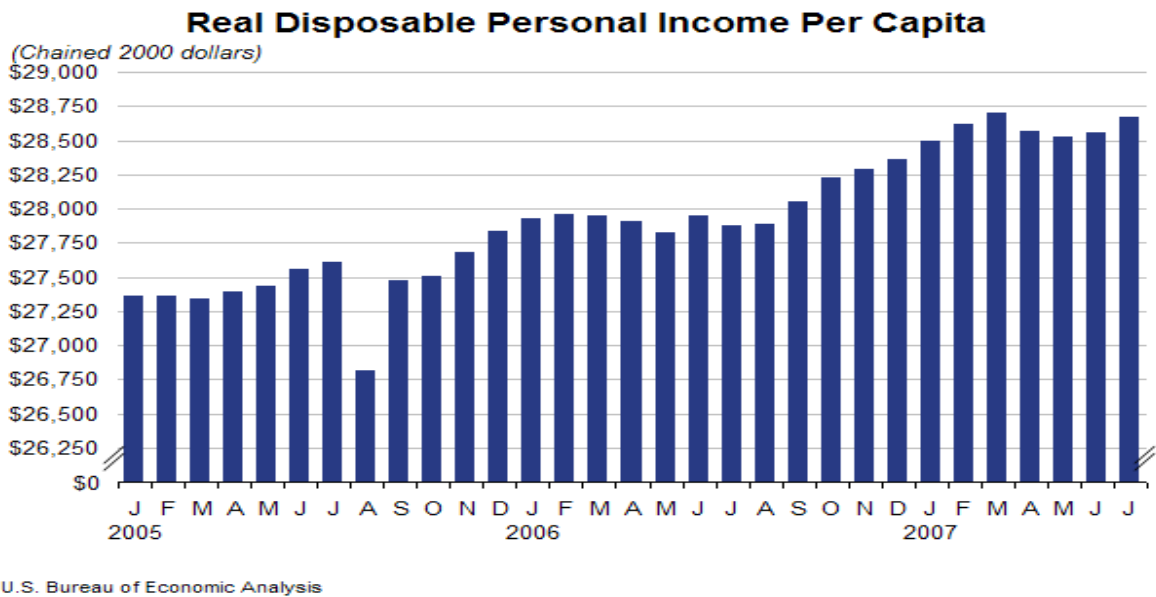
2.2.3. <u>**Social Factors**</u>

Social factors that specifically affect the MMOG industry include addiction, online gamers demographics and "gold farming".

Addiction over playing video games and MMORPGs started as a social factor and moved quickly to become a political factor due to the pressure groups activities. This factor was discussed in the political factors section of this analysis.

Gold farming is a general term for an MMORPG player that acquires in-game items of value through exploiting repetitive elements of the game's mechanism. This action is being commercialised by firms that hire employees to play the game and acquire items to be sold for other players for real world money.

This factor is also increasingly becoming a political and economic factors as various governments are considering taxing the income from such activities. On the other hand, taxing such income would mean that gold farming is legalised which is in direct conflict with most games' EULA or terms and conditions.

The demographics of online gamers are predicted to witness a steady increase in the numbers of online gamers in general. Another factor in the changing demographics of gamers is the increased participation of non-traditional gamers (i.e. female and children gamers are increasing in numbers).

We believe that one of the most important factors in the online gaming market is the demographics of gamers as hardcore, moderate and casual gamers (split based on time and efforts put in playing). We have realised that the number and percentage of the casual gamers is the dominant sector, yet the hardcore gamers – although being the minority – actually are the highest revenue generators for the gaming companies as they are willing to spend funds over subscription fees for long periods of time in addition to there willingness of purchasing virtual items related to the game they are playing.

This sector of the gamers is the most important to be targeted and attracted by the publishers upon the launch of new games through innovation in the game concepts, theme, quality and genre (i.e. hybrid genres)

As shown in the figures below, we also noted that the numbers of hardcore online gamers is concentrated highly in Asia in comparison to the rest of the world. According to DFC Intelligence June 2006 Online Game Market Forecasts, the Asian hardcore online gamers consist 78% of the global number of hardcore players. The effects of these demographics would be discussed in further details in our conclusion.

Figure 2.4: DFC PC Online Gamers forecast 2001-2011/Asia
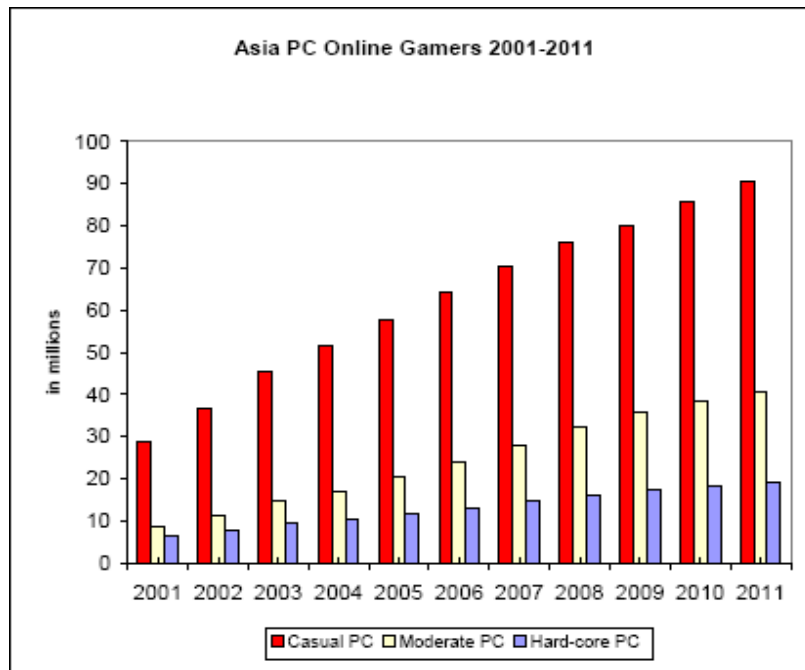
Source: DFC Intelligence Online Games Report 2006

Figure 2.5: DFC PC Online Gamers forecast 2001-2011/North America

N. America PC Online Gamers 2001-2011
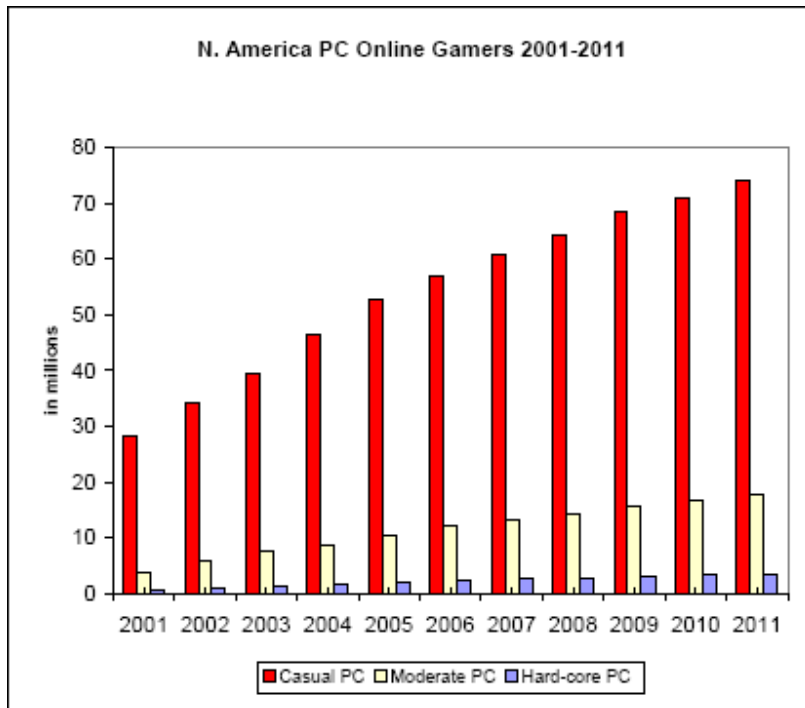
Source: DFC Intelligence Online Games Report 2006

Figure 2.6: DFC PC Online Gamers forecast 2001-2011/Europe

Europe PC Online Gamers 2001-2011
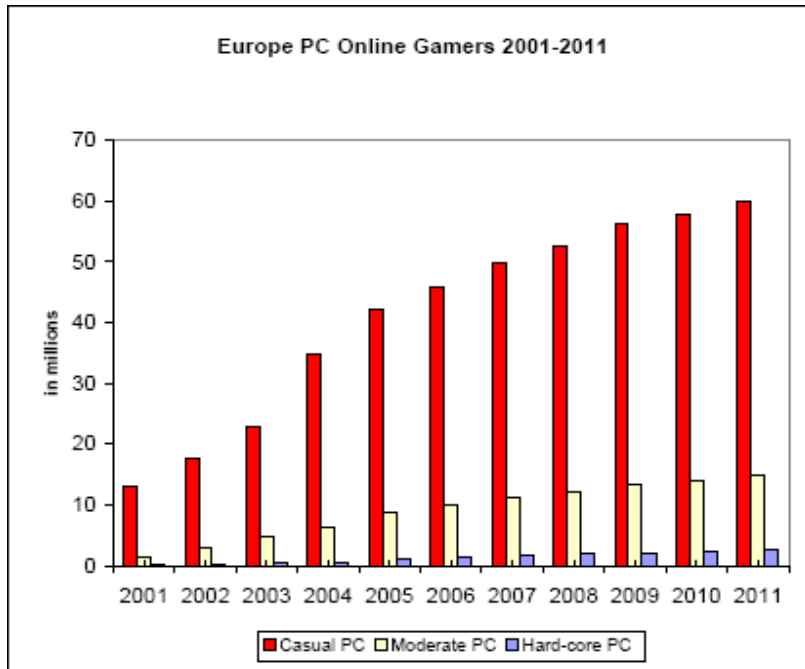
Source: DFC Intelligence Online Games Report 2006

Figure 2.7: DFC PC Online Gamers forecast 2001-2011/Worldwide
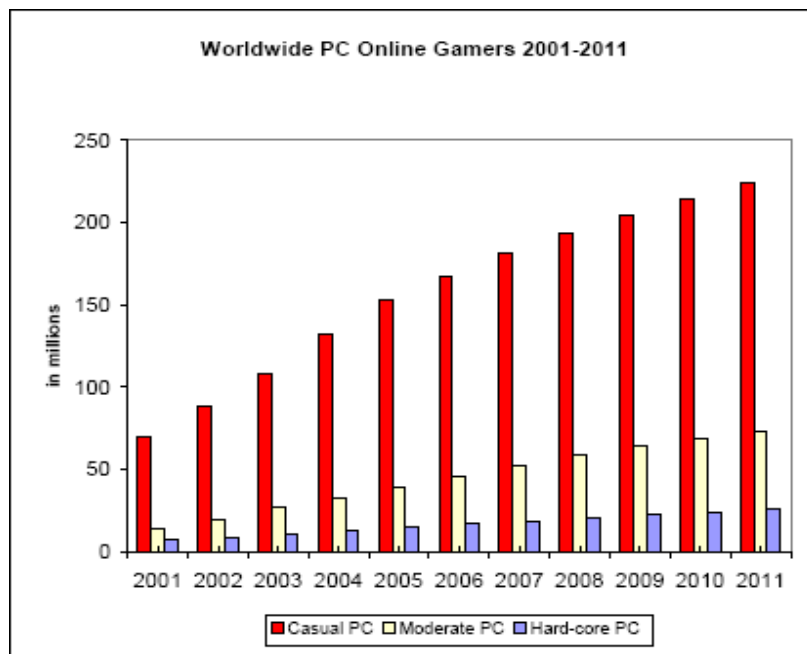
Source: DFC Intelligence Online Games Report 2006

2.2.4. **Technological Factors**

On a macro level, the major technical influences in online entertainment content
are bandwidth.

Bandwidth describes the quantity of bits being sent in a given unit of time

For at least the next five years, bandwidth issues will put limitations on the type
of online game content that can be delivered.

Lag represents the number one obstacle to online game development and has
inspired a wide range of innovations and techniques designed to minimize it.

It is unlikely that lag will be eliminated altogether, though various compression,
prediction, and acceleration techniques have resulted in significantly faster
games with less noticeable lag.

An increase in bandwidth will increase the amount of information that can be transmitted at any one time resulting in a significantly faster and more responsive game and dramatically reducing lag.

Broadband is an important requirement for the end users to play the MMOG as slow internet connections could damage the entertainment feature of the games and might increase frustration with players. In addition, many MMOG require fast reactions and the speed of implementing commands issued by the players which would be severely impaired if the server does not receive such commands at the required time.

Figure 2.8: DFC Worldwide Broadband forecast
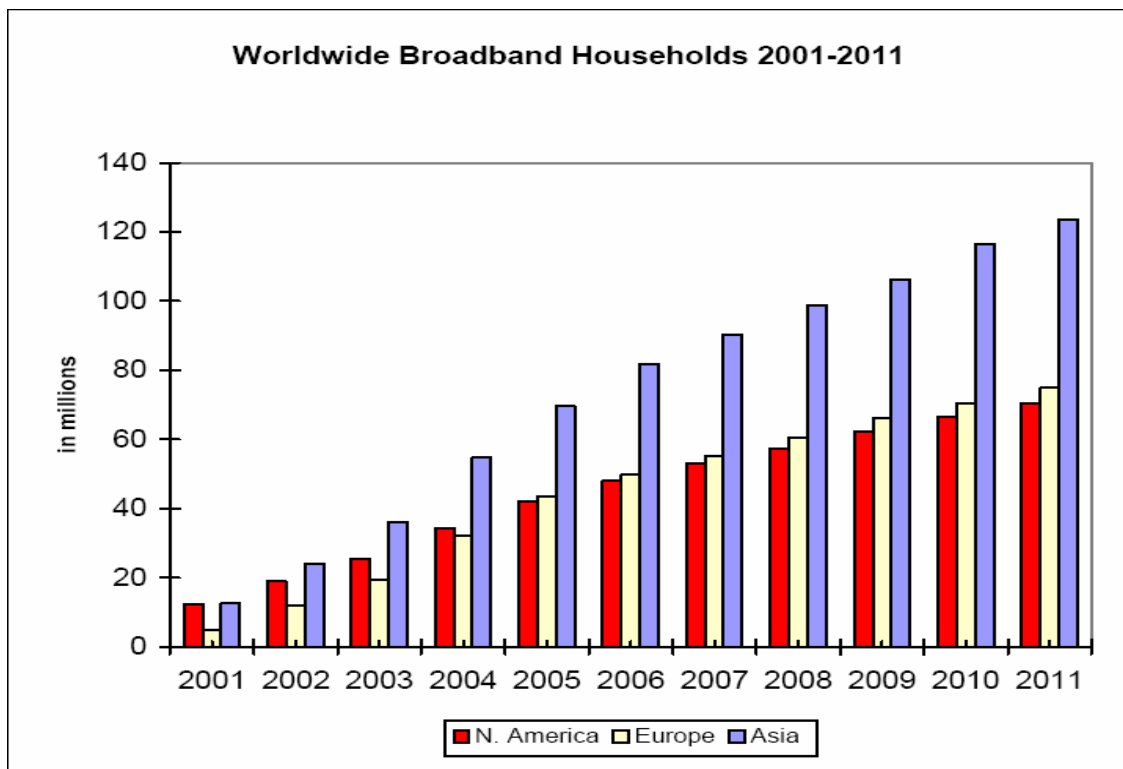
Source: DFC Intelligence Online Games Report 2006

Forecasts for the number of households with high-speed "broadband" connections to the Internet are estimated to have significant growth over the next several years in particular in the Asian market

2.2.5. <u>Legal Factors</u>

The most important legal factor in this industry is the Intellectual Property protection.

Concerns for the technology companies in the western world regarding protecting their developed intellectual properties as the laws are minimal as strict laws exist to protect these properties. The concern is therefore shifted to the developing and under-developed countries and regions in which such laws are weak or non-existing.

As I have mentioned earlier, the factors of the publishing industry have the greatest effect on the macro level. For example, to understand where the middleware industry is going and its future growth, we need to understand and estimate the future forecasts for the Online Gaming market, in other words, the factors reflect downward from the MMOG publishing industry to the MMOG developing industry which them filters down to the middleware industry. The factors' effect from the publishers to the middleware is stronger and clearer than the other way around.

Chapter 3– MMOG Industry Business Model

Using the framework generated by Hedman & Kalling (2003), I will generate three separate models for the three sub-industries which would also include a value chain within the model and comment on the value adding aspects. I will conclude by summarising the three business models to have a view of the overall process flow of the MMOG industry.

Every firm, business and industry has a business model in which they operate. It represents inputs and the process to convert them to outputs. This conversion process has multiple components in which each component adds value to the raw inputs to achieve an output that is required by other firms, businesses and industries or even the same firm to produce a product that adds value to the original.

These components , according to Hedman & Kalling, are; suppliers, resources, organisational activities, offering, customers, competitors and the longitudinal process representing constraints and limitations that are needed to be addressed throughout the model.

The suppliers' component for the industry comprises of factors related to the market forces (i.e. five forces), capital and labour. The most important factors derived from the five forces analysis during the management project are the human resources (due to scarcity) and technology production inputs.

The suppliers of the human resources are mainly the recruitment agencies and the contact network the management of the firms have due to their experience in the market. As the required skills sets required for the MMOG industry are scarce, the importance of recruitment agencies and the contact networks grows higher. It is possible that in the future with accumulated knowledge and the transfer of that knowledge to the next generation of developers and

programmers.

Providers of the technology production inputs, especially the hardware and programming languages and designers, are not perceived to have power as the competition between them is high in addition to the availability of the required hardware to develop the hardware.

The provided inputs from the suppliers on a stand alone perspective have no value if they are not used effectively and efficiently and would become a cost and a barrier for the firm. The firm stream the human resources obtained through the recruiting agencies and contacts network to allocate them to the required positions within the firm.

At this point, the value adding process starts through converting the knowledge of the individuals into a product that can be used in the development of further products or be sold to other firms within the MMOG industry to produce a totally new product after adding value through their own business model and processes.

This is also applicable to the technology inputs. On their own they do not add anything new to the business and the process and therefore do not add value to the business. They are required to be used in an effective and efficient manner to be able to build on.

Additionally, a combination of the human resources and the technology inputs are important to build the organisational structure and the management information systems needed to operate the firm in general.

This organisational structure can be defined as primary and support activities. The primary activities represent the core activities of the firm to produce a product and include logistics (both inbound and outbound), operations, marketing & sales and customer service and support.

Although the primary functions are the core processes of the business, they can not operate in separation of the support activities. The support activities include the organisation infrastructure (management, legal and finance functions), human resources, technology development and procurement functions. Different businesses in different markets and industries might reclassify some functions between primary and support according to the nature the business.

The firm organisational structure and processes flow translate the resources into final products. In this process the firm actually adds additional value to the raw resources obtained from the suppliers to its final product. Having said that, there is still a potential of value addition to the customers through the firm's offering components of price and service.

A firm's offering component of the business model includes the actual final product it provides, the price/cost and the service component. It should be noted that in addition to the final product, the firm can still add value to its customers through pricing strategies and after sales services and support.

In any industry, each firm requires to have its own customers in addition to a targeted sector of the rivals' customers to be won over. In addition, in a competitive environment, there are competitors of the firm that offer products that can be competitive to the company's own whether due to quality or functionality differences or even through different after sales support offerings.

3.1. Middleware Industry Business Model

The figure below illustrates a middleware firm's business model according to the understanding obtained during the management project.

The two key inputs in the middleware firms' business model are the human resources and the technology factors.

The key positions for the human resources allocation into a middleware organisation are the business development, program design, sales and technical teams in addition to project management

Technology hardware and software are important to the middleware business model mainly as tools to convert the knowledge and expertise of the human resources into a valuable product for the other MMOG related industries yet they currently do not pose a threat or a major difficulty in obtaining.

Having the inputs of the suppliers refined and used by the firms' resources and through the firm's activities and process, a middleware firm is able to convert such raw inputs to produce the product that can be used by the MMOG developers for their operations to reduce time and costs of designing and developing a game.

This process has added value to raw inputs and resources that on their own have no value; having two out of the three components would not create value or at the best would consume longer time and more funds to develop a middleware (i.e. resources factor with IT components but no program designers would not be able to create the middleware)

Upon creation of the middleware by the firm through the previously mentioned business components, the firm has already created value. If the firm continues to the next level of components (i.e. Offering), it has the chance of adding additional value to its product.

A part of the offering component is the product itself (i.e. Middleware), which is the cause of the previous adding value processes. Although this

middleware can be commercialised at its current state, the firm is still able to add more value to it to ensure its ability to maximise profits and enhance its competitive position in the market.

In the offering component, the firm can enhance its development processes and add after sales customer service components to add value to the middleware. Although these additional components are not part of the middleware itself, they do have an affect on the customers knowing that the middleware firm would support them if they need to, this would create an added value from the customer perspective which would help the firm confirm its competitiveness and ability to operate in the market.

The seventh component of longitudinal dimension has two aspects; the additional efforts by the middleware firm to enhance its knowledge and abilities in the market through training, market surveillance…etc. in addition to monitoring the constraints and limitations imposed by the market and environment (e.g. the MMOG middleware at this time is still at first generation and has the potential of advancement in the future).

At this point, it becomes more apparent the connection between the different components of the business model through the start of the process from suppliers of the human resources providing skills to become resources to the firm which combined with other resources converted from other inputs or even a combination of inputs bundle up to create the firm and its processes, the firm then produce a product which comprises a part of the offering component, adding additional offering components adds value to the product to be sold to customers and become competitive with the other firms in the industry with an eye open for additional self improvements and the other over the possible limitations and restrictions in the way of the firms ability to achieve its goals.

Customers
MMO Game Developers/Publishers

Non-MMO Applications Developers

Market/Industry
Virtual Worlds/MMOG

Competitors
Middleware suppliers – Direct
Game Engine Developers – Indirect

Offering – **A Platform for building, managing and hosting MMOG's and Virtual Worlds**

Physical Component
MMO Middleware

- Server
- Client
- Content Creation+ Mgmt Tools
- Billing

Price/Cost
- Non – Gaming Licenses
- Evaluation License
- Commercial Licenses
- Free to use licenses

Service Component
- Training
- Documentation
- Customer Service – forum ,email, phone
- Maintenance – updates, backward compatibility

Process
- Think Tanks
- Seminars, trade shows
- Proactive Training
- Market Surveillance

SUPPORT ACTIVITIES

Infrastructure – **Management functions, Legal, Finance**

Human Resource Management – **HR Department**

Technology Development – **Networking Department**

Procurement – **Purchasing Department**

Margin *Customer Value*

PRIMARY ACTIVITIES

Inbound Logistics	Operations	Outbound Logistics	Marketing & Sales	Service and Support
None	**Middleware Dept** · R&D · Design · Programming · Testing	· Release · Updates	**Business Dev.** · Website, Internet · Direct · Tradeshows	**Customer Support** · Forum · Training · Email · Phone

Margin *Customer Value*

Human
Business Development Team, Program Design Team, Sales Team, Project Management, Technical Support Team

Physical
Hard Ware Software

Organizational
Firm Infrastructure

Intangible networks

Suppliers

Labor Markets
Recruitment Agencies
Contact Networks

Production Inputs
Hardware – IT Hardware
Software - Programming Languages, Specialized Modules

3.2.   <u>Game Development Industry Business Model</u>

The figure below illustrates a MMOG developer's business model.

The two key inputs in the MMOG development firms' business model are the human resources and the middleware as its technological factor.

The key positions for the human resources allocation into a MMOG developer organisation are the Art Design, Graphics and Game Concepts Design teams in addition to the programmers

Technology hardware and software are also important to the MMOG developers' business model mainly as tools to convert the knowledge and expertise of the human resources into a valuable product for the MMOG publishers.

Having the inputs of the suppliers refined and used by the firms' resources and through the firm's activities and process, a MMOG development firm is able to convert such raw inputs to develop the MMOG to be published the MMOG publishers.

Upon creation of the game by the firm through the previously mentioned business components, the firm has already created value. If the firm continues to the next level of components (i.e. Offering), it has the chance of adding additional value to its product.

A part of the offering component is the product itself (i.e. the game), which is the cause of the previous adding value processes starting from the middleware business process.

The games can be commercialised at this point, yet the firm is still able to add more value to it to ensure its ability to maximise profits and enhance its attractiveness in the market especially to obtain more funds from the publishers.

In the offering component, the developers' continued updating and developing expansion packs may be one of the most important offering component as it demonstrates to the publishers and end user their commitment for enhancing their products in the future to meet the desires of the gamers (e.g. Sid Meir's Civilization IV expansion pack "Beyond the Sword" is essentially meeting the requirements of experienced gamers to play the later sections of the game in addition to adding scenarios and MODs that include playing the game in outer space).

The seventh component of longitudinal dimension has two aspects; the additional efforts by the MMOG developers to enhance its knowledge and abilities in the market through training, market surveillance…etc. in addition to monitoring the constraints and limitations imposed by the market and environment (e.g. the gamers' requirements and the need for the funding provided by the publishers).

At this point, it becomes more apparent the connection between the different components of the business model through the start of the process from suppliers of the Middleware which combined with other resources converted from other inputs or even a combination of inputs bundle up to create the firm and its processes, the firm then produce a product which comprises a part of the offering component, adding additional offering components adds value to the product to be sold to the end user consumer and become competitive with the other studios in the industry with an eye open for additional self improvements and the other over the possible limitations and restrictions in the way of the developer's ability to achieve its goals.

Customers

MMO Game Publishers

The End Users (gamers)

Market/Industry
MMOG

Competitors

Virtual Worlds & Traditional Video Games

Other Leisure & Entertainment Products

Offering – **An Entertainment Media in the form of a Massively Multiplayer Online Game**

Physical Component

MMO Game

Server/Hosting

Game Content

Content Creation+ Mgmt Tools

Price/Cost

•**Development Costs**

•**Retail Price and periodic Subscription Royalties**

•**Free to Play**

•**Advertisement Revenue**

Service Component

•**Technical Support**

•**Game Manual**

•**Customer Service – forum ,email, phone**

•**Maintenance – updates, Patches and Expansion Packs**

Process
• **Think Tanks**
• **Proactive Training**
•**Market Surveillance**
•**Gamers' Forums Analysis**

SUPPORT ACTIVITIES

Infrastructure – **Management functions, Legal, Finance**

Human Resource Management – **HR Department**

Technology Development – **Networking Department, In-House Middleware components**

Procurement – **Purchasing Department**

Customer Value

Margin

PRIMARY ACTIVITIES

Inbound Logistics
None

Operations
Game Development
•R&D
•Design
•Programming
•Testing

Outbound Logistics
•**Release**
•**Updates**

Marketing & Sales
Business Dev.
•Website, Internet
•Direct
•Games Development Conferences (e.g. E3)

Service and Support
Customer Support
•Forum
•Technical Support
•Email
•Phone
•Game Manual

Margin

Customer Value

Human
Art Design Team, Programmers, Graphics Team, Game Concepts Design Team

Physical
Hard Ware

Middleware

Organizational
Firm Infrastructure

Intangible networks

Suppliers

Labor Markets
Recruitment Agencies
Contact Networks

Production Inputs
Hardware – IT Hardware
Software - Middleware and Specialized Modules

3.3. Publishing Industry Business Model

The figure below illustrates a MMOG publisher's business model.

The boundaries between the MMOG development and publishing seem to be indistinguishable as constant communication and updating of the status of the game development occur throughout the development process, add to that the close monitoring by the publishers over the developers to ensure that the development process is according to schedules and milestones which is important for the publishers as they fund the development on a percentage of completion (i.e. milestones) basis in addition to that the publishers' business model starts before the developers produce the outcome that comprises the main input for the publishers.

For the purposes of this report I will consider the start of the publishers' business occurs after the completion of the game development

The two key inputs in the MMOG publishing firms' business model are the human resources, the final version of the MMOG, the production and game launch time frames.

The key positions for the human resources allocation into a MMOG publishing organisation are the marketing, production and logistics teams.

Technology hardware and software apparently lose their power and importance in this industry which relies more on the human business and strategic skills.

Having the inputs of the suppliers refined and used by the publishers' resources and through the firm's activities and process, a publisher is able to convert such raw inputs to strategically market and distribute the MMOG.
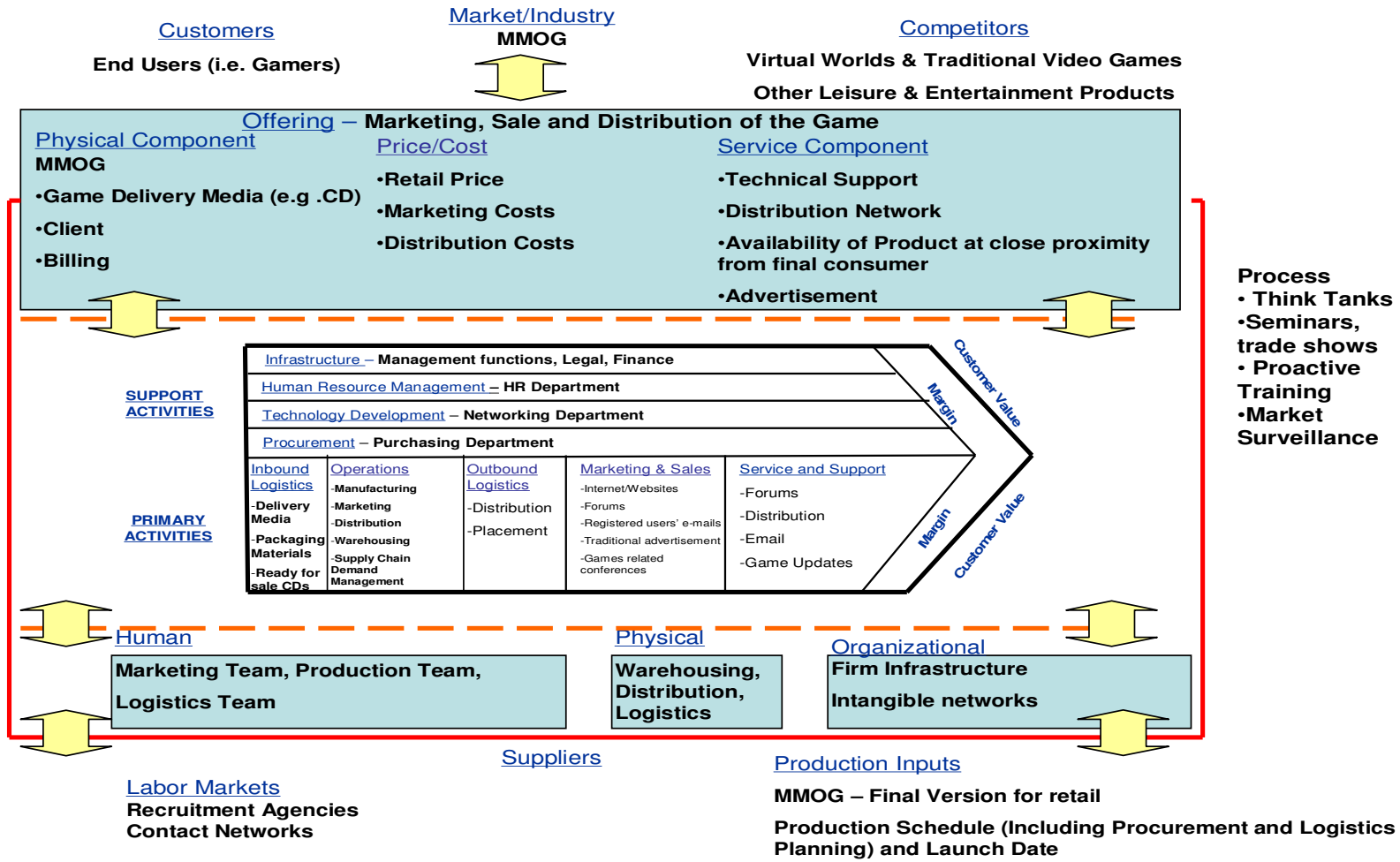
Upon creation of the marketing strategy, logistics and manufacturing schedules and issues, the firm has already created value. If the firm continues to the next level of components (i.e. Offering), it has the chance of adding additional value to its product.

A part of the offering component is the product itself (i.e. the game), which is the cause of the previous adding value processes starting from the middleware business process through the MMOG development.

The games can be commercialised at this point, yet the firm is still able to add more value to it to ensure its ability to maximise profits and enhance its attractiveness in the market especially to attract the end user consumer (i.e. the gamers) to purchase the game.

In the offering component, the publishers' ability to reduce retail prices and engage in a successful marketing campaign are essential to demonstrates to the end user their commitment for providing the products at prices affordable to the consumer and in the same time do not reduce the prices to a level in which the consumers might abstain from the purchase as they might perceive a game of considerable low price to be of low quality (at least this perception is strong in the western world).

The seventh component of longitudinal dimension has two aspects; the additional efforts by the MMOG publishers to enhance its knowledge and abilities in the market through training, market surveillance…etc. in addition to monitoring the constraints and limitations imposed by the market and environment (e.g. the business risk of publishing as mentioned in the management project report; seasonality concentration of sales, product slippage, hit focused industry and scarcity of skills sets).

Customers

Market/Industry
MMOG

Competitors

End Users (i.e. Gamers)

Virtual Worlds & Traditional Video Games

Other Leisure & Entertainment Products

Offering – Marketing, Sale and Distribution of the Game

Physical Component
MMOG
•Game Delivery Media (e.g .CD)
•Client
•Billing

Price/Cost
•Retail Price
•Marketing Costs
•Distribution Costs

Service Component
•Technical Support
•Distribution Network
•Availability of Product at close proximity from final consumer
•Advertisement

Process
• Think Tanks
•Seminars, trade shows
• Proactive Training
•Market Surveillance

SUPPORT ACTIVITIES

Infrastructure – Management functions, Legal, Finance
Human Resource Management – HR Department
Technology Development – Networking Department
Procurement – Purchasing Department

Customer Value
Margin

PRIMARY ACTIVITIES

Inbound Logistics	Operations	Outbound Logistics	Marketing & Sales	Service and Support
-Delivery Media	-Manufacturing	-Distribution	-Internet/Websites	-Forums
-Packaging Materials	-Marketing	-Placement	-Forums	-Distribution
-Ready for sale CDs	-Distribution		-Registered users' e-mails	-Email
	-Warehousing		-Traditional advertisement	-Game Updates
	-Supply Chain Demand Management		-Games related conferences	

Margin
Customer Value

Human
Marketing Team, Production Team, Logistics Team

Physical
Warehousing, Distribution, Logistics

Organizational
Firm Infrastructure
Intangible networks

Suppliers

Labor Markets
Recruitment Agencies
Contact Networks

Production Inputs

MMOG – Final Version for retail

Production Schedule (Including Procurement and Logistics Planning) and Launch Date

3.4. <u>Summary</u>

After reviewing the three industries, it becomes more clear the close relationship and interaction between the three industries that consist the MMOG industry.

The outputs of each individual industry represent an essential input for the others.

The middleware industry transforms the individuals skills using available programming languages and on occasions specialised ready middleware components as raw inputs through other resources such as infrastructure and human resources (which are mainly also transformed raw inputs that shows us the possibility of transforming raw inputs into several outputs depending on the requirement of the firm and the amount of added value required for each component of the business model).

The individual firms' business processes and activities transform the previous inputs into a final usable product. During the research for the group management project report, we came to agreement that most available middleware are very similar in use and technical specification. The next step of the business model actually adds the differentiation concept between the different firms operating in the middleware development industry.

This component is the offering component. It is the additional offering accompanying the final product that adds value to the product and creates differentiation between the different firms. Offerings such as additional physical components, after sales support and the pricing methods creates the perception of added value by the customer (MMOG Developers).

The game developers obtain the middleware as a raw input in the industry's business model. Accompanied with the individuals talents and other resources available for the industry and its firms in addition to the individual firms processes and activities the firms can create the new product.

In the MMOG development industry, the product developed is already unique at the end of the individual firms internal processes and activities in comparison to the middleware industry were additional offering is required to differentiate, yet, potential for additional value for the product is possible.

The offering component of the business model at the MMOG development industry level is primary the games' technical support and continuous maintenance and updating for the games.

The major input for the publishing industry is the complete developed game ready for retail. Although a finished product, it still needs marketing, logistics and mass production among other processes to be ready for retail.

The firms use their resources of marketing expertise and logistics through their processes in which they are specialised in marketing and logistics. These processes and activities are essential to deliver the new games to the market through creating awareness of the new product in addition to facilitating the availability in retail stores for the consumers.

Again, the offering component of the business model shows its importance as it is the main differentiation factor for the publishing industry. Offerings such as retail prices, marketing and advertisement, distribution networks and ensuring availability of products at a close proximity of the consumers add additional value for the product.

Chapter 4– Conclusion & Recommendations

.During the research conducted for the purposes of the group and individual reports, it was apparent the power of the publishers in the MMOG industry.

It was also noted that there is a trend by the publishers to acquire game developers and studios for various purposes such as competition elimination and absorbing the expertise of such studios.

Another observation was the involvement of studios in developing specialised components of a middleware to help them during their development of new games. In addition, several middleware developers are actually developing MMO games as part of their operations.

I have established that the three industries; middleware development, MMOG development and publishing are very close and interrelated within the MMOG industry as a whole.

I believe that a company with all three components of the MMOG industry should operate at better efficiency and effectiveness through cost reductions and better ability of organising projects if they control all the components.

It makes sense that the big publishers that already have sufficient funds for investments to acquire companies such as Monumental Games who already are in the business of middleware development and MMOG development. It seems more effective for Electronic Arts, Microsoft Game Studios, Vivendi Games, Sony Computer Entertainment, Activision, Take 2 and other publishers to start making offers to Monumental Games and/or other middleware firms.

This conclusion and possible recommendation should be undertaken after sufficient research and valuation of the companies and cost benefit studies to validate the effectiveness and efficiency of such acquisitions.

As I have mentioned during the presentation to Monumental Games, we are at the footsteps of a new age of entertainment as the MMOG related technologies are still in their first generation and need time to achieve its potentials. I believe that a consolidations, mergers or acquisitions within the three industries might help achieving these potentials.

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