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Limitation to Innovation in the North American Console Video Game Industry 2001-2013: A Critical Analysis

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Graduate Program in Media Studies
A thesis submitted in partial fulfillment of the requirements for the degree in Doctor of Philosophy
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by

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ABSTRACT

In today's marketplace the ability to innovate is considered a key driver of success and economic prosperity (Florida, 2002; Howkins, 2001). From an innovation perspective, video game development has often been viewed as an exemplary case of a creative digital industry whose products and services are quickly consumed and hence require a constant flow of new content. This dissertation reviews innovation in the video game industry more critically. After examining the main lines of contemporary innovation theory, it proposes a model of the innovation process in the development cycle of console video games, evaluating the roles of three principle actors: consumers, publishers and developers. It then shows how, while the interaction of these stakeholders sometimes results in original new products and services, it also often fails to do so and indeed can actually impede truly creative innovation. The study aims to dispel popular myths about the embrace of innovation by the video game industry and contribute to the debate on the role of innovation in today's post-industrial economy.

Key Words: Video games; Innovation; Game consoles; Creative industries; Industry Evolution; Digital media.

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This is for my daughter, Rachel Schmalz. I hope she will find similar inspiration to accomplish some of the difficult tasks in her own lifelong journey of learning.

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PREFACE

My interest in the video game industry was for a long time purely professional. After playing video games in my youth on the early Atari and Telstar consoles, my first glimpse of the inner workings of the industry came in 2004 when I started working at Canadian game developer, Digital Extremes, first as the chief financial officer, then as the president in 2008. Digital Extremes was founded by my brother over decade earlier (1993) during the emergence of PC gaming at a time when small teams formed to try out new ideas for digital entertainment. The company was swept up in the ensuing wave of corporatization as the appeal of video gaming took hold and audiences grew. Alongside the creative forces that propelled the growth of the industry, the business of video game development increasingly had to be reckoned with. Investment, both financial and intellectual, in technology, process and marketing began exerting more and more influence on the process of creative production in the game industry. My role in the company, as I saw it, was to help navigate Digital Extremes through the increasingly sophisticated business environment in which the company found itself and, perhaps more importantly, to make as many opportunities as possible for the developers at Digital Extremes to retain and exercise their creative freedom.

It was in this capacity that I was exposed to the decision making processes that affected the production of new content. In 2004, Digital Extremes (DE) was just wrapping up a ten year partnership with Epic Games, developing games in the successful PC game franchise, *Unreal*. DE employed about 45 people and had just made the transition from PC game developer to console game developer with its most recent game, *Unreal Championship*, a launch title on the *Xbox* Live multiplayer service for the relatively new *Xbox* console. On the day that I joined, I was introduced to a concept for a next DE game, an original project entitled *Dark Sector*. The

game concept proposed a stealthy protagonist who, with the aid of his personal spaceship, searched the galaxy for the technology of lost civilizations trying to keep it out the possession of hostile aliens. While DE did go on to make and launch the *Xbox 360* and *Playstation* 3 game, *Dark Sector* in 2008, the original sci-fi concept changed entirely during the production process. Our publishers insisted that the game be set in an eastern European country with a CIA operative as the protagonist. It was a narrative that was much more relatable to the core audience and in keeping with world current events such as the U.S invasion of Iraq and the global struggle against terrorism. Such games, we were told, were more saleable than sci-fi games.

It was not until more than 10 years later that DE was able realize the original *Dark Sector* game concept as a new intellectual property when it was launched as *Warframe*. During the intervening decade, DE ventured into the rapidly expanding console game industry. Over that period the company worked with several global game publishers and other console developers to compete in an industry rapidly consolidating around bigger games and larger teams, but with fewer developers making fewer games for fewer publishers. From 2004 onward, DE focused on console games, the fastest growing market segment. Many of those games were work for hire projects for franchised titles, directly contracted by large game publishers. During those years DE was never able to achieve the same level of commercial or critical success as during the *Unreal* days. Despite an overwhelming desire to create its own games and in particular, the original *Dark Sector* game, DE encountered steadfast resistance within the industry to the notion of independent game developers making their own games for consoles. As a result, the early *Dark Sector* concept remained an idea at DE for over two console generations.

These are the experiences that motivated my academic dive into the functioning of the console game industry. I have gone to some lengths to abstract this study from my own personal

experience and biases. However, disclosing my personal involvement in the game industry may help the reader understand the motivation for my line of inquiry. What are the conditions in the game industry that make is so difficult for original, innovation console games (arguably, such as *Dark Sector*) to be produced? This is what I have sought to understand.

My goal is to identify how innovation occurs, and how it is constrained (and occasionally facilitated) within the structure of the console game industry. To do so, I examine the relationship between the main actors in the game industry and apply some of the principles of innovation theory to understand these relationships which organize the industry. This is not a data driven study; that is to say, it does not rest on new or newly synthesized empirical findings. Rather, it develops a conceptual model of innovation in the console game industry. It seeks to identify the major stakeholders in the process, place them in their industrial context and explain how decisions regarding development of new services and products are affected by their interaction. Industry data from known and reliable sources such as VGChartz, NPD, EEDAR, the Entertainment Software Association and the International Game Developers Association has been cited to provide context and evidence for this discussion. VGChartz, NPD, EEDAR provide independent sources of video game sales data. The Entertainment Software Association and the International Game Developers Association provide data pertaining to their membership surveys and research relative to the interests of each group, game publishers and developers respectively. I have presented their findings with explanations for my selection of these sources where needed and comments on any apparent biases within them.

I also draw on an expanding game studies literature. When I first began my academic pursuits in Media Studies in 2005, there was a relatively shallow pool of academic research on the video game industry. In the last decade, however, there has been a widespread effort from

academia to understanding the complexities of video game culture. Many of these are cited in what follows; I am thankful for the wealth of knowledge that now exists and build on it to synthesize my model of the console game industry's innovation dynamics,

Innovation is by its very nature a contested and contradictory domain. The option to innovate is always preceded by a tradeoff, a decision when or how to abandon old practices and products in favor of new ones, which may also be conceived in a number of different ways. There are many competing interests in play. There are mechanisms that foster innovation, but, as the reader will see, there are also industrial structures that constrain innovation. Issues such as publisher profitability, developers' creative control and player satisfaction directly affect not only the level of innovation in the game industry but also the welfare of each actor. In my experience, when one stakeholder's problem is addressed in isolation, it is often at the expense of the others. Thus the process of innovation, who conceives it, who controls it, and who benefits from it, is subject to antagonistic interests. This dissertation does not adopt the perspective that innovation in video gaming is a problem that should, or can, be 'solved'. Rather, it seeks to show why innovation is a problem that is configured differently for each of the major actors, and for which there is therefore no singular, universally satisfactory answer.

In the first chapter, I present a brief overview of innovation theory discussing the foundation work of some of the theorists that this dissertation builds upon. Eric Von Hippel, Harold Innis, Theodor Adorno, and Joseph Schumpeter among others will be discussed. General business innovation models including evolutionary, interactive and path dependency models are also examined to assist in the development of an innovation model for the console game industry.

In Chapter 2, I review some of the key aspects of the console video game industry focusing on the dominant design of the console technology and the characteristics of the closed network in which console games are created and played. The revenue model, intellectual property protection and the economics of digital production are also discussed to the extent that they affect creative decision making and promote or hinder the process of innovation.

Chapter 3 is dedicated to the elaboration of an innovation model for the console game industry. It introduces three major industry stakeholders: publishers, developers and players as well as their respective roles in the innovation cycle and outlines their interactions. This is the model of the model of console game innovation that is elaborated in the rest of the dissertation.

In Chapter 4, the first of the three actors in the video game production/consumption cycle is examined: *the video game developer*. Innovation is described from the perspective of game developers. I identify the key features of the value chain in game development and distribution and locate the game developer in this chain, focusing on the inherent instability of the video game marketplace and the tension between innovation and risk from the developers' perspective. The constraints on creative freedom for console game developers arising from work for hire arrangements and the role of intellectual property are examined, as are occasional revolts against these constraints, such as the *Hot Coffee* episode in the popular console game, *Grand Theft Auto 3*.

Chapter 5 examines the video game player in the innovation cycle. In the past two decades, video gaming has transformed from a niche activity to a major cultural force and the profile of the game player has expanded. However, the gendered, masculine roots of the industry continue to be a significant factor as video game culture. So called 'hardcore' gamers, primarily

men, have a privileged role in influencing the game development process. They vote with their purchases, rewarding the games they like by buying them and sending messages back to the rest of the industry. Trends in game sales will be identified to help interpret these messages. While a recurring criticism among console gamers is the lack of innovation in an industry that continues to recycle and reuse old game genres and game mechanics in the production of sequels and franchises which dominate the market, hardcore gamers reward homogeneity and sameness in content in their purchasing patterns. Some of the reasons for this apparent paradox are proposed and discussed.

In Chapter 6, I turn my attention to the third major actor in the video game industry: *the publisher*. As the console sales grew in the last two decades, publishers claimed an increasingly important role by vertically integrating their business activities to include game development, as well as marketing, financing, and distribution (Johns, 2006). The function of the publisher is to exploit the intellectual property created in the industry by interpreting consumer trends and provisioning the production of content to supply the market. In this key role, console game publishers were in a position to not only make important decisions regarding key characteristics of console games, but also able to leverage their market power to guide the commercial structure of the industry. For publishers, innovation is a means to an end as they seek to generate profit and create economic value. In this chapter, the impact of such financial investment on innovation in video game production is reviewed, particularly in regard to the emergence of branding and franchise management as a dominant console publisher strategy.

In Chapter 7, I analyze the tensions and dependencies between the actors identified in my model of console game innovation. This discussion includes an examination of the cycles of

profit, technology, financing, game development, marketing, and game distribution. I focus on intellectual property and how it limits the ways in which new ideas can be exploited, looking for common and opposing themes among the main industry actors. Flexibility is a response of capital to address instability in the market facilitated by the same digital media and communication technology that underpins the video game industry. Instability is a characteristic of the video game industry. The tensions between consumers, publishers and developers reinforce this instability requiring careful management of innovation when producing new games and content, in order to replace the old.

In the final chapter, I summarize the major findings of this dissertation emphasizing that the purpose of this research was to identify, examine and help understand the functioning of the industrial structure that produced video games during a very important era in the evolution of console gaming as viewed through the lens of the innovation it produces. It is my hope that a better understanding of the pressures that each group of stakeholders experienced can help inform future game studies and dialogue between industry partners. In this regard, I have also made some recommendations for future research.

And now, on to my discussion about why it took so long to make our original sci-fi *Dark Sector* game....

Chapter 1 Innovation Theory

1.1 Introduction

In the corporate world innovation is today acclaimed as a driving force behind industrial strategy and social prosperity. The catchphrase "innovate or die" has become a mantra in a competitive globalized economy where the pace of economic cycles is intensifying (Castells, 2000). Companies are increasingly concerned about the rapid obsolescence of not only their products and services, but also of their processes, equipment, know-how, and intellectual and physical property. Richard Florida enthusiastically describes a company's ability to innovate as a "decisive source of competitive advantage" (Florida, 2002, 4) and a key driver of success. However, it is also widely agreed that the road to innovation is fraught with pitfalls.   Edward De Bono (1992) characterizes innovation as something divergent, unpredictable, impulsive and messy. Its very nature appears antithetical to other business pressures that favor stability, growth, predictability, and accountability, as it often requires companies to exchange proven ways of doing business for new and unproven ways. These contradictions appear particularly central to the functioning of cultural and media industries such as television, cinema, radio, and video games, which create content that is usually short-lived and often only experienced once before requiring replenishment (Miege, 1987; Ryan, 1992; Garnham, 2005; Hesmondhalgh, 2009).

In this chapter I will review some of the theories through which corporations and their critics have sought to understand innovation. Starting with Joseph Schumpeter's famous claim that capital has an intrinsic tendency to generate "gales of creative destruction" through its innovative dynamic, we will then make a broad distinction between "business innovation

theory" and "critical innovation theory" and examine some major thinkers and schools within both categories, attending to both the contradictions and crossovers between these various lines of thought. The principle guiding my selection of innovation theorists has been their potential for fruitful application to the console video-game industry. In the conclusion to this chapter, I suggest how the theories reviewed will be drawn on and combined throughout the rest of the dissertation to analyze the innovation processes of that industry. First, however, I should clarify some terms and definitions.

1.2 Terms and Definitions

The word "innovation" can have different meanings in different contexts and is often loosely applied to anything new, different or better. The Oxford Dictionary defines innovation as "the act of making changes in something established, especially by introducing new methods, ideas, or products" (Oxford, 2015). The terms "innovation" and "creativity" are frequently used almost synonymously. However, the business theorist John Howkins (2010) makes a distinction between the two; creativity is personal, arising from the efforts of individuals and their capacity to generate new ideas, while innovation, on the other hand, is led by groups of individuals or corporations. In the context of contemporary capitalism, it is driven by industrial competition. Creativity, according to Howkins, is always the starting point and necessary requirement of innovation, but he suggests, while creativity can lead to innovation, innovation seldom leads to creativity (Howkins, 2010).

Another important distinction frequently made in business literature is that between "invention" and "innovation". The former describes the realization of new products and services while the latter also includes their commercialization (Barnes, 2007). To reach fruition, an

innovation must first be sufficiently new and different, but it also must be taken to market and adopted. To fulfill the requirements for innovation, the new product or service must be (1) created, (2) commercialized, and (3) adopted. This process, described with many minor variations, is referred to as the "innovation cycle" (Shavinina, 2003; Tushman & Nadler, 1996; Saviotti, 1996). In this dissertation, I refer to creativity, invention, and innovation as closely linked but nonetheless conceptually distinct activities; when I refer to "innovation" it refers to the entire "innovation cycle", unless I specify some particular segment of it. These terms and distinctions emerge from a broad and rather diffuse field of what can be called "innovation theory", informed by a variety of objectives and presuppositions. In what follows I will review some of the most important contributions to this field, making a broad distinction between what I call "business" innovation literature and "critical" innovation studies, but beginning with the works of a watershed innovation theorist who arguably spans both these streams.

1.3 Schumpeter and Innovation

Joseph Schumpeter (1883-1950) was one of the first researchers to undertake a comprehensive study of innovation. From his work evolved both a body of research focused on understanding and developing corporate approaches to fostering innovation and various critiques of the consequences of innovation for a rapidly expanding capitalist economy. Innovation is integral to Schumpeter's famous account of "creative destruction", a celebration of capitalist entrepreneurs as economic disruptors (McCraw, 2007, 54). This analysis was, paradoxically, strongly influenced by Karl Marx's notion of the tendency of capital to cannibalize its own productive forces in the conquest of new markets and the more thorough exploitation of old ones in a self re-enforcing cycle.

> The bourgeoisie cannot exist without constantly revolutionizing the instruments
> of production, and thereby the relations of production, and with them the whole of
> relations of society. Conservation of the old modes of production in its unaltered
> form was, on the contrary, the first condition of existence for all earlier industrial
> classes. Constant revolutionizing of production, uninterrupted disturbance of all
> social conditions, everlasting uncertainty and agitation distinguish the bourgeois
> epoch from all earlier ones.
>
> (Marx & Engels, 2007, 6)

In his 1947 book, *Capitalism, Socialism and Democracy*, Schumpeter presented a view of capitalism as a system of economic change and growth driven by the introduction of new methods of production and transportation and the opening up of new markets consumer goods. Schumpeter emphasized the uneven distribution of innovation over time as industries emerge, grow, and mature. In one of the earliest enunciations of the "innovation cycle" concept, he described innovation as a three stage process beginning with invention, moving to innovation and concluding with diffusion (Casper & Waarden, 2005, 24). Although his early work focused on the importance of the entrepreneur in successful innovation, his later model suggests that the overall rate of innovation was largely linked to advances in scientific research and the development of better ways to bring new discoveries to market, foreshadowing what would later be described as a "technology push" model of innovation (Martin, 1994, 43).

While Marx emphasized the overwhelming self-destructive force of capital in these relentless pursuits, Schumpeter generally viewed creative destruction as part of the inevitable progression of a market system. Nonetheless, his assertion of creative destruction as a characteristic of capitalism emphasizes the social tensions inherent in innovation. In their review of Schumpeter's proposition, C. Freeman, J. Clark & L. Soete (1982) commented:

> No one would deny that the social and economic changes arising from these
> major processes of technical innovation were sufficient to entail substantial
> problems of structural adaptation, especially for those... which already had a large

capital stock and pool of skilled labour devoted to the exploitation of older
systems of technology.

<div align="right">(Freeman et al., 1982, 34)</div>

 Innovation is often encouraged pursuant to an agenda of profit seeking, value creation, economic prosperity, and industrial growth, but, as Karl Marx and Friedrich Engels point out, these benefits will be realized at the expense of distress, hardship, and anxiety to workers, firms, and industries whose skills and practices are surpassed in the pursuit of the latest products and services. Insofar as Schumpeter's celebratory rewrite of Marx and Engel's account of capitalism preserves within itself considerable ambivalence about the costs and benefits of perpetual economic disruption, he can be considered a major source for both business oriented and critical versions of innovation theory.

For Schumpeter, innovation exists on a continuum from modestly disruptive to extremely disruptive (Chaston, 2013). The ability to disrupt is an important characteristic of innovation that has carried forward from Schumpeter's work. It relies on the condition of having mature markets where the introduction of new products or services necessarily displaces old ones creating a ripple effect throughout disrupted industries. In traditional industries, consumers tend to make do with existing products and services until something better comes along (Manu, 2010). Media industries face a different set of challenges as media content is constantly being produced and consumed creating demand for new material. After each new movie, television series, or video game, audiences need to be reacquired. There is an opportunity to mitigate the negative side-effects of innovation criticized by Marx and Engels and create a stable media industry where existing companies can successfully disrupt themselves by anticipating market conditions and provisioning media content accordingly.

1.4 Business Innovation Theory

Following the pioneering work of Schumpeter, industrial research on innovation began to become widespread in the post-war era of the 1950s and 1960s (Martin, 1994). New approaches at first expanded on Schumpeter's "technology push" suggestions. Later such accounts came to be considered inadequate because they did not take into account market conditions and the role of consumers in the innovation process (Nemet, 2007). To correct this, "demand pull" models were developed to focus on the factors in the market specifically related to the unsatisfied needs of businesses and consumers (Nemet, 2007). Both "technology push" and "demand pull" models provided guidance to companies with regard to how they should direct their creative energies. These models claimed to help understand or indeed shape the needs of the consumer market; needs that would influence which innovative products and services firms would subsequently develop and commercialize. However, from the 1970s to the 1990s, the linear approach of the both demand pull and technology push models was criticized as being overly simplistic (Nemet, 2007). Several new approaches emerged including evolutionary, path dependent and interactive models (Ruttan, 2001).

Evolutionary models were built on ideas of bounded rationality and uncertainty (Nelson, 1982). Ongoing technological change affects a number of inter-related social, economic, and institutional spheres. Changes in one of these spheres will necessarily affect changes in others. This creates endless feedback loops changing over time. Innovation is not only affecting the end products but also the internal environment in which innovation is produced. Pier Paolo Saviotti (1996) summarized several important aspects of evolutionary models. First, innovation occurs over time as new products are a mutation of existing products. Secondly, fitness among industrial participants in adapting to new innovations is seen as critical in determining which

parts of an industry tend to survive over time. Finally, interactions between industry partners were identified as an important aspect affecting the pace and focus of innovation research.

The path dependence model seeks to explain how the opportunities faced by a company in the marketplace are limited by how the industry has developed in the past, even though the past conditions no longer affect the current set of opportunities (David, 1985; Page, 2006). Processes are adopted and standardized in an industry or a marketplace and after periods of time then become locked-in to achieve higher levels of stability. As a result, technologies, industries, and even institutions can become path dependent. Consequently, a dominant design may capture the market even if other feasible or preferable alternatives are available or emerge. Networks and infrastructure then develop around the dominant design. In the longer term the "locked-in system" may turn out to be suboptimal due to decisions made early on in the product lifecycle (Arthur, 1994).

As identified by Roy Rothwell (1983), interactive models emphasize the relationship between actors in the innovative process and view it as a series of sequential phases, each interacting with each other. This view implies that innovation is no longer perceived as the final result of the last stage in a cycle but as a process of iteration (Beiji, 1998). In the early phases, production is often associated with small, dynamic, and flexible business units typically in small firms. As the product matures, units move to large scale production and the system becomes specifically geared to the efficient production of the well-defined product and the business unit becomes rigid as a consequence. It becomes less adept at accommodating process and production changes as the goal is to maximize the profitability of the product line and to stay

competitive to newcomers in the marketplace seeking to profit from the unrealized efficiency in the innovator's production process.

Other theorists have expanded the range of actors to be considered in such interactive models. Eric Von Hippel's (1988) study of the "functional sources of innovation" suggested that innovation can be sourced through one of three groups in an industrial context: users, manufacturers or suppliers. He argued that innovative change within an industry will originate from the groups who receive greatest economic incentive from the innovation and demonstrated that sources of innovation can move from one group to another within a firm or industry when changes to the production and economic environments are experienced.

Business-oriented thinkers have thus developed increasingly complex theories of innovation involving longer time spans, a wider range of actors, and increasingly recursive influences in play during the innovation cycle. They have also, however, become increasingly sophisticated in their accounts of the constraints on or breakdowns of the innovation cycle. The path dependency model reviewed earlier can be seen as an account of innovation failure. Another is the analysis of the "innovator's dilemma" developed by Chris Christensen (1997, 263-270). This describes a company's tendency to focus on protecting its existing intellectual property instead of turning its attention to the development of new potentially disruptive innovations which may cannibalize existing product lines. Christensen finds this to be a persistent challenge that is present in a wide range of industries that he studied including the personal computer and steel production industries. The dilemma for companies and industries occurs in determining the point at which to abandon and write-off the investment made in old technology and practices and start investing in the next generation.

In Christensen's view, typical industrial cost-benefit analyses often employed in evaluating new innovation opportunities will have a tendency to mislead firms to steer away from investing in innovation when the rapid technological change occurring in the marketplace has not allowed enough time for investment in existing technology and intellectual property to be sufficiently depreciated. This situation leaves companies and whole industries at risk of being overtaken and left behind. This results in a condition where established firms in an industry are increasingly resistant to embracing new innovations and are vulnerable to new firms entering the industry. Rather than engaging in new innovative practices and developing new products, firms often invest in creating barriers for new entrants and protecting their existing investments and products until they are adequately depreciated (Christensen, 1997). In such an account Schumpeter's "gales of creative destruction" decline into windless doldrums.

1.5 Critical Innovation Theory

While the business literature on innovation is mainly directed towards entrepreneurs, managers, and policy makers wishing to promote enterprise profitability, it is not possible to designate a similar concerted purpose to more critical studies of innovation. However, that is not to say critical analyses of innovation have been neglected in the academic community. On the contrary, the process of innovation has become such an important aspect embedded in contemporary culture that it necessarily comes into focus in research directed at a wide range of fields including the critique of capital, culture, media, and technology.

One academic journal, *Prometheus*, founded in 1983 is devoted to "Critical Studies in Innovation". In 2009 when it "re-vamped" its editorial policy the journal described itself as addressing innovation defined as the "production, introduction and diffusion of change" in a way

to "offer[s] an outlet for authors who are anxious to give the world new thoughts on innovation, despite the consequences". In the sections below, some important heterodox theoretical strands relating to innovation have been selected so that we may later relate them to the development of the video game industry.

Any account of cultural innovation must take reckon with the Frankfurt School of critical theory that emerged in the 1930s and 1940s, not least because Theodor Adorno and Max Horkheimer (1972), the School's leading representatives, coined the term *culture industry*. However, while today's "culture industries" or near synonyms such as "creative industries" are likely to be enthusiastically applauded by corporate and government spokespeople as engines of economic growth, in Adorno and Horkheimer's original usage, the term carries strongly negative implications.

Like Schumpeter, Adorno and Horkheimer were strongly influenced by Marx. They took their inspiration, however, not so much from his account of capital's dynamism and innovation, but more from his writings in *Capital* on the deceptive and mystifying "fetishism of commodities" (Marx, 1990, 165). From this perspective they criticized the commercially popular culture of the era, particularly the Hollywood film studios of the American film industry's "Golden Age", arguing that it sustained society's servitude to capital by creating false needs and easy pleasures satisfying audiences by, and habituates these audiences to, the production of commodities.

In the Frankfurt School usage, "culture industry" refers to mass produced and commodified cultural production (Adorno, 1972). Seeking mass appeal, the industry caters to the most common and base tastes of its audiences, defines and dictates what "entertaining" is to its

audiences, and aggressively markets its products to establish conventional norms. Contrary to Schumpeter's claims about innovative "gales of creative discussion", capitalism, according to Frankfurt theorists, manifests predictability and repetition is masked by superficial variation. For profit production of culture leads to the standardization of cultural goods repeating conventional plots and stereotypic characters and inducing compliance with the dominant socio-economic system. The culture industry displaces people's creativity, necessarily forcing creative endeavors to become formulaic exercises that can never be satisfying as their main goal is to recreate the conditions for selling the next generation of products. Harshly polemic as the Frankfurt School school's critique is, it remains today a classic statement of the negative potentials of commodified mass culture and one against which all contrary claims about capital's creativity and innovative effervescence must be measured.

At approximately the same time as the Frankfurt School was critiquing capitalist cultural production, a less well-known Canadian scholar was developing a perspective that both paralleled and went beyond their analysis. In the *Bias of Communications,* Harold Innis (1950) provides a comprehensive study of how new media are adopted. In his earlier work, Innis had argued that in an industry where there are constraints or structural impediments to innovation, renewal will begin to occur at the margin of the industry (Innis, 1956; Innis, 1971). These new opportunities for innovation may occur where there is less corporate control, government regulation, or easier access to markets.

In *The Bias of Communication*, he describes how, on a societal level, monopolies of knowledge develop as new forms of communication media are embraced by power systems such as government organizations, religious institutions, and corporations. He emphasized how

existing power structures and social arrangements then seek stability and tend to be resistant to change. Accordingly, technological innovation for new media was often developed in the margins of society because of their capacity to upend existing power arrangements. As new forms of media took hold, this created instability in the underpinnings of social relations that resulted in the weakening of venerable societal institutions. This weakness in turn created new opportunities for innovation as a result of diminished oversight and regulation. In Innis' view, this is the point where societies reach their cultural apex and "Minerva's Owl takes flight" (Innis, 2003, 21); civilizations are paradoxically the most innovative immediately before they fall.

Innis' account of "monopolies of knowledge" in many ways corroborates the Frankfurt School's insistence on the stagnant and repetitive tendencies of the cultural industries dominated by corporate power. It also, however, introduces a more dynamic element by presenting the possibility of destabilizing change coming from the margins of the system. These concerns were to become increasingly prominent in critical theory as, during the 1970s and 1980s, capitalism seemed to undergo as dramatic "sea-change" (Harvey, 1992, vii).

The emphasis on the basically conservative nature of capitalist cultural production shared by both the Adorno and Horkheimer's account of "the culture industry" and Innis' analysis of "monopolies of knowledge" can be seen as reflecting the condition of mid-twentieth century "Fordism." "Fordism" was a term coined in the 1930s by Antonio Gramsci (1992, 561) reflecting on social and economic changes instituted by the automobile manufacturer, Henry Ford, in the United States. Ford, in his assembly plants, implemented the principles of scientific management introduced by Frederick Taylor, which emphasized the division and standardization of tasks with the goal of driving greater labour productivity in the mass production of

automobiles. The "Golden Age" Hollywood film studio's critiqued by the Frankfurt School in many ways transposed a similar assembly line model to cultural production with cinematic results that often seemed to emulate the standardization and predictability Ford brought to car manufacturing.

From the mid-1970s on, however, critical theorists argued that, under pressure of falling profits and increasing social conflict, Fordist capital was transforming. The French Regulation School of political economists suggested the economic, social, industrial, and political changes of the late twentieth century were generating a new type of Post Fordist capital. One of the key characteristics of Post Fordist industry is the high degree of automation of mundane work through the application of information technology. This change entailed the transformation of labour relations, as well as the private and public institutions that regulate the structure of the economy (Jessop, 2002).

The discussion of Post-Fordism has reopened Schumpeter's perspective on capital's recurrent "gales of creative destruction", with innovation, particularly innovation related to new information technologies, seen as intrinsic to a period of convulsive change. David Harvey (1992) and Manuel Castells (2000) have both extended Schumpeter's arguments into the digital era emphasizing that the unprecedented speed of information in global networks has put pressure on the cycle of creation and destruction, thus exacerbating economic instability. Harvey, in particular, noted that capital's relentless search for profit fuels the need for innovation. Castells emphasized that the nature of cultural production is becoming increasingly networked and decentralized.

Harvey and Castells both maintain a critical perspective on capital's Post Fordist transformation, emphasizing the resulting social insecurities and inequalities, including the precarious environment it can create for cultural workers. However, other authors have generated much more optimistic interpretations of Post Fordist capital, so that the term has in some ways crossed over from critical innovation theorists to more "business-oriented" versions. Digital media have been optimistically cited by new media critics who see the opportunities of these new platforms for creativity and innovation to escape the doldrums and drudgery of factory assembly lines popularized in the preceding era (Mosco, 1996). This transformation is often seen as particularly significant in "cultural" or "creative industries" specializing in the production, distribution, and marketing of symbolic goods, that is, non-materialistic products that are expressive or aesthetic in nature, rather than utilitarian (Hirsch, 1972). Information technology has significantly affected the speed at which cultural production has transformed over recent decades, and the resultant drive to perpetual innovation seems, at least at first glance, to be eagerly filled by designers of digital entertainment. Thus, as we have already seen, in a Post Fordist context the term "cultural industry" has been largely stripped of the negative connotations of mass produced standardization and social conformity and instead has been imbued with positive and "cool" expectations of creativity and invention.

It is, however, noteworthy that some theorists have been less optimistic about Post Fordist conditions for innovation. Extending the analysis of the Regulation School, Michael Piore and Charles Sabel (1996) assert the importance of innovation in a post-industrial society but also questioned whether innovation was even possible under globalization and the large scale production conditions that continued to be pervasive. In mass production environments once the market has stabilized, corporations tend to grow through the simplification of tasks and the

division of labour to reduce the costs of production. In environments of flexible specialization, the organization of innovation can only be enabled and fundamentally begin with the creation of new markets. Piore and Sabel remind us that the extent to which an industry continues to focus on mass-produced products for existing, ready-made markets, the industrial emphasis will be on creating pressure on waged labour to increasingly standardize their work and subsequently perform it for lower wages, rather than creating new and differentiated products and markets. The tension between Schumpeter's vision of capitalist dynamism and the Frankfurt School's critique of conformist standardization therefore persists even in the midst of Post Fordist transformation.

1.6 Conclusion

In this review of the literature on innovation, I have distinguished industry innovation theory (aimed at improving the innovation processes and hence profitability of capitalist firms) from critical innovation theory (describing the broad, often unforeseen, and sometimes adverse, social consequences of innovation regimes for workers, consumers, and citizens). As this dissertation now moves now to analysis of the video game industry, I will synthesize elements of both approaches.

In describing how corporate actors respond to a variety of pressures and priorities to manage innovation, I draw on important elements from business theory. Evolutionary and interactive models of innovation will be applied to describe the functioning of the console game industry. Hippel's theory of the functional sources of innovation provides a useful theoretical tool to assess who has the greatest capacity to affect and introduce innovation among the

industry stakeholders. Finally, the "innovator's dilemma" provides a theoretical benchmark for a final chapter that tallies up some of the contested domains of console video game innovation.

At the same time as I deploy these ideas from business innovation theory, however, I aim to keep in mind the broader contexts opened by critical theory. Innis' innovation theory will be applied to situate the innovation framework of the console gaming among other segments of the video game industry. Our discussion of Post Fordist cultural and creative industries will help locate console gaming among other mainstream digital media. Underlying the discussion is the apparent contradiction which we seek to explain; why does an industry which would in so many ways seem to exemplify Post Fordist creative industry models frequently recapitulate levels of standardization and repetition that are usually associated with the term Fordism? Why is it that an industry that purportedly overthrows "old media" models ends up with production runs that bring to mind nothing so much as the formulaic Hollywood blockbusters which inspired the Frankfurt School's scathing critique of capitalist cultural conformity?

Chapter 2 The Console Game Industry

2.1 Introduction

The growth and development of the video game industry from its early seeds in computer labs at M.I.T. in the 1960s to a $50 billion dollar global industry is an impressive story of technological development, media adoption, and cultural emergence (Kinder, 1991, Herman, 1999). In 2012, video games generated $25 billion in revenue in North America with annual growth that has exceeded 10% during the past ten years according to the Entertainment Software Association (ESA, 2012). During that decade, the ESA also calculates that the video game industry directly or indirectly employed more than 120,000 people in the United States (ESA, 2012).

Video games are almost universally associated with "innovation." There is a consensus in game studies literature that video games have great potential for innovative expression (Bissel, 2006; DeMaria et al., 2002; Poole, 2000). The notion of the "innovative" capacity for video games has been used by the industry not only to promote sales of its games, but also to defend itself against persistent attacks related to the negative influences of games on players, especially on younger audiences (Jenkins, 2006; Gee, 2007) as well as in efforts to attract labour to careers in game design and production (Livermore, 2013). Corporate histories of the big three game console companies, Microsoft, Nintendo, and Sony, detail innovation milestones and development practices, describing the chronology of decisions made in the last few cycles of console hardware (Asakura, 2000; Inoue, 2010; Takahashi, 2000).

In this medium, innovation can take different forms. Thomas Apperley addresses the role of innovation in video game development. "The expectation is that the stability of (game) genres

will be tempered by innovation; this innovation may be technical, not necessarily stylistic" (Apperley, 2006, 9). This is an important observation reflecting on the dual qualities of the video game medium. Ian Bogost (2008) asserts that video games are artistic, cultural, and expressive objects; however, they are also functional and technological constructs. In a similar argument, Tom Bissel (2009) distinguishes between two kinds of innovation in console games; narrative innovation and gameplay innovation. Gameplay innovation describes the technical foundation of the game encompassing the game mechanics and functionality. Narrative innovation refers to the layer that is built on top of the gameplay whereby the game attempts to engage the player with novel characters, style, settings, and story. As Bissel reflects upon the successes of large budget console games, he observes that gameplay innovation has been a necessary factor in the critical and commercial success of the industry. Narrative innovation, on the other hand, can contribute to the success of technically innovative games, but in his opinion, has not been a necessary been requirement for their success. Further, console games that have shown narrative innovation but lack gameplay innovation seldom achieve commercial or critical success.

Despite this attention, innovation remains a loudly promoted, scantily defined, poorly understood, yet also highly managed and contested aspect of the game business. It is also an area in which success appears, at least to some industry insiders, increasingly elusive. In recent years some veteran game designers have expressed their disappointment at the level of industry innovation. Will Wright, designer of the *Sim* franchises, (*SimCity, SimEarth, The Sims*) reflecting on the topic of innovation, is quoted as saying: "I think we have an extremely powerful medium here at our disposal, and I think we've only realized a small portion of its potential.... Relative to what we have, with what we could be doing with it, we're falling way short"

(Peterson, 2013a). Regarding the state of large budget console games, Peter Molyneux, designer of the *Fable* franchise, has critically commented that games have failed to become another true form of entertainment (Sinclair, 2012).

It therefore seems important to attempt a systematic view of innovation in the video game industry. In what follows I will define the scope of my study, focused on the North American console game industry, and then describe some of the key dynamics of the industry, before outlining a model of its innovation processes in the following chapter.

2.2 Scope

Relating innovation to the whole video game industry, an extremely diverse and differentiated commercial enterprise that operates on a global scale, risks diluting any analysis to a series of over-generalizations. Therefore, it is necessary to limit the scope of this study to a manageable task. It will focus on the console game segment of the North American video game industry. The console is only one of many different technology platforms on which video games appear today. Other platforms or formats include mobile (handheld, cell phone), portable (tablet) and PC. The distribution of software sales for console games relative to these other platforms is shown in Figure 1.

Figure 1: Console Game Sales vs. Other Platforms (Marchant & Heenig-Thurau, 2013)
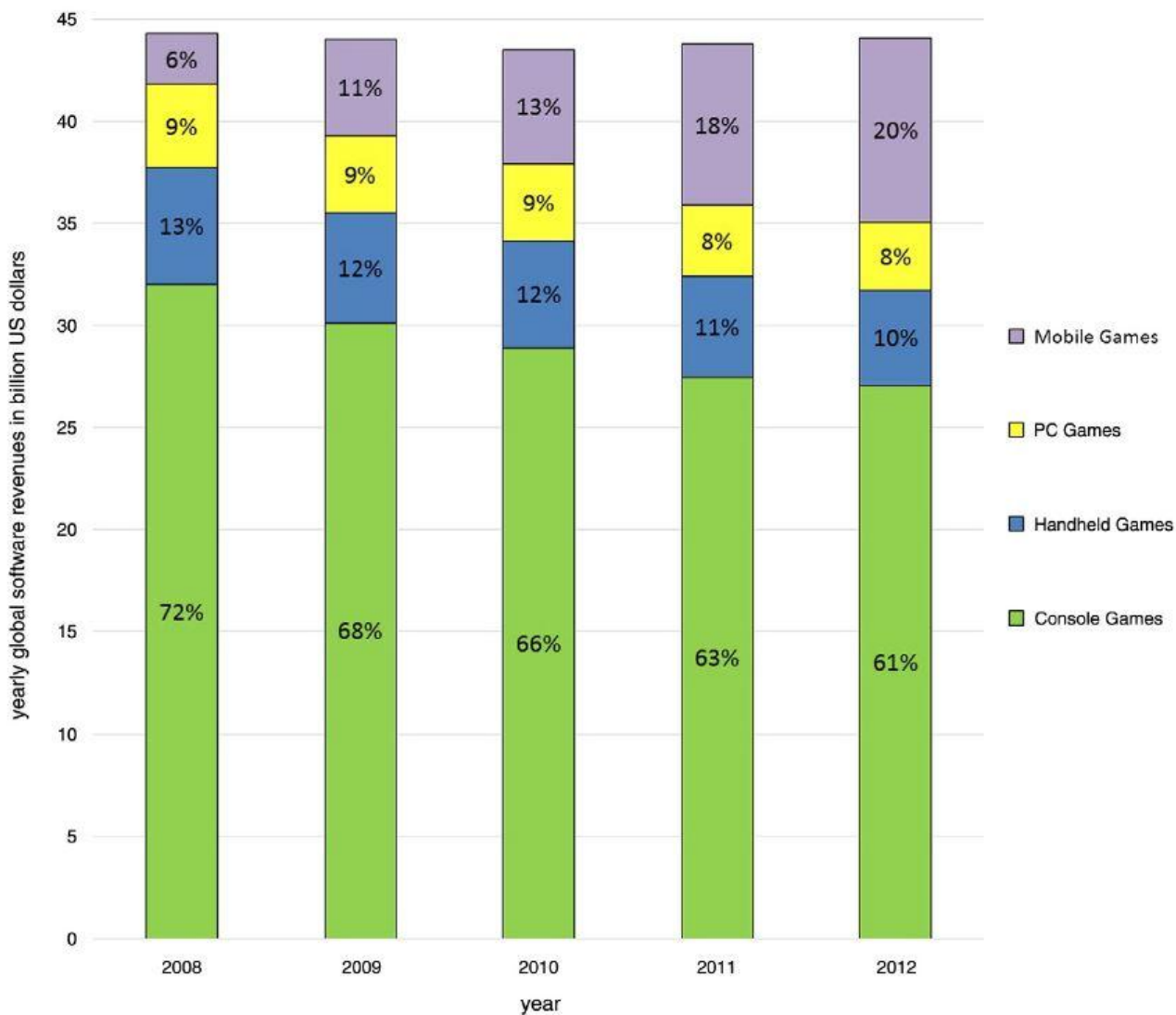
As is apparent from this table, console platforms compose the largest part of the commercial activity of the video game market. The Entertainment Software Association of Canada estimates that 68% of all game development activities were concentrated on console games in 2012 (ESA, 2012). The category of console games is often referred to as AAA games (although some large budget PC games are also referred to as such) within the games industry and by game players as they are often the most complex, technically sophisticated, and costly game software produced in all the segments of the game industry. For much of the past decade,

the video game console has been the pinnacle of the digital interactive game industry. Devices

such as Sony's *Playstation* and Microsoft's *Xbox* have grown to become the most popular

platforms for playing video games. Console sales have dominated all other platforms of digital

play. In 2006, consumers spent three times as much money on console video games than they

spent on games for all other devices combined (PWC, 2006). Console games have some of the

largest production scopes and budgets in the industry and they provide some of the most

spectacular interactive and immersive experiences available to gamers. Large console franchise

launches in the *Call of Duty* or *Grand Thief Auto* series continue to be publicized as significant

events in entertainment media (Kain, 2013).

Although the video game industry operates as a highly-organized and networked global

operation, this dissertation will focus on the North American segment. Other significant

segments of the global game industry include both Europe and Asia. There are enough

significant differences between these large geographic segments to create difficulties in both

collecting and analyzing evidence in the global market. Some notable differences between the

various regions of the global console market include cultural preferences for differentiated

content (Picard, 2013), different distribution channels, time zones, and government regulations

(Ashcraft, 2010). As a result, the interactions between the stakeholders tend to adapt to the

characteristics of the regions, specifically noting the particularities in Asia (Hjorth, L & Chan,

D., 2009) resulting in some regional variances in the development of new content (Wolf, 2015).

Finally, it is important to identify the time period for this study. The video game console

has undergone seven significant technological transitions (generations) since its commercial

introduction in the 1970s (The console timeline will be reviewed in the following chapter). For

this study, data will be gathered, analyzed and interpreted on video game industry activities

during the two most recent console generations which, broadly speaking, span the years 2001 to

2013.

2.3 The Dominant Design

At this point, I should clarify more precisely what is meant by a game console. The term

"video game console" has traditionally been used to market a very specific technology to

consumers. A video game console is:

> … a dedicated electronic device designed to play video games. Often the output
> device is a separate television. Once, video game consoles were easily
> distinguishable from personal computers: consoles used a standard television
> for display, and did not support standard PC accessories such as keyboards or
> modems.
>
> (Webster, 2007)

The term "console" has been used to differentiate between a dedicated video game unit and a

personal computer (a non-dedicated video game unit). The video game console itself was an

innovative device when it was first produced and commercialized in the 1970s. It presented to

consumers a new form of interactive entertainment for the household living room distinguished

by the presence of several unique features including a central processing unit, dedicated,

detachable controllers, technology specially created and optimized for interactive sound and

graphics, and a connection to a home television set to provide the visual interface. Later

improvements included a connection to the internet for peer-to-peer networking and on-line

gaming, an on-line virtual market place, an optical disk reader to replace interchangeable

cartridges and enhanced graphics technology for connecting consoles to the increasingly popular

high definition (HD) home televisions.

The video game console is now into its fourth decade since its commercialization. During that period, seven significant incremental changes (console generations) have occurred in console technology (Kirriemuir, 2006). From its beginning, the industry had no regulated standards and no natural monopoly. Competition between hardware manufacturers flourished as each firm fought for benefits of possessing the largest user base. Each console manufacturer viewed competing console companies as a threat to their user base. This resulted in very little cooperation between the console hardware vendors in the development of their technology. Despite the dozens of console launches since the early 1970s, the industry has consistently had room for only two or three successful systems at a time (Williams, 2002). Table 1 summarizes the characteristics and timeline of the development of video game consoles. As the table suggests, the most successful console brands have changed as the industry has grown. The withdrawal from the marketplace of early market leaders such as Atari and Sega created opportunities for other companies to enter with their proprietary video game technology.

Table 1 Summary of the Seven Generations of Video Game Consoles

Generation	Year	Console	Processor	Media Type	Sales (millions)
First	1972-1980	Magnovox Odyssey, Coleco Telstar	N/a	Cartridge	5
Second	1976-1983	Atari 2600, Mattel Intellivision, ColecoVision	8-bit	Cartridge	25
Third	1985-1993	Nintendo NES, Commodore 64	8-bit	Cartridge	75
Fourth	1987-1995	Sega Genesis, Nintendo SNES, NEC TurboGrafx	16-bit	Optical ROM/ Cartridge	100
Fifth	1993-2000	Nintendo 64, Sony Playstation, Sega Saturn	32/64-bit	Optical ROM	145
Six	1998-2005	Sony Playstation 2, Sega Dreamcast, Microsoft Xbox, Nintendo GameCube	128-bit	Optical ROM	205
Seven	2005-2012	Microsoft Xbox 360, Nintendo Wii, Sony Playstation 3	128-bit	Optical ROM/BluRay	247

Correspondingly, the yearly sales for each console generation two through seven are shown in

Figure 2. This graph emphasizes the rapid growth of the console industry as well as the impact

of the introduction of new technology to propel hardware sales to new levels as technology

advanced through early console generations.

Figure 2 Console Sales by Generation (Marchand, 2013)
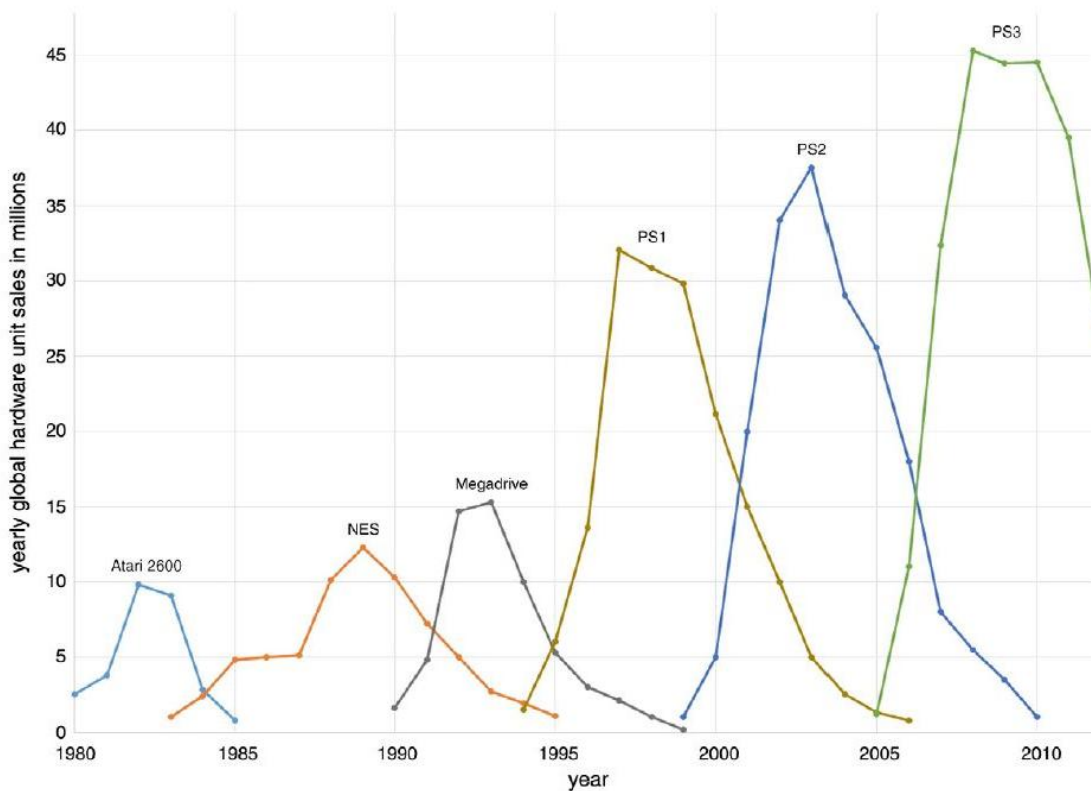
First introduced in 1972, the Odyssey, by Magnavox is credited as the first commercial

home video game console (Novak, 2012). After selling only 100,000 units, the Odyssey's

popularity was quickly eclipsed by Nolan Busnell's Atari Video Computer System (VCS) in

1977. However, the Odyssey was important as it established the *dominant design* for home

video game systems that carries on to the present day.

The dominant design refers to the single architecture that embodies all of the key features

and elements of a product (Gallagher & Park, 2002). The configuration (dominant design) of

home game consoles consists of a central game unit that connects as a peripheral to a television set. The Magnavox system was also equipped with a media reader that permitted the use of removable and interchangeable media. Game cartridges were used for the Odyssey and other early consoles. These media were eventually updated to optical disks in later console generation as noted in Table 1. Another notable feature of the early consoles was their game controllers. They were specially designed peripherals such as numerical pads, joysticks, or game paddles that could be detached and interchanged from the console unit for different games.

In most industries, technical improvements to the dominant design after the initial release are common and continue as the product moves towards the advanced stages of its commercial lifecycle (Thota & Munir, 2011). Over the course of seven technology generations in 35 years, improved technology has been introduced to aspects of the game console, ranging from the handheld controllers to the internal microprocessors. Each successive generation has attempted to improve on the previous system in response to game consumers' desire for better sound and graphics, more ergonomic and intuitive controls, and improved gameplay modes.

These jumps in the technological sophistication of each new console generation have increasingly removed barriers that have limited the scope and creativity in video game development while reinforcing others. The newest consoles can store more data and process information faster enabling the production of larger budget and more computationally intensive games. These improvements permit more complex features to be incorporated in game production such as the simulation of human movement, artificial intelligence, and large scale real world physics. As technology unlocks these new possibilities and video game consumers demand bigger and better interactive experiences, video game producers (both publishers and

developers) have responded by adapting the scope of their video game projects to these expanding technological horizons. This cycle of technological expansion has driven the scope and sophistication of console game content to new heights with every new console generation introduced.

In industries where there is a dominant design, it is generally quite difficult for both new entrants in a market as well as existing firms to change the underlying technical foundation of their industries (Tushman, 1986). Despite the incremental improvements to the console hardware, the dominant design of the game console has not fundamentally changed since its introduction. Home electronics and software giant Sony entered the market in 1993 with their *PlayStation* console as did Microsoft later in 2001 with the *Xbox*. Neither manufacturer made any significant changes to the configuration of their devices relative to preceding console generations. By that time, the dominant console design had already been established and the industry was following a mode of *path dependency* which limited the potential avenues for future expansion.

Industries where a dominant design is present are also often characterized by a high degree of network externalities (Lampel, 2005). For the game industry, this signifies that the value a game system (console) offers to customers is, to some degree, a function of how many other users have adopted the same console and are present in the network ecosystem. A number of empirical studies have suggested the presence of network externalities in the console game industry (Clements & Ohashi, 2004; Shankar & Bayus, 2003; Venkatraman & Lee, 2004). Factors such as compatibility and availability of new games are considerations in the player's decision whether to purchase a console and join the proprietary player ecosystem. In such

industries, there is a strong pressure to select one or a few dominant platforms rather than allowing many incompatible platforms to coexist. This has a tendency to lead to unambiguous winners and losers where standards are imposed by the market leaders.

It is noteworthy that with the introduction of the *Wii*, Nintendo's brand power was able to leverage some flexibility to introduce a more simplified controller design which significantly varied relative to the dominant console design (Wesley & Barczak, 2010). In part because of this redesign, the *Wii* ended up being the most successful console of the seventh generation outselling its competitors from Sony and Microsoft by almost two to one (Inoue & Star, 2010). The *Wii* was disruptive not only because its game controllers differed from those of its competitors, but also because they favored the development of more family-friendly games as a result of its appeal to non-traditional gamers. The unexpected success of the *Wii* demonstrates the difficulty in anticipating and planning consumer needs. Sony and Microsoft's strategy of a creating console focused on traditional audiences presented an opportunity for Nintendo. Consequently, the industry has the capacity to self-correct when new technology is introduced that meets latent underserved demand in the market. Some of the reasons why the *Wii* was able to succeed despite the innovation trap of the dominant design shall be reviewed in subsequent chapters.

2.4 A Closed Format System

The technological environment for developing software or games on consoles can be expressed as a closed system controlled by console manufacturers (Castells, 2000). On one end of the spectrum, an open environment typically describes arrangements that facilitate communication between industrial partners with few restrictions on the sharing of intellectual property, the absence of controlled or proprietary technology or know-how, and few state

regulations. "Open systems" refer to such an industrial framework. On the other side, a closed environment is characterized by significant control and active protection of proprietary technology by industry members, intellectual property protection, and enforcement and high degrees of government regulation. Such are "closed systems" where collaboration tends to be discouraged to protect corporate secrets, strategy and investment in proprietary knowledge and technology.

Open systems are often considered to be most conducive to innovation (Edquist, 2005) as they put an emphasis on decentralized decision making and have the advantage of offering more opportunity for collaboration with less constraint on the exchange of new ideas. This environment contrasts that of closed systems where the priority is to promote centralized control. The expansion of the internet has provided new opportunities for collaboration and the sharing of knowledge. However, Robert McChesney and Dan Schiller (2003) warn that media technologies that enable interactivity and participation are also wielded to foster the growth and entrenchment of corporate systems that are anything but transparent, interactive or participatory. Where open systems exist in industrial contexts, they often become targets for enclosure by corporate interests. The birth of the console game industry itself is an instance of enclosure, control and corporate domination of a particular segment of personal computing and digital entertainment.

With regard to technological innovation, Castells noted that in closed system production, the key task is primarily to produce goods from a model. On the other hand, for technology companies operating in an open system mode, the emphasis is placed on continuously creating those models (Castells, 2000). Jan Van Dijk (1999) proposed a model of collaboration in closed systems which is consistent with that of Castells'. He theorizes that a closed system consists of

fixed (sub)-units that primarily interact among themselves to reproduce the system as a whole in a (pre)determined way. An open system consists of a changing collection of (sub)-units that can interact with the environment to change the system as a whole in adaptive ways (Van Dijk, 1999). In his view, design and collaboration in a closed system emphasize top down control where existing products and services can only be reconceived in new ways and where a focus on envisioning entirely new systems is difficult or impossible. Table 2 emphasizes the distinction between open and closed system innovation.

Table 2 Systems of Innovation

Type of Innovation System	Production Orientation Most Favours...
Closed	Production or reproduction from a model
Open	Original knowledge creation

Henry Chesbrough (2003) uses the term "closed innovation" to describe the development of new ideas in a regime of tight control and ownership of intellectual property. His analysis modeled innovation in the global economy from World War 1 to the mid-1980s. He argued that industrial innovation during that period was significantly constrained as a result of intellectual property ownership controls. This resulted in structural obstacles to collaboration and the sharing of knowledge and know-how during that period. According to Chesbrough the internet opened up the innovation environment helping to overcome many of the barriers to the exchange of information and allowing greater possibility for innovation since the 1980s.

From a technological perspective a video game console operates in a manner very similar to that of a home computer; however, from a functional perspective the console more closely resembles a compact disc player. The video game console was conceived as a delivery system

for game content using interchangeable media. Following the format of previously successful

media delivery modes in the music industry (for example, audio cassette players and record

players), the commercialization of the video game console as a "media player" for games

became successful in part because of its low cost, reliability and capacity to deliver high quality

content vis-à-vis its personal computer counterpart (Wolf, 2008).

Relative to the personal computer, the video game console is a "closed format" device.

Consoles were conceived primarily for the dedicated purpose of playing video games. However,

unlike their personal computer counterparts, they were designed intentionally to prohibit sharing

of media across different platforms and different manufacturers. If a game is purchased for a

personal computer, it can run on any computer made by any manufacturer. For console games

the software must be programmed and encoded to proprietary technology standards specific to

the console. Therefore, a video game developed for the Microsoft *Xbox* will not work in a Sony

Playstation or a Nintendo console.

Developing software for a game console is an exercise of working with the tight

constraints of the closed system under the control of the console manufacturer. Each

manufacturer's console, with its own proprietary operating system and game development tools,

is particular to the console hardware. Game developers can and often do create their own

software tools to add new features to their console games, but these are limited by the constraints

built into the proprietary console operating systems imposed on them by the manufacturers. In

later console generations, many console games have supported multi-player modes via the

internet. On-line gaming has become very popular using proprietary networks, also particular to

each console. In the current console generation, Nintendo, Sony, and Microsoft each have

commercialized their own closed network dedicated to their respective consoles. All player activity, including who you can play games with and how you can connect to other players, is regulated in the network.

Additionally, game developers require special console units which have to be obtained from the console manufacturers in order to produce and encode the game software to the proprietary format. These units (known as "development kits") are only provided at the discretion of the manufacturer to authorized companies. The authorization process ensures that only approved game development companies will have access to the tools necessary to create console games. This is a significant barrier to entry as small or independent development studios have had limited access to console game development, while students, amateurs, and hobby game designers have essentially been prohibited from developing and commercializing console games.

The effect of the control over the closed console system extends well beyond regulating which game companies can develop console games. Game content is also subject to console manufacturers' standards. For authorized game developers, their games must be tested by the console manufacturer for minimum technical and aesthetic qualities before it can be sold to consumers. Games that are judged at the discretion of the console manufacturers as not meeting graphic quality, size requirements, or technical specifications can be rejected. Such a rejection would prevent the game from entering the market as the game had to be specifically designed for the specific console. According to David Wesley & Gloria Barczak (2010), the strategy of limiting the quantity and controlling the quality of games for their platform was an important success factor adopted by Nintendo beginning with their third generation *NES* console. This

move allowed Nintendo to establish a level of quality and consistency for its platform, a problem

that plagued preceding console platforms such as that of Atari's (Wolf, 2008). The quality

control process, known to game publishers and developers has become known as the certification

process. It is one of the last processes in the game development cycle where the publisher is

required to submit a working copy of their game to the console manufacturer so that the game

can be tested against the required norms and standards that the manufacturer has established.

In addition to regulating the technical qualities, the content of each game is also

evaluated by another third party. For retail sale in North America, retail vendors and console

manufacturers require console games to be rated by the Entertainment Software Review Board

(ESRB). All the major console manufacturers have stipulated that any material that has been

given an Adult-Only (AO) rating by the ESRB will not be allowed to be published on console

formats (Duggan, 2011). As Microsoft, Sony and Nintendo reported on their website

(www.esrb.org), the ESRB was established by the Entertainment Software Association as a self-

regulating body that assigns ratings for video games. This policy effectively censors the creation

of sexual or violent content that is judged by the ESRB to be excessive.[1] Such approval is

required before the game can be distributed and sold in North America.

The console platform is thus a highly regulated closed system for both game development

and game play. The console manufacturers have used the closed format to closely control how

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[1] The ESRB reviewed Manhunt 2 by Take2 Interactive in July 2007 and gave it an AO rating because of its violent content thereby resulting in a publication ban by Nintendo on the Wii console for which it was developed. A re-edited version of Manhunt 2 scaling back the violence content was subsequently given an M (Mature) rating in September 2007 making it eligible for publication by Nintendo.

games are made by developers and set standards on the quality and quantity of games made available to players, promoting a uniform and recognizable game experience conforming to their standards. The high level of control ensures a consistent quality standard. It also relates to the strategies that console manufacturers develop to obtain the brand identity for marketing their devices through the regulation of the content that they allow to be distributed on their systems.

2.5 The Revenue Model

Video games are a hit driven industry. For console video games on a title by title basis, there have, from a financial perspective, been far more failures than successes (Johns, 2006). Generally, video game sales have followed the Pareto rule whereby 80% of all revenue is generated from 20% of all the games (Schmalz, 2008). The small percentage of financially successful titles subsidizes the majority of titles that are unprofitable (Kerr & Flynn, 2003). According to his statistical study, Ted Tschang (2005) concluded that in advance of the release of a new game, it is impossible to forecast whether a new game will be (financially) successful or a failure. Game production is thus inherently risky. The industry's hit driven nature combined with the difficulty forecasting which games may be successful undermines the stability of the industry and establish a precarious foundation for innovative game production which in turn affects the structure of the industry.

The sale and distribution of hardware and software for console gaming follow a model that is unique among digital media industries. It is a model that is only possible as a result of the closed format of the console technology and the high level of control exerted by the console manufacturers over game development activities. In 1980, after the initial success of the first console systems such as the *Atari 2600,* which operated using interchangeable media cartridges

for additional games, several programmers saw an opportunity and left Atari to form a new company, Activision. Using their game development skills and knowledge of Atari technology, they began to create and sell video games for the Atari system under the Activision brand. Atari unsuccessfully attempted to prohibit Activision from carrying on this activity alleging that Activision was making profit from the illegal exploitation of its intellectual property (Montford & Bogost, 2009; Kent 2001). However, after many of Activision's first games, such as *Pitfall* (1982), *River Raid* (1982) and *Kaboom* (1981), became commercially successful, console manufacturers began recognizing the importance of third party software in creating a player base to maximize the contribution of network externalities necessary to the success of one console platform over another. A greater selection of games available for a manufacturer's console seemed to help drive hardware sales to the exclusion of competing consoles (Montford et al., 2009).

While beginning to engage third-party game developers, manufacturers of subsequent console generations incorporated proprietary media encryption formats for their hardware and took control of the manufacturing of video game media for their consoles. In the early 1990s, Nintendo pioneered the use of encrypted protection of its game cartridges with the incorporation of its 10NES authentication chip which it placed in every NES (Nintendo Entertainment System) console. It also incorporated another corresponding chip in every licensed game cartridge. If the console did not detect the authentication chip in the cartridge, the game would not operate. Unlike the adversarial position in which Atari found itself and without the ensuing legal battles against game developers and publishers, Nintendo, with its authentication system allowed the console manufacturer to court and corral developers to make third party games. This reversal

ended up being a key success factor for the platform and it was partially responsible for the

revival of the industry after its crash in 1983 (Dillon, 2011).

External developers could now make games on the console formats but they had to

negotiate the development terms with the console manufacturer. This initiative ensured that the

console manufacturer retained a large measure of control over the content production for its

systems and, perhaps equally importantly, that it could charge licensing fees to developers for

producing video games that operated on their console technology. The solution addressed

Atari's initial concern with Activision of being excluded from the value chain of media

developed for its technology platform and having no control over the quantity and quality of

games that were being developed. The marketing of hardware and software for the console

industry has been characterized as a "razor and blades" model (Kline, Dyer-Witheford & de

Peuter, 2003, 112). This model recognized the importance of making the base console unit

widely available in order to drive the sales of (disposable) game content.

This revenue model worked so well that by the sixth console generation, the major source

of console maker's revenue was obtained from the licensing and manufacturing of video games

as opposed to the sale of the console hardware itself (Kerr, 2006). Two of the major console

manufacturers, Microsoft and Sony, each introduced the sixth generation consoles in 2005 and

2006, respectively, at a lower retail price than it cost them to manufacture the units and lost

money on the sale of every new console at launch in an attempt to promote rapid consumer

acceptance of their next generation consoles (Huntemann & Aslinger, 2012). Their intention

was to create an install base of "critical mass" for the eventual recuperation of the cost required

for the manufacture of the base unit from the sale and licensing of the game content by external

developers. It is the goal of the console manufacturer to reach critical mass of console sales after the introduction of a new console.

According to the theory of diffusion of innovations, "critical mass" designates the number of adopters of a new technology or an innovation that is required so that the continued adoption of the innovation becomes self-sustaining (Rogers, 2003, 155). In the console industry the critical mass is the condition in which the sales penetration of a manufacturer's console has reached a point whereby the manufacturer is able to achieve increasing economic returns to scale for the sales of its consoles and the licensing of proprietary media content. For the console game business, once enough consoles have been sold, revenue from licensed software (game) sales on the manufacturer's console platform will become the primary economic driver.

During the lifetime of the console unit, each time a consumer purchases another video game, the console manufacturer receives additional revenue through license fees. The console manufacturer attempts to achieve its financial goals of profitability, not through the sale of the console itself, but through the licensing of video games often created by outside game development companies with no formal ties to the console manufacturer (third party video game developers).

The console hardware industry has historically been dominated by an oligopoly of manufacturers. Although, over the years, various technology and consumer electronics companies have entered and left the console market, the number of console manufacturers that the industry can support for any given period of time appears to be limited to three. Nintendo's entry in the seventh generation with its newest console, the *Wii* follows its participation in four previous console generations with the *Nintendo Entertainment System, (NES), Super NES,*

Nintendo 64 and the *Nintendo Game Cube*. Sony's seventh generation console, the *Playstation 3,* follows its two predecessors, the *Playstation 1* and *2*. The third global console manufacturer is Microsoft, whose entry into the console market's sixth generation in 2000 with the *Xbox* filled a void created when Sega withdrew from the market after producing fourth and fifth generation systems (Sega *Saturn* and *Dreamcast*).

The use of exclusive high profile blockbuster video games is another strategy employed by console manufactures to expand the install-base of their technology. These games are sometimes referred to as "platform drivers" because a consumers' decision to buy a particular console brand will be influenced by exclusive blockbuster content available to it. For the Microsoft consoles, high profile video game franchises such as *Halo* have been credited with creating additional demand for their consoles. For Sony, multi-million selling franchises such as *Uncharted* and *Metal Gear Solid* have also driven *Playstation* sales. Similarly for Nintendo, their *Mario* and *Zelda* franchises have contributed to the success of its four generations of consoles (Patnaik, 2009; Yeffeth & Thomason, 2006).

The production of exclusive high profile game content is particularly important at the beginning of a new business cycle (i.e. at the introduction of a new console). Such titles with higher than average development and marketing budgets, incorporating higher production values and additional features help justify to video game consumers the need to abandon older formats and to purchase not only the new game, but also the new console. Blockbuster content is also instrumental in the success of a console platform at the end of a generation's cycle. As a console matures in its lifecycle, at the point where the console has reached "critical mass" or "saturation point" in the marketplace, blockbuster video game titles re-enforce the success of the console,

expand the consumer market, create expectations for forthcoming console generation, and generate the revenue initially expended to develop and launch the platform. In the case of Sony, video game licensing for its *Playstation* and *Playstation 2* at the end of their respective console cycles contributed significantly to the success of the company's Consumer Products Division in 2002-2006 making up for loses in other Sony divisions (Dyer-Witheford & de Peuter, 2009).

2.6 Media Economics

Like other digital media industries, the economics of high content production costs and relatively low reproduction and distributions costs influences how intangible intellectual property is created and marketed. Video games, like other media products, have two characteristics typically representative of public goods: non-rivalry of consumption and non-exclusivity (Hoskins, 2004). For the consumption of video game media, a person playing a game does not detract from the experience of other players also enjoying the game. From that perspective, video games provide no rivalry of consumption typically associated with the use of material goods. This simply means that once a person begins to play a video game, she will not "use it up". Video games will not deteriorate after extensive use and once one person has finished a game, it can be, theoretically, passed on to another gamer and be fully enjoyed as a new product.

The second dimension of a public good is non-exclusivity, which means that you do not have to be the sole owner of the property to enjoy its benefits (Hoskins, 2004). The non-exclusivity trait of digital media is a characteristic which must be overcome for the commercial industry to operate. As a result, mechanisms are put in place to control access to the product. In the technological age, ensuring exclusivity of consumption for digital media is increasingly challenging. Many of the barriers to the reproduction and distribution of digitally encoded

intellectual properties may be by-passed or ignored as a result of the proliferation of broadband internet and tools that are widely available for digital media copying. Legislatively, copyright laws have also been enacted to create artificial exclusivity by creating legal deterrents to accessing the use and exploitation of protected material. These barriers exist in the form of civil and legal penalties for those who infringe copyright holders' rights by using intellectual property without the authorization of the owner (Biagioli, Jazi & Woodmansee, 2011).

In the recent generations of video game consoles, the development of a single video game is a labour intensive, multi-million dollar project. Similar other mass media, video games have the proven capacity to generate significant profits if the video game can sell millions of units. The marginal cost of stamping and packaging a video game is typically small as compared to the marginal revenue obtained from the sale of each video game unit. One of the goals of video game production is to at least cover its development costs and create some surplus value (profit). Because of the low marginal costs of reproduction and distribution, after the initial development costs have been recovered, each additional sale significantly contributes to the financial profitability of a game.

Despite the tendency of video games to take on some of the non-rivalry and non-exclusivity qualities of public goods, technologies for the management of digital rights (DRM) have been implemented throughout the video game industry to ensure that investments in video game development can be collected from consumers who play the game. DRM technologies are features built in the video game to ensure that only those players who are authorized (have purchased the game) are entitled to play the game. The increase in popularity of video game consoles, which include the *Xbox* by Microsoft and *Playstation* by Sony, promotes a particular

form of digital rights management technology designed to ensure monopolistic control for producers of content for their proprietary technology. This technological DRM solution supplements and supports the owners' control of copyright material where legal sanctions have proven to be ineffective or unenforceable for games developed on open systems such as personal computers. Where DRM solutions fail and players can by-pass exclusivity protection measures to control access to digital property, piracy can ensue.

The economic environment for video games is characterized by large, up front development costs, low reproduction and distribution costs, non-rivalry of consumption and difficulty controlling access to digital content (Biagioli et al., 2011). As a result, the video game industry has a strong incentive to maximize its audience while at the same time taking measures to ensure that only those consumers who pay are entitled to play. These media characteristics have helped to organize the video game industry and influence its capacity for innovation. In an attempt to maximize the sales of individual titles, publishers have attempted to structure video game audiences; and developers have attempted to structure their products.

2.7 Conclusion

Four important conditions affecting the innovation regime for console games were identified and discussed. First, the console industry established a dominant design for console technology. Although the technology has improved, the configuration of the game console has not changed substantially. The second condition, also related to the first is game consoles are proprietary closed format systems. The evolution of game consoles and the games that can be produced for them are controlled an managed by the manufacturers that create them. Thirdly, the revenue model for console games is particular to the industry whereby console game

manufacturers have sold the console hardware at a loss to promote the sale of third party

software for which the console manufacturer can charge a licensing fee. Finally, the economics

of game media were discussed. The relatively high cost of development and low cost of

reproduction and distribution are important factors in the commercialization of game software.

These are four important factors affecting the climate for industry innovation and establishing

the risk-reward relationship for the stakeholders in the industry. In the next chapter, I place these

factors in a wider context, that of the interaction of different collective actors within the industry.

Chapter 3 A Model of Console Innovation Processes

3.1 Introduction

Console video games have changed considerably in terms of their form, design and technology since their first commercial appearances in the 1970s. Over those past four decades, not only have the games dramatically evolved in their scope and complexity, but so has the game industry. The practices of today's video game industry stand in stark contrast to the often ad hoc processes of video game production in the 1970s and 1980s (Newman, 2004). Key among these changes has been the emergence of increasingly formalized, managed development processes. James Newman (2004) describes the evolution of industry structures tackling the problems of complex projects, increasingly sophisticated technology, "fenced-in" areas of specialization and responsibility, large development teams, and the dominance of financiers and publishers as "leading to a situation in which the contemporary marketplace is largely bereft of the creativity associated with the heyday of development and is flooding (the market) with derivative products designed to safely generate (positive) reviews" (Newman, 2004, 30). This has become a popular perspective that is often shared among game critics (Kent, 2001; Laurel 2001; Nichols, 2014).

Yet there is a lack of systematic accounts of the console game industry processes that foster, or stifle, different types of innovation. This is surprising as Joseph Lampel (2005) asserts that the video game industry provides an excellent context for studying industrial competition and innovation. Video games are a highly visible industry that has been well documented over the past two decades; its growth and struggles, especially in recent years, have been extensively followed in the mainstream media. The industry has undergone several distinct generations of

highly publicized competition, permitting the opportunity to identify critical factors influencing it (Lampel, 2005).

There are studies that focus on video game innovation on the studio level (e.g. Cohendet & Simon, 2005; DeFillippi, Gernot & Candace, 2007). These examine how ideas are produced, travel through and are ultimately implemented in the hierarchical structure of large game development studios. Similarly Cornelia Storz, Federico Riboldazzi & Moritz John (2014) examined the relationship between inter-firm and inter-functional labour mobility and innovation in the video game industry of Japan and the U.S.. While useful for understanding the genesis of new ideas, they frame the process of innovation around the constraints of the studio, groups and individuals. There are also accounts which situate video game innovation, or the lack thereof, in the macro-scale evolution of changing capitalist "regimes of accumulation" (Kline, et al, 2003) or the emergence of an information society. But despite the perceptive observations of several video game scholars already cited (Newman 2004; Kerr 2006) there is no systematic industry-scale account of the factors that encourage or repress innovations in various aspects of contemporary console gaming. In this chapter, I will outline the basic structure of such a model.

3.2 Functional Innovation in the Console Game Industry

The model of console game innovation I propose derives from Hippel's (1988) theory of the functional sources of innovation, which was briefly discussed in Chapter 1. Hippel suggested that innovation can be sourced through one of three groups in an industrial context: users, manufacturers or suppliers. Individual actors within networks of industrial production and consumption generally focus on specific aspects of innovation. Innovation is most likely to occur in domains where actors have either the most control over the innovation or will most

directly benefit from the success of the innovation (Hippel, 1988). Most interestingly for the study of innovation in the video game industry, he demonstrated that sources of innovation can move from one group to another within a firm or industry, when changes to the production and economic environments are experienced.

In the video game industry, there are three main groups of participants, referred to as "stakeholders," that have significant capacity to introduce and affect innovation. They are the (1) developers, (2) the players, and (3) the publishers. These groups represent people who are within the cycle of production, exploitation, and consumption in the video game industry. Collaboration between these distinct groups is essential for the functioning of the industry.

The first group of actors in the game industry is the **game developers**. This group includes the heterogeneous assembly of skilled labour that creates the games. Game developers encompass a wide variety of professions necessary in the game development process but are typically divided into three functional areas: designers, digital artists, and programmers. These are further broken down into specializations such as animators, concept artists, quality assurance testers, and game play programmers. This division of labour emphasizes the highly structured and specialized processes required in console game development. Developers have control over the execution and day to day administration of the game creation process.

There are several motivations that affect game developers. Digital media professionals generally seek work as game developers as they feel this is a medium which offers the potential for their creativity. When working on large console games, the exposure of their work to large gaming audiences is a significant attraction among video game professionals (Caves, 2000). The recognition for their creative contribution in large team settings and being a part of big game

projects are also tremendous attractions for young people to work in the industry (Livermore, 2013).

The **game publishers** are the second group in the video game production cycle. In the console game industry, game publishers exclusively consist of large multinational companies. The top 10 publishers in 2012 are shown in the Table below.

Table 3 Top Console Game Publishers 2012

Publisher	Country	Notable Franchises
Sony Computer Entertainment	Japan	God of War, Uncharted
Microsoft Game Studios	United States	Halo, Forza
Nintendo	Japan	Zelda, Mario, Donkey Kong
Sega	Japan	House of the Dead, Sonic
Activision Blizzard	United States	Warcraft, Call of Duty
Bandai Namco	Japan	Ace Combat, Tekken
Electronic Arts	United States	Medal of Honor, Mass Effect
Konami	Japan	Metal Gear, Silent Hill
Ubisoft	France	Assassin's Creed, Far Cry
Square Enix	Japan	Tomb Raider, Hitman

Source: Zaib, 2013

Console game publishers are oligopolistic. In 2012, 90% of all retail console sales were produced by one of the publishers listed in the Table above (Zaib, 2013). The game publisher serves several roles. Possibly the most important is to mitigate the risk of large budget video game production by spreading the risk over many different games. Console game development, as previously noted, typically requires several years and millions of dollars of development and production expenses. As a result of these high costs and long development times, game production is both a labour and capital intensive activity. In general, publishers are oriented towards promoting the stability of the industry while growing their companies and generating profit during the long and expensive development process.

The **players** are the third group in the network. In 2012, 58% of all Americans played video games, demonstrating the wide appeal of this medium. Fifty-one percent of all U.S. households owned a dedicated game console (ESA, 2012). During the years 2001-2013, more than a quarter billion video game consoles were sold from the three dominant console manufacturers (Sony, Microsoft and Nintendo). The average console owner purchases five to six new games each year (ESA, 2012). There is one segment of video game players of particular importance to the functioning of the console game industry. This group is known as the "hardcore gamers" and shall be further discussed in Chapter 5.

Innovation matters to all three groups of stakeholders, but often their priorities and goals differ. Because innovation has a tendency to be interpreted differently among various industry stakeholders, it is important to examine the unique perspective and pressures each has in the production and consumption of console games. Related terms such as 'growth', 'diversity', 'change', and 'creativity' also have the potential to be understood and valued differently by

different industry stakeholders. Developers may focus on finding and implementing new **ideas.**
Publishers, driven by productivity and profitability, may be more interested in developing
methods to drive production efficiencies. Players are likely to focus on **product** innovation as
that is the part of the industry that is most visible to them. In some instances, the innovation
goals for developers, publishers, and players are aligned. However, in others, innovation
objectives do not correspond, which creates friction among the stakeholders.

3.3 The Innovation Cycle

To better understand how each of the three stakeholders influence innovation, and to
more clearly expose the "functional" differentiation of their activities, innovation can be
conceived as cyclical process of game creation, commercialization, and adoption as shown in
Figure 3. With some terminological adjustment, this model approximately corresponds to
Schumpeter's (1947) original formulation of (1) invention, (2) innovation and (3) diffusion.

Figure 3 Innovation Cycle for the Console Game Industry (Activities Only)
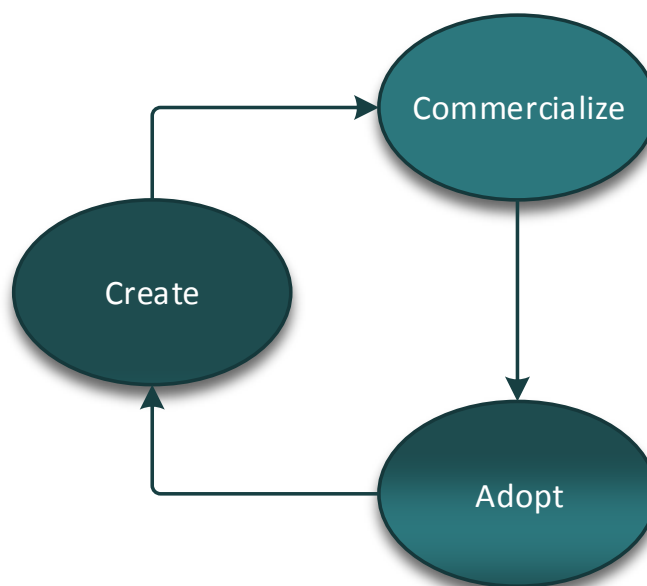
This is a useful representation for studying innovation as it isolates the three main phases of new product development. These can then be associated with each of the three stakeholders (creation-developer, commercialization-publisher, and adoption-player).

If the concept of the innovation cycle is combined with our delineation of three main functional sources of innovation in console gaming, the result is our innovation model for the video game industry, as shown in Figure 4.

Figure 4 Cycle of Innovation in the Video game Industry
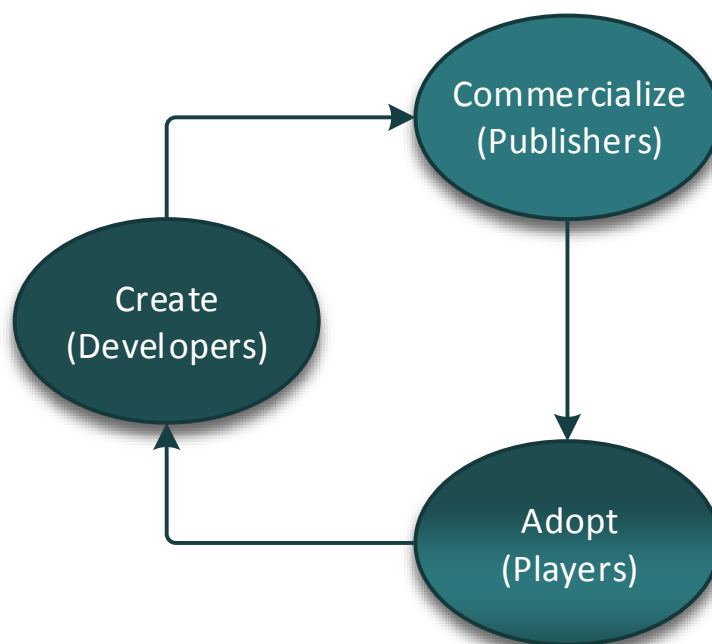
The cycle is temporal, beginning at the genesis of a new game and proceeding through its development. Once development has finished, the game is passed on to the publisher who commercializes it, typically with the aid of a variety of distribution and marketing strategies. Finally, the game is purchased (adopted) by the players who consume it and create new demand for more content. Then the development of new games begins and the cycle continues. The

collaboration and communication among each of these three groups as new game titles pass through each of these three stages of the video game lifecycle informs new priorities for innovation as new generations of game software are produced.

The product of this cycle is the video game and game production has to be carefully managed if the cycle is to balance the needs and benefits of all the stakeholders. However, equilibrium in this circular cycle required for the stability of the industry is elusive. The cycle can be easily disrupted at each stage by each stakeholder. Although there are interactions between the stakeholders, the game typically begins its lifecycle in the development phase in the hands of the game developer. Once this is complete, the game is handed over to the publisher who takes control to market, promote, and sell the game. If successful, finally the players adopt it. As the game moves through this cycle, each stakeholder group will seek to maximize their own objectives (Some of these objectives have been enumerated below in Table 4). The pursuit of these advantages by individual stakeholders does not always favour stability in the industry or an environment for innovation.

Table 4 Factors Affecting Innovation in the Video Game Industry

Operation	Actor Responsible	Objectives affecting Innovation
Innovation Created	Developer	-ability to harness personal creativity -work in a creative environment -fair remuneration (salary and benefits) -talent recognized
Innovation Commercialized	Publisher	-maximizing economies of scale -profitability -intellectual property management -production and distribution efficiency -brand management
Innovation Adopted	Player	-perceived value -perceived fun and entertainment -ability to play games with other players

Each group has an important stake in the overall functioning of the console game industry; however, each group operates relatively autonomously, interacting with the other groups via mediated and indirect channels. When game projects fail to successfully cycle through this innovation model, the continuity of the process is compromised, creating hardship for some or all stakeholders. Innovation administered improperly can have undesired consequences. Too much change, too fast, can have a tendency to destabilize industries and put off customers who are not ready for change or prefer the status quo. When the process is working properly, the pace, level and extent of innovation is synchronized with the industry's ability to manage and produce the game and the consumers' desire to adopt it in a sustainable cycle.

For an example of how the elements in this model interact, look at the way it operates in what is now the dominant mode of console game production and consumption, which shall be

referred to as the "franchise" model. For some game players, innovation is often associated with larger, more complex games in terms of scope and budget. This consumer expectation of these bigger games is consistent with the trend established in the industry by publishers. As the game industry grows and sales increase, it attracts more investment and along with incremental upgrades to console hardware, games then become larger in scale and complexity. Innovation is often associated with improvements in graphic fidelity and in the simulation of the physical world as the industry builds upon (financially) proven features, ideas and processes of previous games. Graphically, such a cycle would be represented as shown in Figure 5. This cycle would explain the escalating development budgets among financially successful console game franchises during the past twenty years. As the development budgets and unit sales for the top tier console games have steadily increased, it is not uncommon for new titles to cost hundreds of millions of dollars to develop and market in 2013 (Funk, 2009; Karmali, 2014). This virtuous cycle appears to be in full force as the console game industry has yet to encounter the point of diminishing marginal returns for investment in its most popular franchises. The rise in popularity of successful franchises of the six and seventh console generation that have, in turn influenced players' expectations who look forward to new installments of their favorite games.

Figure 5 Game Franchise Model
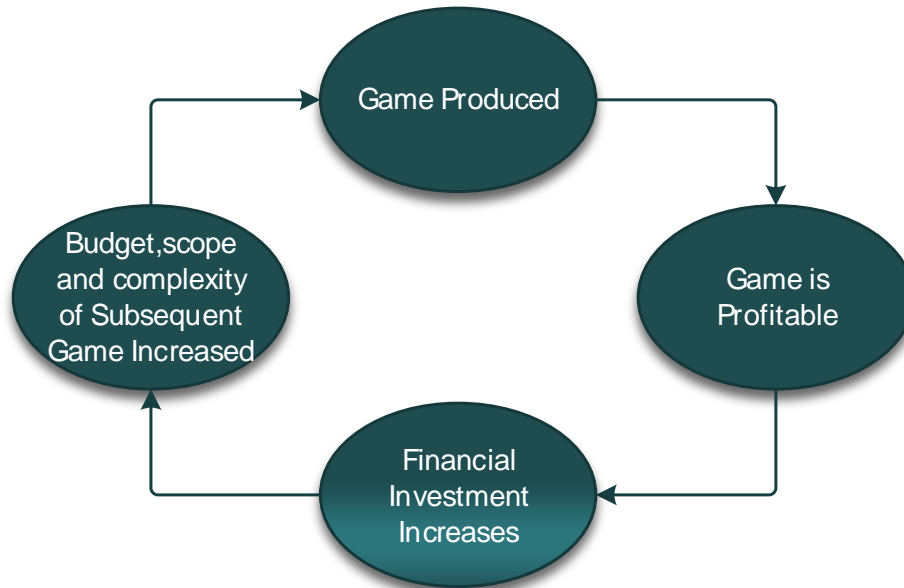
However, it is important to point out that this perspective on innovation as geared towards bigger, more expensive, more graphically realistic and spectacular games is not necessarily shared among all stakeholders and may also exclude or suppress other forms of innovation.

This innovation model was proposed by identifying a triad of actors who appear to benefit from the level of innovation in console industry (Hippel, 1988). Each group is responsible for a discrete phase of the innovation process: respectively, the creation, commercialization and adoption. In establishing these categories, it is important to recognize that each group of industry stakeholders is not homogeneous. They all create, market, and consume games for a variety of diverse reasons and in many different ways. Likewise the forces that drive each group to innovate or to step back from innovation have the potential to be equally varied. However, these generalizations about the dominant industrial forces will help to clarify how creative tensions in the console industry are resolve or result in insoluble frustrations.

Figure 6 Innovation Cycle: Stakeholder, Activity, Dominant Factor Affecting Innovation
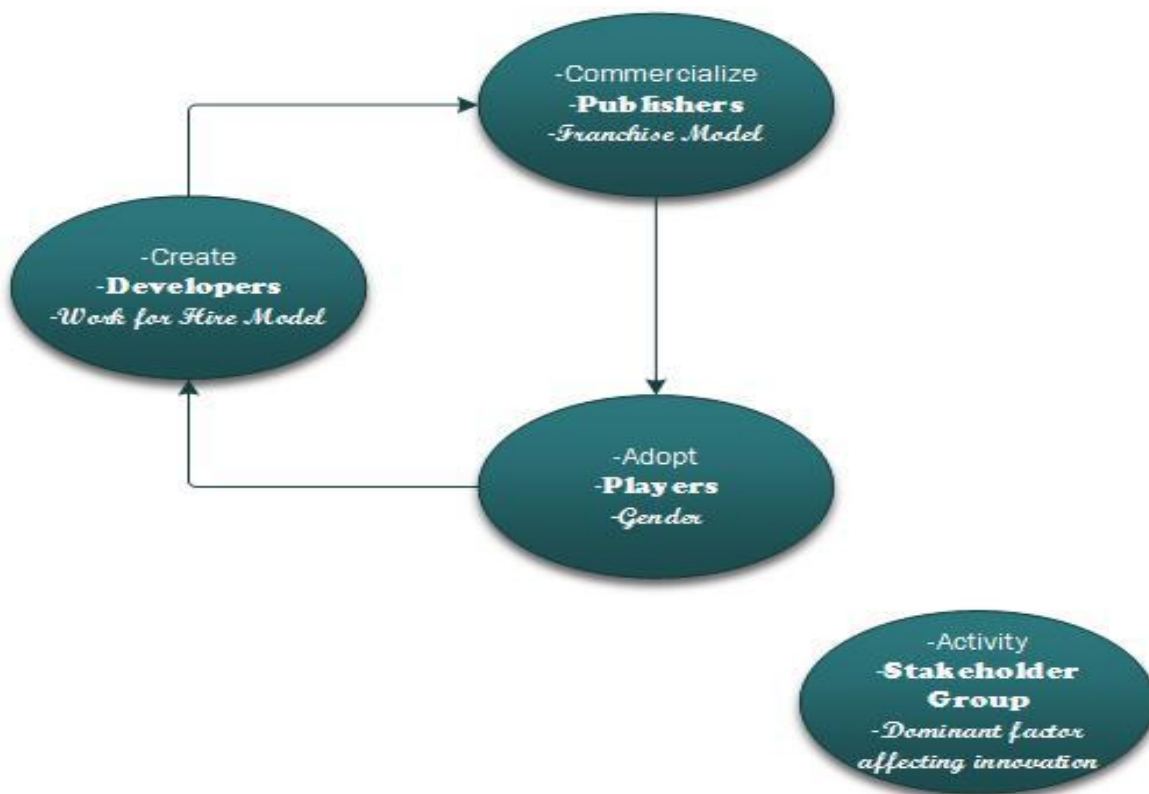
The innovation model showing the stakeholder, activity and dominant factor affecting

innovation is shown in Figure 6. The model is effective in describing a regime of managed

innovation with regard to the creation of new games when the publisher (a) has ownership of the

distribution channels, (b) control over capital and financing (c) effective global marketing

capabilities and (d) enforced legal and technological barriers such as hardware standardization

and intellectual property protection all to effectively structure the console game industry.

Conversely, the model describes a regime where there is less resistance to innovation where

there is (a) discontent among players, (b) alienation of game developers (c) the inability of the

publisher to predict or create (marketing) demand for its games and/or (d) the weakening of

barriers to global distribution channels. In these instances, both players and game developers become motivated to contest the publishers' control over the creation of new game content.

In the next three chapters, the aspects that motivate each group to strive for innovation will be reviewed in more detail along with the factors and industry practices that have come to dominate the preoccupation of each industry group. For each group, one principle factor has been identified. For game developers, it is the *work made for hire model* (hereafter referred to as work for hire) of game development. For publishers, the dominant *commercialization practices* during the past decade (the franchise model) will be discussed. Finally, there is a review how the effects of the console game's gendered past continues to influence *hardcore gamer* expectations resulting in the domination of games focused on war, violence, and sports themes.

Chapter 4 The Video Game Developer

4.1 Introduction

Video game developers work at an apparently enviable cross-road in today's digital industry, balancing technology and creativity to produce interactive entertainment. Nick Dyer-Witheford & Zena Sharman (2005) describe game development as the wellspring of the game industry. Game developers are the source of new material in the game industry providing a constant supply of new games essential to sustain the industrial cycle of production and consumption. Making large budget, blockbuster console games is often considered the ideal job for young people who have spent their early years growing up playing such games and see the industry's potential from years of experience (O'Donnell, 2014).

However, from a creative perspective, the environment for commercial game development can be frustrating for game developers. The flexibility required to unleash developers' talent immediately comes under pressure from the strain of the expensive and time consuming console development process. The cycle of production and consumption has become a highly coordinated operation, with game development fully integrated into marketing, distribution and sales planning. The first part of the innovation process is to create the innovation by the developer. Subsequently the publisher distributes the innovation and the players can chose to adopt it. The co-mingling of the marketing function while the game remains in the hands of the developers creates pressure for developers to produce their games on time and on budget. The business of making large budget console games influences every aspect of game production. It is an entirely commercial practice carried out with large development teams and structured development formulae. In these large teams, only a few game developers

have the creative freedom to decide what games they are going to produce or how they are going to make them.

In this chapter, I examine the factors shaping, and often constraining innovation by video game developers, beginning with the pervasive 'work-for-hire' relation between publishers and developers. The 'game studio' model of development shall be outlined and I shall examine the frequent labour tensions that emerge within it; tensions that often directly involve limitations on the innovative capacity of video game development workers. We then go on to look at how the powerful tendencies towards standardization and repetition of console game content are implanted within the very technologies used by game development studios and conclude with a summary overview of the way innovation is directed, and, perhaps too often, stifled by the work for hire model of game development.

Digital interactive entertainment is a relatively new industry as compared to the framework of legal protection which exists in the United States designed to foster the development of new intellectual property. As discussed, the video game industry is a sector that operates on cycles of product development where new advances in computer hardware enable designers to create new software. This process, in turn, creates consumer demand and expectation for more powerful hardware. Each time this cycle iterates, the (financial) stakes have become greater as does the need for legal recognition and protection of the investment required to produce new content. The investment required in human labour necessary to realize increasingly larger game development projects is considerable. These games require hundreds of specialized, creative designers and years to develop for a single title (Wolfe, 2005; Greenspan,

2013). The development of such titles proceed in a context where unambiguous legal rights for control of this investment govern the commercial exploitation of the game project.

With little fixed collateral for capital intensive games, developers often find that their video game projects are rarely financeable using traditional methods, such as bank loans or debt financing (Johns, 2006). As a result, financial aid and investment for much of the North American video game development has come from publishers, who, in exchange for financing, distributing and marketing a developer's video game will typically also take assignment of the intellectual property (copyright and trademarks) of the content that is being developed (Johns, 2006). The work for hire agreement between the video game publisher and the developer consummates this relationship enabling a large development project to be undertaken.

The "work for hire" agreement is the predominant legal arrangement between video game developers and game publishers for the creation of new video games (Johns, 2006). The doctrine of work for hire was created as an exemption to the regular legal rights and protection afforded to creators of intellectual property. In Canada and the United States, according to the provisions of work for hire, if an otherwise copyrightable work is created by a salaried employee, the employer, and not the employee, is considered the legal owner of that property. In this case, protection is created to ensure that all of the formal and informal benefits of creating an original work flow directly to employers of creative labour rather than directly to the originators of the innovation (Heller, 2008).

In the video game industry, the employer/employee relationship extends to include not only people but also corporate entities such as game development studios when they enter into such agreements for the production of a new game. To begin the process of making a console

game, video game development studios must enter into work for hire agreements with video game publishers who finance, market and distribute their work (the video game). In typical work for hire agreements, video game development studios often work as agents for their publishing partners in which the ownership of the intellectual property created is immediately assigned by the publisher (Johns, 2006). This arrangement exists because the costs of both creating and exploiting a video game property force developers to collaborate with publishers. In exchange for relinquishing ownership of their video game development work, game developers receive financing, publishing, and distribution services for the game. The publisher takes on all the responsibility for the costs of commercializing the video game which typically includes legal, distribution, marketing, development, and packaging expenses.

This subordinate arrangement in which the originators of creative material, either as employees to a development company or as contracted video game companies to publishers, alienates creative individuals from the ownership of their work. In the first place, this alienation encompasses the legal rights of ownership. Video game developers are typically excluded from owning their work. It also impacts workers' disposition towards their work. This fosters a strained relationship between video game labour and publishers where publishers are in a more powerful position, not only being able to dictate the financial terms, such as timelines of payments based on milestones of new development projects, but they are also empowered to dictate creative terms to developers such as characters, stories, themes, setting and game features. It is this relationship of creative control, in part enabled by the work for hire provisions of copyright legislation, that has had a tendency to undermine the creative control of game developers. The intellectual property ownership structure has led to a control regime where the

owners of intellectual property are not the creators and where the content creators are often

disempowered and marginalized from the creative process.

4.2 Who are the Game Developers?

Digital media professionals are a part of a relatively new class of workers valued for their

creativity. Urban studies theorist Richard Florida (2003) has traced the growth of the creative

class and estimates it now composes approximately one-third of the total American workforce.

Video game professionals are a part of this new class of technology workers leading the growth

in today's economy. Sixth and seventh generation console systems require teams of game

development professionals specializing in many disciplines including programming, sound

engineering, digital art, production management, animation, design, sound engineering, music

composition, and quality assurance. As games have become more technologically complex and

larger in scope, a more highly skilled and specialized staff is required to produce them.

Most game developers have post-secondary education, with many jobs and tasks

requiring university level education (ESA, 2013; Edwards, Weststar, Meloni, Pearce & Legault,

2014). Owen Livermore, in his doctoral thesis, provides a comprehensive review of the new

Canadian university programs that have recently been established to teach the highly specialized

skills required in the game industry. He emphasizes the growing demand for skilled labour

specializing in digital media production in Canada and the relationships forged between

government, educational institutions and the game industry to fill the gap. Training the special

and diverse skill sets for entry into the video game industry has proven to be very challenging in

recent years. Livermore argues that the rapidly changing digital media landscape and more

generally, the speed of digital capital, put pressure on the legitimacy of these new post secondary

educational programs as they try to keep up with new trends and requirements of game development (Livermore, 2013). Such conditions of change and uncertainty in the academic environment resemble those of the industry new graduates can expect to enter.

Geographically, game development in North America tends to be organized around hubs or clusters typically located in large metropolitan centers. Unlike many other industries, video game development does not have to be situated close to physical or natural resources or close to distribution centers. However, much of the video game industry in North America has grown around long established geographic clusters. Most development studios are located geographically, with hubs centered in large metropolitan areas such as San Francisco, Los Angeles, Seattle, Austin, Vancouver, and Montreal. Proximity to skilled and experienced labour has been a major factor in attracting game development to these areas (Towse & Handke, 2013). Tax and business incentives by state and provincial governments have also been a factor in establishing the game development hubs in some of these North American cities (Livermore, 2013).

4.2.1 Organization of Game Development Labour

Stephen Kline, Nick Dyer-Witheford, & Greig de Peuter, (2003) describe game development as a very complex system with a bewildering set of arrangements and considerable diversity in the scale and organization of companies. Game developers typically organize their workforce in what the industry refers to as "game studios". Because of the scale of the industry, no one company has the resources to monopolize software development. These studios, as discrete business units, fall into one of three categories. The first group is known as "first party" game studios and refers to project development teams owned and operated by one of the large

console manufacturers. In recent console generations, this small group of manufacturers includes Sony, Microsoft and Nintendo. Each manufacturer owns and operates its own stable of development studios that produce games exclusively for their parent company's console platform. For example, Microsoft owns several studios that make games exclusively for their *Xbox* platform including *343 Studios*, *Lionhead Studios*, *Microsoft Game Studios*, *and Black Tusk Studios*. Similarly, Sony owns and operates *Naughty Dog Studios*, *Santa Monica Studios*, *Guerrilla Games* and *Media Molecule*, all of which develop games exclusively for the *Playstation* platform.

The second tier of game developers are those studios owned by large publishing companies. As video games increased in popularity, publishers sought to expand by vertically integrating game development capabilities into their core business functions. For example, Electronic Arts presides over a large group of game development studios including *Bioware*, *Digital Illusions*, *Criterion Games* and *Maxis*. Similarly, the other North American based publishers such as Take2Interactive and Activision also own and operate a number of game studios often located in different cities. These publisher-owned development studios may have been started or seeded by the publishers, but often they were formerly independent studios which were acquired by the publishers. Strategically, independent studios were purchased by publishers to gain access to their expertise or because they had developed a hit game that the publishers wanted to acquire (Thorsen, 2007). The publishers' strategy of vertical integration was predominant during the sixth and seventh console generation where the trend was to increase publishers' in-house game development resources.

The final category of game developers is the third party game developer. This category refers to independent developers who are not owned or operated by any of the publishers or console manufacturers. These studios may be owned by their founders, or may have been started by investors, but their defining characteristic is their arms length relationship with the publishers that they partner with to finance, distribute and market their games. Independent console developers operate typically as medium to large size businesses (Dyer-Witheford & Sharman, 2005), with staffing levels of 50-200. Staffing at these levels is required due to the scale and scope of console development. Dyer-Witheford & Sharman also identified micro (2-10 staff) and small (10-50 staff) game developers in their survey of the Canadian game development industry, but suggested that they primarily worked on mobile and portable games. They attribute escalating production costs as having driven many small and medium development companies away from console development in the sixth console generation.

From an innovation and content diversity perspective, it is important to identify the role of each of these three categories of game developers. By virtue of their relationship to the other actors in the network (players and publishers), first party, publisher-owned (also referred to as second party developers) and third party developers have varying degrees of freedom for creativity and flexibility over the games they can produce. First party game developers have a strategic importance to their parent companies. They often have special mandates for their games. Unlike publisher-owned and third party studios, developers owned by the console manufacturers, Microsoft, Nintendo, and Sony have a dual mission. Their goal is not only to design games that will maximize the sale of their software but also to produce games that can help sell the hardware. Each of the three console manufacturers compete with each other to sell the most devices and have the most players buying and playing games on their console brands.

The competition between Microsoft, Sony and Nintendo to win the hardware war by selling the most consoles to prompt software sales in the sixth and seventh console generations was fierce (Sayre & King, 2010).

Especially at the beginning of each new generation, the launch of a new console requires compelling new content to help consumers justify the purchase or upgrade of new consoles or to switch from one console brand to another. Games produced by first party studios specifically designed for their target platform are not available on any other. One of the main objectives of these games is to highlight the technological strengths and features of the platform to help advance and promote the platform brand and sell more consoles. Such games tend to be high profile, marquee titles designed to draw attention to the technological potential of the consoles for which they are produced. The blockbuster titles exclusive to each console are often updated, renewed and re-released over multiple console generations due to the strong branding efforts invested by the console manufacturers in both game franchise and its association with the console hardware.

Over the course of the past few console cycles, some of these perennial brands start to become recognized as cultural icons, often with a strong association to their parent console brand. Familiar examples are *Halo* (Microsoft), the *Mario* and *Zelda* franchises (Nintendo), and *Uncharted* (Sony). For these first party games in this special class, the profit optimization function for the individual title may be traded off against the opportunities for promotion of the platform. The overall profitability of the game may become of secondary importance to the opportunity to develop the synergies of co-branding the title with the hardware platform. In the six and seventh console generations, blockbusters franchises such as *Halo* for the *Xbox* and

Uncharted for *Playstation* were produced with significantly higher production values than average console games (Bonthys, 2012; Leone, 2012). To further enhance marketing synergies, these titles were often "bundled" with the sale of the console unit in an attempt to promote the platform. In the case of these two examples, the additional production efforts were focused towards graphic fidelity, improved animation, and simulated game physics that pushed the limits of the console hardware. First party titles help raise the bar, setting new technical standards and consumer expectations which affected all subsequent game development (Gallagher & Park, 2002). As a result, innovation for first party developer titles was often focused on bigger budgets and highlighting the technological attributes of the consoles.

Second party game developers neither enjoy the benefits nor suffer the distractions of splitting their focus between these two competing objectives. Their games are produced with the purpose of maximizing the game's sales and profit and if successful, prompting the production of sequels. They embraced several strategies that differ from first party titles to meet these objectives. To achieve development efficiencies, publisher-owned developers are incentivized to produce multi-platform games to maximize sales of a single title. These games are developed concurrently for two or more console platforms. Such games are also referred to as cross-platform games. As the North American publishers generally do not have any allegiances to one console brand or another, it is usually economical, when producing a game, to produce it for multiple platforms at the same time. In doing so, these games can reach more players on different consoles.

Secondly, it has become a common practice for publisher-developers to create their console games through collaboration among several of their internal studios. Activision, for

example has used multiple internal studios to develop some of its most recent installments of the *Call of Duty* titles (Fritz, 2011). In such cases, a lead studio is responsible for setting and administering the creative direction of the game, while the remaining studios are outsourced the more mundane tasks of creating additional art, animation, or other parts of the game that can be easily subcontracted (Bernstein, 2014). According to the 2009 study by Game Developer Research (2009), 86% of 200 game studios surveyed outsourced some aspect of the game development process in 2007 and 2008 and more than half of the 14% did not outsource, planned on starting within the next year.

Third party developers are not subject to the same ownership structure by the large game publishers as first and second party developers. Although their defining quality is their independence from publisher ownership, they are still required to collaborate with publishers for a number of reasons. This degree of separation from publisher control affords third party game developers additional opportunities to develop their game concepts independently from the oversight of publisher direction. However, the large scope and development time necessary to make console games has required independent developers to seek funding from publishers as other traditional forms of financing such loans and investor financing are not readily available to the smaller game development firms. To obtain the support of publisher funding for developers' games, publishers must ultimately buy in to the third party developers' game concept before production can begin (Johns, 2006). The developer-publisher partnership is crystallized by way of a formal partnership which may be a publishing agreement, a development agreement, licensing agreement or distribution agreement. Publishers provide third party game developers with financing, marketing, and distribution services and their development expertise for their games. In exchange for these services, the publisher gains a significant amount of control and

influence over the creative work of independent game developers. The work for hire

arrangement has been a common development agreement between third party console studios

and publishers for sixth and seventh generation console games (Greenspan, 2013) providing

publishers with the authority over third party development projects as they would exercise

normally exercise over their own first or second party developers.

4.3 Creative Labour and Innovation

In their study of video game developers, Patrick Cohendet & Laurent Simon (2007) argue

that creativity is harnessed when "communities of specialists" are brought together in an

environment that values and nurtures creative potential superimposed on a management matrix

focused on time and budget constraints. To resolve the paradox of managing creativity, informal

management practices and "creative slacks" were introduced to ease the pressure of the demands

of the global marketplace.

A key tension in the development of video games is that:

...on organizational grounds, the management of complex video games
projects is the result of a delicate balance between, on the one side an
artistic mode relying on flexible and decentralized expertise held by
distinct creative communities of specialists, and on the other side a strict
managerial attitude looking for the advantages of tight integration of these
activities within cost and market constraints.
                                        (Cohendet & Simon, 2007, 591)

The Cohendet & Simon study provides a thoughtful perspective on how teams collaborate in the

video game development process. It is oriented on creativity within the game studio focusing on

the organization of game development professionals and how enhanced communication and

management techniques can help foster innovation. Their conclusion affirms a reoccurring

theme in cultural and knowledge industries, namely that managing creativity and innovation poses fundamental challenges of reconciling the diverging goals of commerce and art. The creative forces in game development focus on achieving their defined standards of creative excellence while the administrative forces focus on achieving defined objectives for cost and development time (DeFillippi et al., 2007).

Ursula Huws (2003; 2006) asserts that creative labour finds itself in an extraordinarily ambiguous situation in the global economy. New ideas are required or the whole system would stop functioning and the expansionary logic of the capitalist economy would collapse. However, the commodification of creative work threatens its capacity for innovation and creates the conditions for alienating these workers. She emphasizes that there are two emerging consequences which affect the situation of creative workers.

By participating in the coding and commodification of labour practices, creative workers are contributing to their own dispensability. By sharing their knowledge, they are cheapening it, and rendering themselves more easily replaceable. Secondly, the very process of codifying their knowledge contributes to a change in the quality of their work. As soon as it is embodied in standardized protocols, specified quality standards, and performance indicators, the work starts to lose its spontaneity and the workers their autonomy (Huws, 2007). The qualities that attracted the creative workers to their vocations tend to disappear as they are submitted to following standardized routines in all aspects of their work. Jobs in digital media are especially susceptible to codification as work flow is regulated and recorded through computer networks resulting in an increase of emphasis on standardization (Castells, 2000).

Randy Nichols (2014) points out that one of the distinguishing factors for employees in the game industry relative to other creative industries is the absence of unionization. This situation differs from the music and film industries where much of the labour force is unionized. Having a sizeable minority of technical workers and computer programmers, the game industry appears to have followed the trends set by the software industry where labour unions are uncommon. Laurie Milton (2003), in her study of the propensity of high-tech workers to unionize, reported that technology workers often described themselves as "self-sufficient, creative, independent thinkers" (40). These identity characteristics, common among high-tech workers, Milton suggested, have caused them view the prospect of unionization negatively. In their study of collective representation for video game developers, Marie-Josee Legault and Johanna Weststar (2010) conclude that although game developers are not powerless as a result of the demand for their specialized skills, the scope of game developers' actions remains, nonetheless restricted by the structure of the industry. This fosters an environment where workers are required to produce outcomes rather than processes and where the risks of completing their projects on time and on budget have effectively been downloaded from management to development staff.

At the studio level relative to the publishers, third party development studios are also often in a weak negotiating position and are seldom able to capture the extra value of the products they create (Johns, 2006). Work in the video game industry has become increasingly precarious in the last two console generations. The onset of the global financial crisis in 2009 entrained a contraction of the North American video game labour force as evidenced by numerous layoffs and studio closures (Denison, 2011; Gaar, 2011; Schreier, 2014). The International Game Developer's Association (IGDA) reported that 25% of all developers in their

2014 survey had been laid off, either temporarily or permanently in the past two years (Weststar

& Legault, 2014). In the press release quoted below, a major publishing company announced

layoffs at one of its studios. In the short communication, the publisher acknowledged that a

layoff had occurred citing lack of need for those staff following the release of one of its most

recent games. The publisher indicates that "this is something that every major studio has to do,"

referring to the event as an "unfortunate" but conventional practice in the industry.

> "Yes it is true we've let 27 people go today, unfortunately it's something that
> every major studio has to do sometimes in order to ensure you have the right set
> up for current and future projects," a company representative said. "It's never a
> nice thing to do but we are genuinely trying to offer as much support as much as
> we can.
>
> <div align="right">(as cited in Sinclair, 2014a)</div>

This precarious position in which third party development studios find themselves

undermines their efforts to be assertive relative to their publisher counterparts when

proposing to stray from the status quo in their game design pitches to publishers.

Game developers' work is carried out within a context where the supply of console titles

for each of the game types and genre is managed by global publishers. Marketing and

commercialization prioritizes the coordination of rigid development schedules with release dates

so that publishers avoid cannibalization of the sales of high profile titles in an attempt to

maximize profitability. Such conditions emphasize the prescriptive nature of the demands

placed on game developers to produce creative work that can fit into marketing slots and

schedules.

This leads to two divergent perspectives on labour in the video game industry. On the

one hand, game development can be a hyper-creative industry where resourceful and imaginative

designers collaborate to create new and exciting interactive experiences (Jenkins, 2006). It is described as an environment where successful game makers can expect rich and fulfilling careers as respected design professionals. On the other hand the video game industry has also been characterized as an oppressive sector where creative workers are exploited as commodity labour under terrible working conditions with generally little or no creative impact on the products they are assigned (Wolf, 2008; Hesmondhalgh, 2009; O'Donnell, 2012). Central to our discussion about innovation is that video game laborers often seek jobs in the games industry because of its potential for innovative and creative work. When there is dissatisfaction among video game workers, this may, in part, be a result of the work they encounter being less creative than expected.

The highly-managed game development environment can be contrasted with accounts of the working conditions as they were first popularized in the console industry in the 1990s. Industry veterans described making early video games as an all consuming process undertaken by young people who worked around the clock (Dyer-Witheford & de Peuter, 2006). Accounts of early video game development describe it as a journey of exploration, fueled by passion to create something that has never been done before (Cook, 2006; Kerr, 2006). These expectations underpin current labour tensions in the video game industry. The work for hire format that has come to dominate the structural arrangements that govern the creation of content for game developers has contributed to these seemingly contradictory perspectives on game labour. The work for hire regime tends to alienate creative labour from their work product and is, in part, responsible for impairing the great potential that exists in the video game industry to capture and harness the attention, creativity and imagination of its labour.

4.3.1 Easter Eggs and Creative Freedom

Some developers have found ways to demonstrate resistance to the corporate control of their projects. In some instances these actions may be viewed as attempts to subvert corporate control and in other ways they are efforts to regain creative ownership and agency of their work. "Easter eggs" are a notorious example of this practice. "Easter eggs" are unauthorized, unofficial or undocumented features clandestinely put into a game by their designers. They can include secret hidden levels, items, or messages (Thompson, 2013). One of the first examples was incorporated in the early Atari game, *Adventure*, by the designer Warren Robinett. In the early console days, Atari did not give public credit to their game designers as they feared the loss of bargaining power dealing with designers they helped make famous (The Lazy Gamer, 2003). This form of corporate control prompted Robinett to place a small dot in one of the zones of his game, that when picked up by the player, would lead to a secret room in which he spelled his name in the background.

Unexpectedly, in the following years, the search for Easter eggs or other hidden messages in video games became a popular activity among players. Seeing the marketing potential for such content, designers were subsequently encouraged and directed to build Easter eggs into their game designs, where possible (Gouskos, 2005). As a result of the unplanned popularity of Easter eggs, one more avenue of creative freedom, designer agency and rebellion was subsequently appropriated by the growing corporate control in the game industry. However, as the industry grew in the years after Atari and production costs escalated, so too has the financial stakes of the problem of managing rogue or unwieldy developers which led to the "Hot Coffee" controversy in 2005.

Grand Theft Auto 3: San Andreas (GTA3) was one of the most popular and bestselling games of the sixth console generation. In the summer of 2005, the public became aware that the console version of the game had been released with a mini-game which became known as "Hot Coffee", in which the main character of the game could be directed to have sexual activity with a female non-player character (NPC). The game's publisher, Take2Interactive, claimed that Hot Coffee was an unauthorized modification (referred to in the industry as a "mod") created by hackers in the PC version of GTA3. However, the credibility of this claim was undermined when it was determined that the game code for mini-game had been included on the retail console disc. The Hot Coffee mini-game had been deliberately placed in the game by several of the developers at Rockstar Games, the development studio owned by Take2Interactive (Parkin, 2012).

The ensuing Hot Coffee scandal made headline news. GTA3 had previously been rated M (Mature) by the Entertainment Software Rating Board (ESRB) indicating that it conformed to the major retailers content requirements for distribution and sale in their stores. The discovery of the Hot Coffee mini-game prompted a re-rating from the ESRB to AO (Adult Only). As most North American retailers do not sell AO rated games, hundreds of thousands of unsold copies of GTA3 were removed from store shelves. The game was subsequently re-released with the Hot Coffee content removed. However, a class-action lawsuit was still filed by consumers against Take2Interactive, the publisher, for the illicit content contained in the game. The lawsuit was subsequently settled with Take2Interactive agreeing to refund part of the purchase price of the game or provide a new copy of GTA3 without the controversial Hot Coffee mini-game (Hatfield, 2007).

Hot Coffee had a wider effect on the industry itself. It fueled calls for increased federal monitoring of the video game industry in the United States. In November of 2005, Hillary Clinton and Joe Lieberman introduced the Family Entertainment Protection Act (FEPA) which proposed fines of up to $5,000 for the offense of selling a Mature or Adult Only rated video game to a minor (Ruschmann, 2010). Ironically, the unauthorized activities of a few game designers had led to a situation where the discretion enjoyed by the large North American companies to carry on the business of publishing and distributing games was now facing government regulation and oversight. However, government lobbying and popular outcry from players eventually prevented this situation from happening (Proffitt & Susca, 2011). The FEPA bill was never adopted and it eventually expired before it could be voted into law. These two examples of Easter Eggs illustrate the tension between game designers, government regulators and the corporate imperatives that influence creative freedom. Easter Eggs, once an innovative game device and avenue of creative agency by developers still exists decades later, now as a well-used, closely monitored, and near-obligatory practice in the publishers' arsenal of successfully-proven console game features.

4.3.2 EA Spouse: Labour Unrest

Another notable incident among game developers that became known as EA Spouse exemplified both the unrest among console game developers and their capacity to mobilize. During the sixth and seventh console generations, labour conflict in the game industry began to garner headlines in the mainstream media. The spats of legal proceeding began to hint at the discrepancy between what game workers expected from their employers and what their employers (publishers) expected from them. The case of EA Spouse and Electronic Arts, one of

the largest global producers/publishers of video games, emphasizes how these tensions were expressed and managed in this large commercial enterprise and presented a serious challenge to the work-as-play ethos that has been presented as a part of the mythology of game development labour (Witheford & de Peuter, 2006).

There was much anticipation for the introduction of the seventh console generation beginning in 2005. The video game industry continued to grow each year by double digits responding to the new development capabilities afforded to it by new generations of consoles and receptive customers. In the midst of all this optimism and opportunity, a seemingly innocuous letter emerged in the summer of 2004 on an on-line blog concerning Electronic Arts' employment policies and its general disregard for the well-being of its video game development staff. Signed anonymously by a woman who identified herself as EA Spouse, the fiancé of a programmer at Electronic Arts, the letter enumerated a series of complaints against the large publishing company.

EA Spouse accused Electronic Arts of forcing its staff to work inhuman hours, including weekends and holidays, driving them to the point of physical and mental collapse. The letter also described the routine work undertaken by staff working new installments to their Madden (football) franchise where work had become completely devoid of the innovation and creativity which they understood to be a part of their jobs[2]. EA Spouse also accused Electronic Arts of deliberately planning projects where staff would be forced to work this excessive overtime

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[2] The blog posted by EA Spouse (along with numerous reader comments noted above), who was later identified as Erin Hoffman, can be viewed on-line at http://ea-spouse.livejournal.com/274.html.[accessed Feb, 10, 2015]

which, ultimately, they would not get paid for. The letter concluded by inferring that EA had

betrayed its promise of providing interesting and creative opportunities to its staff. In exchange

EA developers were saddled with mundane and routine work and impossible deadlines. The

message to staff was that the company's bottom line was more important than either the quality

of its products or the well-being of its development staff. It portrayed a company that did not

care about its workers' welfare, nor did it value their creativity.

Almost immediately, the blog became famous. Thousands of replies were posted on the

same forum from other spouses and employees in the video game industry, mostly in support of

EA Spouse. The responses condemned a risk adverse industry that had grown too fast for its

own good and had not only forgotten about the people who make the games, but also asserted

that it had completely appropriated and marginalized them. The IGDA, advocating for game

development professionals, immediately formed committees on Quality of Life and began to

hold hearings throughout the industry to respond to this crisis (IGDA, 2005).

Electronic Arts settled a class action law suit that was filed by its employees for unpaid

overtime work for $15.6 million USD the following year (Gibson, 2005). Following the scandal,

both Sony and Microsoft introduced new video game consoles which were many times more

powerful than their predecessors in 2005 and 2006 putting the tools in the hands of developers to

make even larger and more complex games. The adverse business climate of the economic

downturn beginning in 2009 forced the video game industry to rise to an increasingly difficult set

of challenges producing even larger and more sophisticated games.   Most major publishers at

that time continued to find it challenging to manage creative labour, player expectations and to

be profitable. The industry started to experience its first decline in game sales in almost two

decades. In the years following the settlement of the class action law suits resulting from the EA

Spouse incident, Electronic Arts experienced its market capitalization diminish by 60%.

Roughly five years following the EA Spouse incident, another spousal letter dubbed,

"Rockstar Spouse", (this time from a spouse at Rockstar Games, another large second party

game studio located in Florida) appeared on the internet forums again, criticizing the spouses'

employer for unsustainable business practices and disregard for the staff. During the incident,

another Rockstar staffer notably compared the corporate management at Rockstar Games to the

Eye of Sauron, equating them to J.R.R. Tolkien's infamous arch-villain (Fahey, 2010). Once

again, the same concerns voiced five years earlier reverberated around the video game industry.

This suggests that the tension between industry and labour is an ongoing issue where video game

professionals continue to be vulnerable to labour exploitation.

For the purpose of this study, the case of EA Spouse presents a perspective on the game

industry where industrial forces outside the immediate domain of the developers' influence have

come to affect how front line creative labour are allowed to embrace innovation. It describes a

potentially creative working environment where the lack of ownership, choice or authority over

digital media creation, issues of unpaid overtime, the mismanagement of routine and mundane

work and the problems of the exploitation of creative labour have the potential to spiral out of

control as production cycles intensify and game development becomes more costly and complex.

The EA Spouse episode demonstrates how game development professionals are vulnerable to

exploitation by corporate interests. EA Spouse emphasized the prescriptive working conditions

under which her partner and his colleagues had to work. Important to our thesis, it describes an

industrial environment where many creative workers feel their projects lack the opportunity for

innovation. Nick Dyer-Witheford's & Greg de Peuter's (2006) excellent analysis of the EA

Spouse incident provides additional insight into the multiplicity of video game labour issues

exposed as a result of EA Spouse.

4.4 Standardization and Game Technology

In an attempt to produce games more efficiently, licensing game engine technology to

assist in development became a common practice during the sixth and seventh console

generation. Game engines (also known as "middleware") are the software applications used by

developers to make video games. They are created by abstracting the common components of

the software code from a completed game to be reused in future video games. At the core of

most game engines are modules for common game functionalities such as rendering graphics,

animating characters, simulating physics, powering artificial intelligence and enabling network

connectivity. They also provide mechanisms for scripting in-game events, creating graphical

user interfaces, creating and managing colors and textures. Within the innovation cycle, game

engines have become important tools used by game developers in the content creation phase.

The term 'game engine' began to appear in the mid-1990s with the release of early first

person shooter (FPS) games on personal computers such as *Doom* (1993) and *Quake* (1996) from

Id Software. From these early games, the development of the tools and technology (game

engines) proceeded concurrently, but separately from the development of the game content

which included the art, story and game levels. Once development has been completed, the game

content can be removed from the game leaving the software framework to create a sequel or a

new game (Thorn, 2011).

This practice created additional business opportunities for developers. Successful game companies could then license their game engine as proprietary intellectual technology to other game developers. This provided supplementary sources of revenue and several common game engines became popular in the development community. Console engines such as the *Source Engine*, *Gamebryo*, *Unity*, *Unreal Engine* and the *CryEngine* all emerged in the 1990s for PCs and fifth generation consoles and have since received numerous updates to run on sixth and seventh generation devices (Gundlach & Martin, 2014; Amresh & Okita, 2010). Each of the above noted middleware has been licensed to game studios and incorporated in the development of dozens of console games. Licensing revenue from its game development technology, the *CryEngine* was reportedly crucial to the continuity of game developer Crytek at the end of the seventh console generation (Handrahan, 2015).

Since the mid-1990s the use of middleware quickly became widespread. Many games of the sixth and seventh generation were developed with the backing of some form of licensed game technology (Banks, 2013). However, even those developers who do not license their game engines still often followed the practice of abstracting their content from the technology framework to reuse on subsequent projects. It has become a standard practice in the console game industry. For example, Electronic Arts' internal proprietary engine, *Frostbite*, has been used to develop several games in their popular *Battlefield* franchise even though Electronic Arts does not license its technology to other game developers. Similarly, Ubisoft's internally developed engine, *Anvil*, has been used extensively in their *Assassin's Creed* game franchise (Futter, 2013).

The proliferation of middleware in console development provides many advantages. First and foremost, the practice alleviates the requirement for reinventing the wheel when functionality common to other games must be incorporated into new games. It reduces costs and development time, both of which are critical to the success of a title in the highly competitive game industry. Many of the features found in console middleware also include tools for the rapid prototyping of new projects. These features enable teams to quickly build rough working versions of game concepts very early in the design process. The new concepts can then be critically evaluated against the proposed objectives of the game design to affirm whether the intended design meets the objectives.

Another advantage for game developers is that many popular game engines also run on multiple console platforms. This technology allows game developers to create a game with all the built in hardware support for the game to be released for multiple consoles. For example, using the *CryEngine* allows developers to design a game which can be run on the *Xbox*, *Playstation* and *Wii* platforms. This is very important for second and third party developers seeking to maximize their audiences while controlling production costs and development time. From a coordination perspective, it is logical that before a developer can begin designing a game, it should have its technological framework in place. Otherwise, it becomes extremely difficult to manage all the diverse functions such as creating art and designing levels without having any of the tools available to do so. The process would be analogous to writing a letter on a computer while at the same time creating, designing, and programming the word processor required for formatting and printing the letter.

Occasionally a developer will undertake to create a console game and the engine at the same time. In such cases, often the technology required for the same project simply does not exist, is obsolete or the available software cannot be easily adapted. Developers have found the double task of creating games and technology concurrently to be very difficult, often adding significantly more time to the development cycle and substantially increasing the development cost. There is also the lost productivity in the development cycle. The contributions of middleware to the overall efficiency and cost effectiveness of the development process are significant. Trading off efficiency to gain greater control over the innovation potential of a game project is one matter.

However, in their review of the use of standardized game technology for the console game, *Haze*, Wesley & Barczak (2010) stressed that there is potentially much more at stake for game studios that choose to develop their own technology as a pathway towards embracing innovation. *Haze*, a game developed by the independent United Kingdom studio, Free Radical, was intended to be a high profile launch title exclusive for Sony's *Playstation 3* in 2006. The company created a new engine for this large budget title. Due to several problems completing the game, *Haze* was finally released after the launch of the *Playstation* 3, to a poor critical and commercial reception. Players found the new control system for *Haze* awkward and confusing. As noted by Wesley & Barczak (2010), "it wasn't that *Haze* was a bad game. It just did not measure up to the hundreds of other first person shooters on the market" (174). *Haze* was Free Radical's last game; its commercial failure forced the company into bankruptcy. Outcomes similar to the example set by *Haze* are numerous in the console game industry (Campbell, 2012a) and provide a strong disincentive for developers to focus too much energy on the development of

new, innovative, unproven features and functionality, especially in the larger budget console game projects.

The use of middleware technology provides a benefit to individual game development staff as it standardizes game development tools, practices and procedures around common technology. If multiple studios are licensing the same technology, this affords additional flexibility for game development professionals who can gain competency and expertise with various licensed middleware and be able to transfer their skills from one development studio to another. Game engines, like the newest games that run on them, have become large sophisticated software applications. In the seventh generation games that use popular middleware, more than half of the software code in the game is the engine, which has a substantial effect on both defining and limiting the potential for their games.

Games engines perpetuate the preponderance of archetypes or game genres. First person shooter games (FPSs), role-playing games (RPGs), real time strategy (RTS), sports games, and massively multi-player games (MMOs) are examples of popular game genres. These genres have been defined by the middleware used to create them. For example, common FPS engines such as the *Quake Engine, Frostbyte Engine,* and *Source Engine* all support the same core functionality required to create a game in which the player adopts a first person perspective of the virtual environment. As the FPS genre has proven to be commercially successful, the licensing of this middleware has become common among developers. Game engines, while helping to create new FPS games more quickly and efficiently, nonetheless constrain the developer's creative efforts to the range of the functionality and tools supplied with the

middleware. The use of standardized technology discourages and is a disincentive to creativity in favour of scope and efficiency.

Game engines limit the potential for innovation, while making it easier to improve existing aspects (graphic resolution, real world simulation of physics) of games common to predefined game genres. Even though the use of game engines allows developers the opportunity to introduce efficiencies into their development processes, if their game design requirements exceed the capability of the middleware, recoding the engine's functionality has proven to be a difficult and treacherous task for developers and publishers. For example, global publisher, Midway reportedly invested heavily in the adaptation and modification of the *Unreal Engine* before declaring bankruptcy in 2009 (Burnes, 2005). Midway subsequently encountered significant difficulty adapting the engine for some of their new games (Bergfeld, 2007). The result for many developers is that many developers are incentivized to work with the functionality provided in the licensed technology rather than risking the failure of their projects reprogramming significant modifications to it.

4.4.1 Standardization and Network Externalities in the Video Game Industry

The potential to innovate is greatly affected by the degree of standardization in an industry. In certain markets, the decisions made by consumers can affect the utility that other consumers receive from using a product. As previously noted, these effects are referred to as network externalities (Katz & Shapiro, 1986). Network externalities are very important in digital media industries where products must be connected together to receive their full benefits (e.g. telephones, computers). In such networked environments, standards are often necessary to facilitate the interconnectivity of devices and content (Kindleburger, 1983). Maximizing the

benefits of network externalities is particularly important in the video game industry where the ability to play games with peers and friends has become an important aspect of gaming culture (Heinrich, 2014).

The incentive to standardize in digital media industries is therefore very high. In these industries, the value that each user or producer receives is proportionate to the total number of users in the network. By this definition the effect of network externalities in the video game industry is significant. In the most recent generation of game consoles, standardization has occurred around three rival technology platforms: *Playstation* 3, *Xbox 360* and *WiiU*. Michael Katz and Carl Shapiro (1986) have studied how standards tend to establish in high tech industries. One factor affecting the successful adoption of standards and standardized technologies largely depends on whether the technology is sponsored. Technologies that are owned, operated, maintained, branded and supported by reputable technology companies have a much greater chance of becoming standardized across an industry than those that are not (Katz & Shapiro, 1986). In the case of the aforementioned console technologies, these platforms are sponsored by global companies that forcefully support their brands and platforms (Sony, Microsoft and Nintendo). Sponsorship may take the form of support for the standardized technology as well as incentives to develop compatible products.

Scott Gallagher and Seung Ho Park (2002) examined innovation and competition in the U.S. home video game market conceptualizing it as a "standards-based" industry. They focused their historical analysis on the video game console as a standardized device examining the theoretical issues of switching costs, installed console base, and complementary goods. Their study followed the introduction of the six generations of console hardware discussing the console

characteristics as well as the marketing and distribution strategies of each new hardware launch

in an attempt to determine which factors produced the winning console brand of each generation.

They highlighted factors such as technological advancement, early entry into the market, proper

pricing, name management and channel management as factors that contributed to the financial

success of each console launch.

Focusing on the console hardware technology, they drew the following conclusion about

the game industry in the years between new console launches:

> Technological innovation...is limited within [technological] generation as firms
> operate within a similar technological configuration. As a new generation starts,
> the strategic focus shifts from technological innovation to traditional competitive
> strategies to build a network of complementary products.
> (Gallagher & Parks, 2002, 81)

The "complementary products" referred to above are the software or games that run on these

proprietary devices. Gallagher and Parks make an important observation that industrial

innovation is linked to the technology cycle which, in the console game industry has occurred

every five to six years. Thus, the innovation regime tends to be more favorable to new product

innovation at the beginning of a new console cycle where the focus is on exploiting the power

and features of recently introduced console technology. In the later years of the console cycle,

the focus then tends to change to retaining audiences and building sequels on proven game types

and franchises.

To summarize, the video game industry is a standards driven industry. Ronald Betting &

Jeanne Lynn Hall (2003) argued once a culture industry is commercialized as a for profit

activity, its practices of standardization begin to infiltrate all aspects of production and

distribution. The dominant market structures for cultural industries result in the suppression of

diversity. The high degree of standardization of tools, technology and development practice is a significant factor limiting the innovation potential of the stakeholders of the game industry.

4.5 Summary

The video game industry is a creative industry that provides workers with the opportunity to combine different forms of expression (audio, visual, ludic, narrative) in new and imaginative ways. In the process, intellectual property is created. However, when games are made as products to be sold, developers are no longer free to explore the limits of their imagination when conceiving and creating new games. As a commercial industry, market conditions begin to place limitations on how creativity may be expressed. Two main factors affecting innovation were discussed in this chapter, the ownership of intellectual property and the high degree of standardization in the industry. The regime of intellectual property ownership has been influential in structuring of the console game industry and setting those limits how creativity is exercised and innovation is realized, but has also helped enable the growth that the industry has experienced over the last three decades.

Intellectual property ownership creates a system of artificial exclusivity that promotes the following practices in the video game industry:

1) New intellectual property is a closed box.
2) Galvanization of work around existing intellectual property.
3) Emphasis is placed on larger and larger projects.
4) Work tends towards the derivative and lack in creativity (risk adverse).
5) For all of the above reasons, this structure has the potential to alienate its creative labour.

Whether it is music, motion pictures or video games, copyright laws provide employers intellectual property rights while employees become disassociated from their creation.

Unfortunately, these very laws create a work environment in which decision making, creative thought and ideas and process development are all challenged. This situation provides publishers or content exploiters with the opportunity to continue to exert significant creative control over video game developers. As a result, developers may try to move to a model of self-sufficiency in which they perform these roles in house. However, experience has shown this to be quite difficult (Johns, 2006).

The original intention of copyright was to promote the creative arts and ensure that originators of new intellectual property would benefit from the innovations they conceive. Intellectual property protection may ensure there is employment for creative professions as an investment-friendly industry as an enabling mechanism for the growth of the industry. Nevertheless, those who ultimately end up owning the intellectual property, large multi-national video game publishers, really benefit. As for the former point, the work for hire regime, although bringing some stability to the industry, appears to be favoring the recycling of existing intellectual property rather than the creation of new intellectual property.

One of the key features of working in the video game industry is the enjoyment of being creative at work and still using technical skills (Dyer-Witheford & de Peuter, 2006). Nevertheless, the opportunity of owning or even producing your own creative work is one of the unfulfilled promises that can negatively impact worker morale. Copyright laws create ownership rights attached to new works. The justification is that these are benefits that should be enjoyed by the creators of that original work which is the usual case under the statutory provisions of copyright. Intellectual property protection (copyright, as well as trademarks and patents) creates a legal ownership regime for creative workers. Work for hire takes away those rights placing

them in the possession of corporations or individuals who may have had little or nothing to do with the original creative process. According to Stahl (2006), from a labour morale perspective, this situation of taking away rights is worse than never having those rights in the first place.

The second unfulfilled promise for workers in the video game industry is that they will be free to exercise their creativity in new and interesting ways. Ultimately, for medium and large game projects, the game publisher controls much of that creative process. Work for hire contracts typically setup milestone with quantitative and qualitative deliverables that must be produced by the game designers. A game designer and a publisher may have different ideas concerning the best type of game to produce. Typically, in the case of a creative disagreement, the publisher's opinion will and often does override (Johns, 2006). Designing video games can be a difficult iterative process (Nichols, 2014). Ultimately console game designers may often see themselves completely removed from the design process. In such cases, they are simply working as technicians, realizing a vision from the publisher who has an idea of what may or may not sell in the marketplace.

Such failures of creativity are not uncommon in the video game industry where risk adverse publishers migrate towards existing and proven intellectual property (sequels, movie ties) to mitigate the risks of creating an expensive new video game that consumers may not buy. These failures are particularly notable when the great potential for creativity and expression has been appropriated by an industry structure that has efficiently removed not only the rewards, but also the creative decision-making away from the people hired to produce innovative entertainment. In such cases, this situation is analogous to the artisan cabinetmaker who saw his

trade disappear 200 years ago as industrialization moved this work into factories (Braverman, 1975).

As the video game industry matures, the drive for efficiency exposes game development labour to potential adverse effects on labour morale. However, the intellectual property regime (trademarks and copyright, in the case of the video game industry) is a corporate tool that helps drive this process in a way that alienates labour by taking away not only the ownership of new, creative work from those that create it, but it also serves to impair or even inhibit creative workers in the video game industry from being able to exercise significant levels of creativity as innovators and designers. Instead, intellectual property owners compel them, through work for hire contracts to iterate, derive and extend existing proprietary content rather than giving them the opportunity to innovate, invent or initiate new creative ideas.

Matt Stahl (2009) described the alienating and demoralizing conditions for creative and production employees working with the constraints of copyright.

> …authorship is a function, not of creativity or responsibility or originality, but of the ability to use capital to employ or contract creative workers …companies' freedom to market products and to appropriate profits depends on their ability to exclude numerous creative workers freedom from the magic circle of authorship.
>
> (Stahl, 2009, 56)

Stahl describes the authorship regime in copyright law as a system that turns creative workers into technical workers. According to Stahl's research, this transition is one of the most unpleasant and occasionally unbearable aspects for creative workers.   Stahl's research focused on creative workers in the animation industry. However, from the example EA Spouse, the outcome for video game industry workers has the potential to be similar. Producers exploit the

talents of their artists to become transcribers of corporate intellectual property. In such cases,

Stahl describes the reaction of creative staff whose work is endlessly criticized and revised to the

point that the artists feel that no creative input is required by them.

> So when you are doing this for a living and you are getting criticized, it's not just criticizing your work, it's criticizing you, you're the failure and it's very tough on you. You get depressed about it and it can put you in a very down mood.
>
> (Stahl, 2009, 62)

Work for hire arrangements subordinate creative works to the corporations they work for, foster

an environment that creates the potential for exploitation. Work for hire also can have a crushing

effect on the morale of creative workers, presenting serious obstacles to front line developers

seeking to exercise their creativity and develop innovative products.

As a networked, digital media industry, video games are highly susceptible to

standardization. Game development is a lengthy, labour intensive process where there are strong

incentives to code complex development solutions to be reused in subsequent games for more

efficient and cost effective development. Standards are also widely employed to allow for

networked and multiplayer gaming that permits different devices to communicate with each

other. Legacy hardware and software solutions such as game engines create obstacles for

developers who may be search for innovative new approaches. Subsequently, it is very easy and

cost effective for developers to remake, for example, a new first person shooter game, because

the technology for those games is widely available to developers. Conversely, for developers

exploring game formats outside of know genres or formats, the cost of developing new

technology for those games would add significantly to the development cost and time. Scott

Fitzgerald has described the situation as follows:

The increased focus on rationalization and serialization of cultural production and the expansion of precarious employment patterns have... reduced the distinctiveness of cultural work shaped by the different socio-economic layers of cultural production.

(Fitzgerald, 2012, 136)

Chapter 5 The Video game Player

The first video game devices were marketed through retail toy stores primarily appealing to male teens and pre-teens (Kent, 2001). After several decades, the audience for console games in North America expanded and the technology became more sophisticated. As the popularity of video games grew, gamers evolved into a heterogeneous group with diverse interests. They began to engage video game culture in a variety of different ways. As a result of the changing diversity of this group, determining characteristics specific to video game players has been a challenge for game industry professions, government workers, politicians, and media theorists. Players choose the games that appeal most to their tastes, their budget, and available time. Like any other consumer goods, video games compete for the audience's time, money, and interest. In this chapter I will examine who the video game players are as well as the issues around these consumer resources that affect how video games are conceived. Influential groups of players, and, in particular, the gender of such groups will be considered in the context of how players' gaming habits have directed innovation and shaped the nature of the console game industry during the past decade.

Tracking the growing audience for console games is of interest to both publishers and developers. One organization that tracks such data is the Entertainment Software Association (ESA). The ESA was founded in 1993 by a group of game publishers to promote the video game industry. There were numerous threats to the growth of the industry. These included concerned parents who feared their children were spending too much time plugged into their consoles (Steinberg, 2012), politicians who sought to regulate the sale of video games in the U.S. (Clark, 2009), and software piracy, all of which have fallen under the ESA's purview of global content

protection, business and consumer research, government relations and intellectual property

protection (ESA, 2013). The ESA has attempted to portray gaming culture as a modern, diverse,

social, ubiquitous, safe, even virtuous activity. It also claims that the industry produces a variety

of entertainment products for a wide range of age groups, and enjoyed equally by both genders.

Each year, it surveys consumers and releases an industry report card based on its research

of the state of entertainment software including facts about who buys and plays video games,

what kind of games people play, how long, how often, etc. In 2013, the ESA annual report

described the average gamer as 31 years old and having played video games for 14 years. Male

gamers comprise 52% of the gaming community. The ESA's report describes a symmetrical age

distribution for gamers; 29% of gamers are under the age of 18, 32% are age 18 to 35 and 39%

are over 35 years old. All together, 59% of all Americans play video games. In their 2014 report

entitled, "Essential Facts about the Computer and Video Game Industry," the ESA quotes Prof.

Jason Allaire of the University of North Carolina describing gamers as follows: "People of all

ages play video games. There is no longer a stereotypic game player but instead a game player

could be your grandparent, your boss, or even your university professor" (ESA, 2014, 2). Figure

7 shows age and gender data as organized by the ESA during the years 2004 to 2013.

Figure 7 Gamer Age and Gender 2004-2015 (ESA 2013)
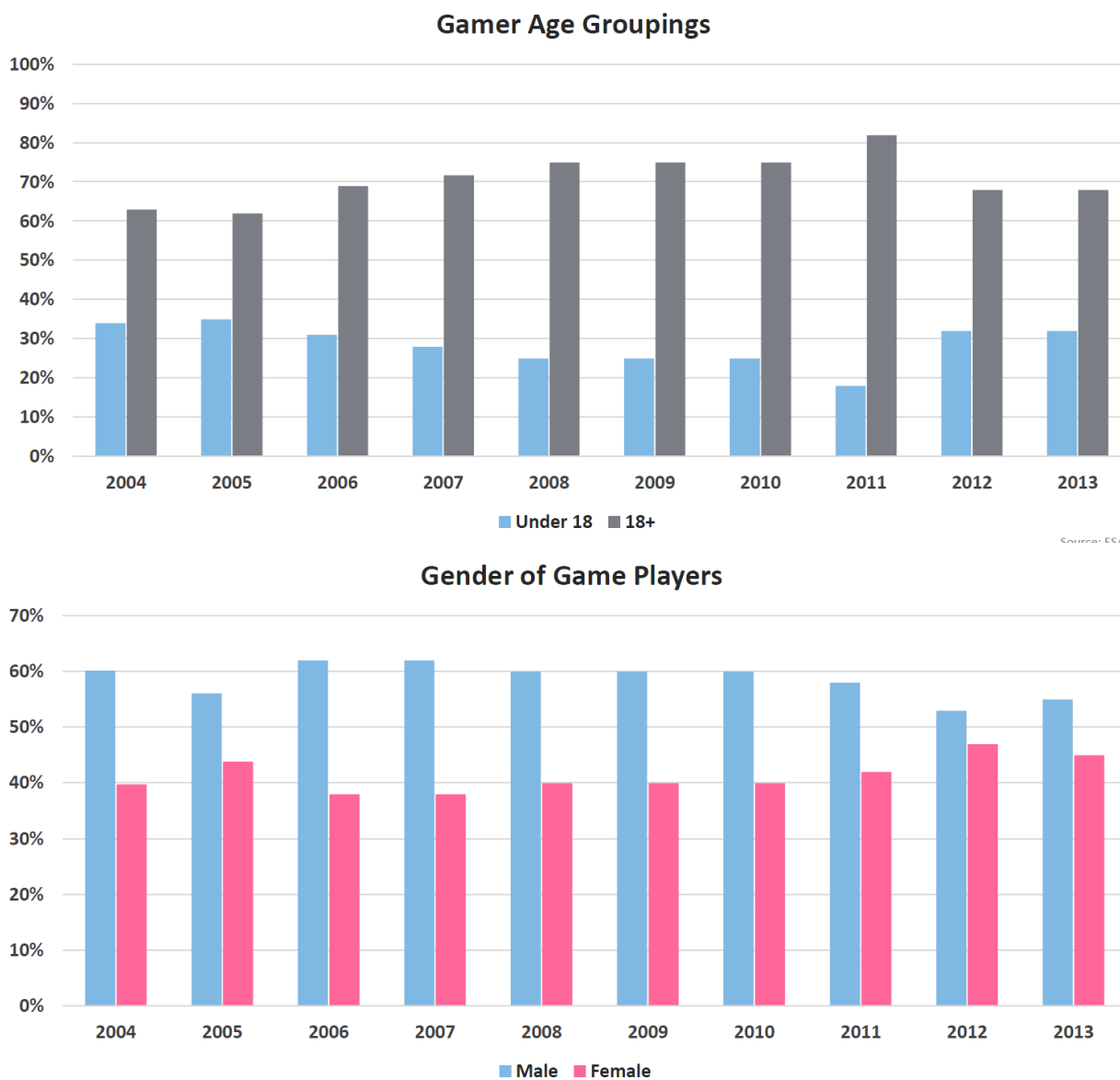
Describing videogaming as a mainstream, commonplace activity enjoyed by such a wide range of consumers has been a common practice in the ESA's advocacy efforts. However, such classifications tend to homogenize the diverse characteristics of gamers and in particular, to obscure the continuing asymmetries in the way gender 'plays-out' in shaping game production.

Jennifer Jenson, for example, suggests the following critical perspective on claims about equal-opportunity gaming:

> A careful analysis of the kinds of discursive constructions of women as "gamers" illustrates how studies are creatively manufacturing "equal numbers" in order to dismiss gender as a relevant consideration for video game markets. Significant in this case is a slippery discursive shift which constructs women who play card games as "female gamers". How is playing a card game or online board games equivalent to playing a role playing game or first person shooting game? What is accomplished by naming women who play card games or board games on line as "gamers"--- this rhetorical sleight of hand makes possible a significant next move: to disregard gender differences and compile aggregative data on game players as a homogeneous group. (Jensen, 2006, 3)

For Jenson, the broad based and indiscriminate use of the term "gamer" to refers those who engage any sort of video game playing activity has discouraged us from studying the rich social complexities and problems of the gender divide. For these reasons, it is necessary to continue to discuss gender as an important factor shaping the production and consumption of video games.

In what follows, I will pursue Jenson's line of argument. To understand who the players are and how they affect game production, I look beyond the ESA characterization of the average gamer. Influential groups of players, and, in particular, the gender of such groups will be considered in the context of how players' gaming habits have directed innovation and shaped the nature of the console game industry during the past decade. Despite the ESA's claims of gender equilibrium in video games, both sexes do not participate equally in console game culture. The video game industry still appears to retain many of the characteristics of its gendered origins. As video games have become more pervasively embedded in our culture, the industry discourse around participation in video games has had little to say about how male and female players adopt, use, and derive meaning in terms of gendered perspectives (Jensen, 2005). Attempts to

maximize sales of individual products discourage widening the public discourse about the gendered fragmentation of digital play (Napoli, 2003).

According to the ESA's reports, the video game industry has been closing the gender gap in digital play. The ESA frequently reports metrics emphasizing the near equal participation of sexes in console gaming, promoting that boys and girls are equally free to enjoy and participate in the production and consumption of video games similar to the ways they participate in other cultural activities. Nevertheless, cultural critics continue to flag the video game industry as "entertainment for males" (Thornham, 2008).

The ESA's report that 48% of all gamers are women, by using the broadest definition of gamers, tells us very little about how women are participating in and influence the culture of video games. Other sources provide a different picture of female participation. NPD Group reported that in 2008, only 23% of console gamers were female (NPD, 2008). DFC Intelligence (2015) has estimates that "hardcore gamers," defined below, have consistently been in the range of 90% male over the past two decades. Historically, the console and the PC platform have been the least female friendly segments of the game industry (Kline et al., 2003; Huntemann & Payne, 2010; Thornham, 2008). This is an important distinction as console games are (economically speaking) the largest part of the video game industry accounting for 76% of entertainment software sales in 2008 (NPD, 2008). The category of hardcore game merits further discussion and will examined it in depth in a moment. However, as a step towards this analysis, the console game industry's gendered history shall be reviewed.

5.1 The Hardcore Gamer

The category of hardcore gamer is of particular importance to the video game industry. It is difficult to find agreement on a single definition of a "hardcore gamer" because of the different contexts that this term has been unused in the game industry (Ratliff, 2015, 15), but it is generally agreed that one of the defining characteristics of hardcore gamers is that they dedicate significant portions of their leisure time to playing games that can exceed 25 hours per week (Kline et al, 2003; Zackariasson & Wilson, 2012). In more general business terms, these players can also be referred to as "early adopters" (Rogers, 2003). Hardcore gamers also purchase more games than the average gamer, typically 25 or more games each year (Zackariasson & Wilson, 2012). As a result of their purchasing power, the tastes of hardcore gamers for certain subject material matter to both publishers and developers. Consistent with DFC's estimate, Peter Zackariasson & Timothy Wilson (2012) approximate that 80% of the hardcore gaming segment are young males, age 17-35.

This group's partialities towards war games, combat scenarios, and digital violence have helped to define the major franchise blockbusters of console games (Kline et al., 2003). In their study of gendered gaming practices, Julie Prescott and Jan Bogg (2014) identified some of the main differences between hardcore and casual gamers. The hardcore gamer plays complex games whose genres generally include first person shooters, action adventure and racing games on *Xbox* and *Playstation* consoles. They are viewed as male gamers who prefer violent content. This is in contrast to casual gamers who prefer puzzle, analog and *Facebook* games, play on Nintendo consoles, prefer non-violent content and are viewed as primarily female players. (81).

Hardcore gamers play lots of games. Several sources define the hardcore gamers as persons who play games extensively and are quick to adopt new games (Nichols, 2014; Kline et al., 2003; EEDAR, 2014). Hardcore gamers can also be referred to as early adopters or *core* gamers (Zackariasson & Wilson, 2012). The *theory of diffusion of innovation* (Rogers, 2003) describes the role that different groups of adopters play in the successful proliferation of new technology. First introduced in 1962 by Everett Rogers, the theory of diffusion of innovation has become a popular model for understanding the process of technology adoption. The model maintains that successful innovation occurs according to a predictable pattern built upon four elements: the innovation, the communication channels, time and the social system. The key focus of the model is on the innovation adopters (Rogers, 2003). Rogers divides technology adopters into five discrete segments as shown in Figure 8. On the left hand side of the graph, innovators and early adopters are quick to adopt new innovations after they have been introduced. The late majority and laggards on the right hand side of the graph are the last to adopt new innovations and are the most risk adverse and therefore the most resistant to change. Early adopters are change agents who introduce the innovation to the laggards who otherwise would refuse to accept it (Rogers, 2003).

Figure 8 Rogers' (2003) Adoption Model for New Innovation
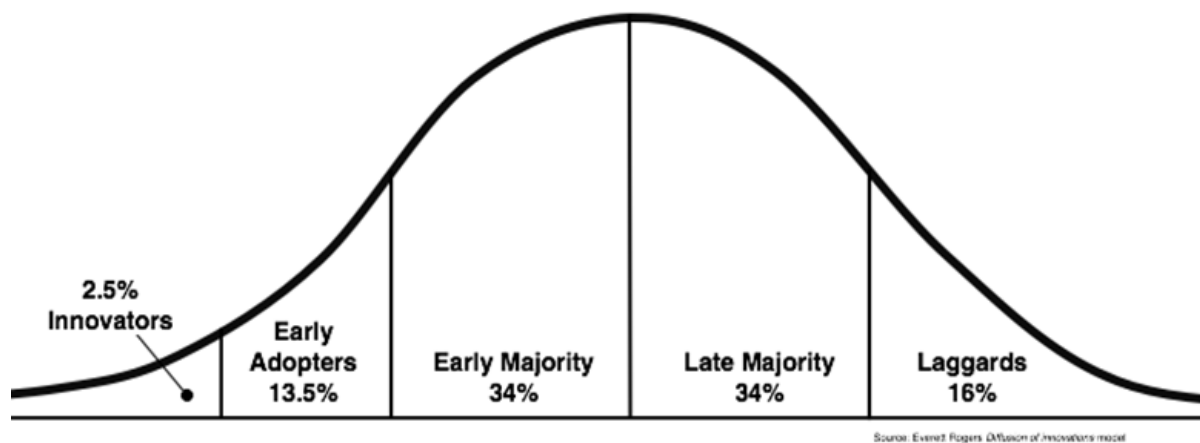
Diffusion theory is often used to understand consumer behavior in response to the introduction of new media (Deuze, 2011). This is a useful model for the video game industry. Each new video game developed and published is an innovation where players are the adopters. Reviewing the characteristics of the adopter segments can provide insight into why some innovations (games) fail and others succeed. Recent research has suggested that the rate of innovation diffusion is enhanced within networked communities (Valente, 1996). Many game players have strong social networks as they tend to be technologically savvy consumers of multi-player games that have their own social networks built into the games they are playing (DeMaria, 2008). Through the medium of the game itself, players are able to discuss their likes and dislikes, recommend other games and facilitate the diffusion of new or recently-released games. These ties favour the accelerated distribution of new innovations.

Hardcore gamers (or the console game industry's "early adopters") account for approximately 10-15% of all the adopters of a particular technology. As previously noted, they are important because they purchase significantly more games than casual gamers, but they also help to establish the demand patterns that subsequent groups of adopters will follow. Rogers

(2003) describes these next groups of adopters as the early majority (34%), late majority (34%) and finally the laggards (16%). Early adopters provide opinion leadership and their decision to buy a game will significantly affect the decision of the other aforementioned groups to follow suit. The capacity of a game to appeal to the hardcore gamers is a significant factor in the overall success of a game as their early choices provide guidance for subsequent players.

Thus, understanding the characteristics of this group of consumers is very important to the other two actors (publishers and developers) in the production consumption cycle. Ernest Adams (2002) proposed fifteen characteristics that describe the hardcore gamer.

1. Technologically Savvy
2. Have the latest high-end computers/consoles
3. Willingness to purchase games
4. Prefer violent/action games
5. Prefer games that have depth and complexity
6. Play games over many long sessions
7. Hunger for gaming-related information
8. Discuss games with friends/bulletin boards
9. Play for the exhilaration of defeating the game
10. Much more tolerant of frustration
11. Engaged in competition with himself, the game, other players
12. Early age at which they first started to play games
13. Comparative greater knowledge of the industry
14. Indications of early adoption behavior
15. Desire to modify or extend the game in a creative way.

These characteristics describe the hardcore gamers as players who are absorbed and immersed in gaming culture. They are engaged not only with the games but also with other players and the systems that produce the games. They have the financial means, the time and the technological expertise to support their interest in gaming. This same age and gender segment corresponds to the target audiences often cited by major publisher for their blockbuster franchises because of their interest in serialized content and their buying power (Johns, 2006).

Hardcore players, as decision leaders, are motivated by such things as their ability to master the medium as well as the thrill of competition. Often, games provide a platform for them to socialize with other like-minded friends. They have a significant personal investment in the culture of console gaming, both financially and in their free time. Although the hardcore gamers call for original new games, they still feel at home in the familiar territory of franchised or licensed games as long as each new game has modest improvements over the previous titles in the franchise (Mulligan & Patrovsky, 2003). While a certain level of novelty is often welcome, they have no interest in rendering obsolete the years of game playing experience and mastery of game controls and formats in favour of entirely new and innovated game systems.

Hardcore gaming, according to Adams, is also associated with conquest and preferences for violence, action, depth and complexity. As a key part of the cycle of sustainability for the console game industry, there has been a propensity towards increasing violence, complexity and themes of conquest in console gaming since its beginning. As publishers continue to focus on the lucrative hardcore gamer, other opportunities to create content for wider audiences may get overlooked. Aphra Kerr has suggested that "...publishers seem to lack the tools and information to enable them to understand non-traditional (non-hardcore) consumers both in established and in newly emerging markets globally" (Kerr, 2006, 45).

5.2 The Gendered Game Player

It is often noted that some media genres favour the interests of one gender or another in the nature of the content it produces. Some media do have gender dispositions such as romance novels (oriented towards women) or action movies (oriented towards men) (Storey, 2001). To what extent is this the case for console games? Langdon Winner (1985) insisted that all forms of

technology must be viewed as inherently political. According to him, new forms of technology embody the values of their creators. The biases contained in new technology may be the result of either an intentional design motive or may come to rest in technological artefacts quite inadvertently. For this reason, it is relevant to question whether the political disposition of video games as a new form of technology favours one gender over the other. The often referenced stereotype of the anti-social, geek, male gamer is a starting point for an inquiry into some of the issues around gender that persist through the end of the seventh console generation (Thornham, 2008). Is there a political disposition in console gaming technology that favours one gender over the other?

In reviewing the consumption habits for console game media, there are several characteristics that distinguish video games from other digital media. These qualities include the pervasive demand for violent content. As commercialization of video games intensified in the 1990s, the target market for console video games has continued to be oriented towards males 18-35 (Kerr, 2006). Correspondingly, the game industry is identified as having an overwhelming preponderance of war games with narratives of conquest dominated by themes of hyper-sexuality and hyper-violence, produced in accordance to the preferences of male gamers (Huntman, 2009). As a result, the core audience for video games remained young male adults. In describing the video game industry, Kline et al. (2003) used the term "militarized masculinity" as follows:

> …a complex that interweaves ingredients of shooting and fighting skills, spells of destruction, strategic and tactical war games… culminating in the ability to conquer an alien civilization…. This situation tracks back to the military origins of interactive play. The game industry conjured into being by technologically adept and culturally militarized men, made games reflecting the interests of its creators.
>
> (Kline et al., 2003, 254)

Kline et al.'s discussion focused on the origins of the video game industry in the early days of computer technology and on the creation of games by male designers that they felt would appeal to male gamers (Kline et al., 2003).

The appetite of (male) gamers for violence has resulted in a trend towards specific game genres that have become increasingly specialized and spectacular as opposed to new and diverse. Video game genres featuring shooters, war scenarios, and sports simulations have dominated the landscape of video game content (Chatfield, 2011). When surveyed, 57% of female game developers indicated that the "lack of overall diversity" was a significant factor affecting the game industry while only 36% of male developers indicated the same (Weststar & Andrei-Gedja, 2014, 11).

The latest versions of these games are becoming increasingly sophisticated, building upon the successful features of their predecessors in keeping with player demand for more complex gaming experiences. In the challenging environment, where game publishers still find it difficult to anticipate and plan for consumer taste, one successful game more often ensures a successful and profitable sequel that builds on the characteristics of the original than starting the development of an entirely new game. Sequels have proven less risky than innovation. The environment for video game development can be described as a self-reproducing cycle, exploiting a gender bias for violence imposed to counter the commercial risks inherent in developing new games. Future growth is built upon the successes of the past in a self reinforcing manner. As past success had been achieved by men developing video games according to a template of violence and war themes, then it is logical to assume the continued pattern reproduction of games favouring the replication of such content in the future.

5.2.1 Gendered Content

Using data from 2002, Dunlop (2007) conducted a study of gender representation in the most popular console games. She applied a content analysis methodology from Meads (1964) and evaluated the (1) cover art, (2) product description and premise, (3) body image, (4) game content, and (5) playable characters and race. She concludes her study by asserting that oppressive hegemonic representations of gender and race are not only present but permeate the majority of top selling video games. It was further noted that tracing the development origins of the best selling games reveals a virtual U.S. monopoly in the production of this content. Their findings exposed the under (or zero) representation of women in heroine roles as well as the stereotypical female representation as subordinate, submissive and hyper-sexualized characters in the narrative of the most popular console titles.

Dunlop's analysis was concerned with the media effects and the problem of reinforcing the dominant discourses of hegemonic masculinity within an increasingly popular medium. This concern is mirrored in the recent IGDA survey where 67% of game developers identified "sexism in games" as the second most significant factor influencing the negative perception of the game industry after "working conditions" (Weststar & Andrei-Gedja, 2014, 10).

Other research has emerged that suggests looking beyond the content of popular video games to better understand some of the reasons contributing to the gender imbalance and how it affects the industry's creativity and innovation. The workforce within the game industry also appears polarized on the gender axis. The International Videogame Developers Association (IGDA) member survey conducted among video game developers in 2005 identified 88% of all the respondents as male (Gourdin, 2005). By 2014, the percentage of male respondents had

decreased to 76% (Weststar & Legault, 2014). In the review of the Canadian video game industry, Dyer-Witheford & Sharman (2006) identified that of the minority of women working in game studios, their roles were mostly managerial and administrative. Creative posts such as designers, programmers and artists were overwhelming occupied by males. This industrial environment has led some critics to describe the video game industry as a self reinforcing model of boys who make violent games for boys (Harvey, 2015; Dyer-Witheford & de Peuter, 2009).

To the extent that there is a gender divide in the video game industry, one can take the uncritical view that the female audience is simply underserved. The marketplace has not quite figured out how to sell video games to girls and women. Yet, the video game industry is focused on developing new audiences and replenishing new content; the market forces, the incentives for industry growth and the media economics all heavily favour an inclusive solution to the lack of female participation in video game culture. It may just be a matter of time before a more balanced gendered representation prevails. However, to adopt such a narrow and market driven view would be a mistake as it would neglect the structural and social biases that have become imbedded in video game culture.

The video game industry began in the computer labs at MIT with small groups of men creating early non-commercial games such as *Spacewar* (1961) on the university mainframe computers. The resulting nascent industry formed in the late 1970s and early 1980s was composed almost entirely of male programmers (Kent, 2001). Since then, however, it would appear reasonable that the market forces taking hold of this newly discovered technology gem, after the industry started to become commercialized, would not have necessarily felt the need to continue to only pander to old gendered audiences in their search for growth, diversity and profit.

What happened to female participation in the earlier years of the video game industry? Is this a case of a risk adverse development cycle with no solution during the early commercialization of the video game industry?

A review of the experience of Brenda Laurel in the 1990s may shed some light on the development of the industry during these early years as it relates to the gender divide. Laurel participated as both a critic and producer of video games specifically oriented towards young girls. Following her tenure in video game development at Atari, Laurel founded the development company *Purple Moon* in the 1990s. In *Utopian Entrepreneur*, she chronicles the formation of a new kind of game development studio. The following passage describes Laurel's view of the gendered nature of the video game industry at the time she set up her company.

> Computer games as we know them were invented by young men around the time of the invention of graphical displays. They were enjoyed by young men, and young men soon made a very profitable business of them, dovetailing with the existing pinball business. Arcade computer games were sold into male-gendered spaces, and when home computer game consoles were invented, they were sold through male-oriented consumer electronics channels to more young men. The whole industry consolidated very quickly around a young male demographic – all the way from the game-play design to the arcade environment to the retail world – and it made no sense for a company to swim against all three of these at once. And that is just the obvious stuff.
>
> (Laurel, 2001, 23)

Laurel characterizes the "obvious" gendered, social, technological and commercial arrangement around the emerging video game industry which included video game content made by men, purchased by men at male dominated retail stores and played in spaces inhabited by men. At that time, she viewed the video game industry as a heavily gendered, self-reproducing machine churning out male-oriented video games according to traditional formulae (Laurel, 2001).

Seeing an opportunity to bring video games to women and girls she formed her company, *Purple Moon*, taking the unusual approach of hiring a staff composed almost entirely of women. Before beginning any work on video game production, Laurel reports that she spent three and half years researching the type of material that may be of interest to young girls (Laurel, 2001, 34). One of the key findings of Laurel's early research was that there was nothing inherently gendered about the video game medium. That is to say, that she could find no reason why girls would not share the same capacity as boys to learn, understand, play, master or enjoy video games regardless of the material being played or the nature of the technology hosting the game experience. This is an important assertion affronting other opinions expressed during the 1990s that "there was just something about video games that girls do not like" (Laurel, 2001, 14).

Armed with the knowledge that there is nothing inherently "male" about video games, but that there may be some social or societal impediments (however diverse they may be), Laurel set out to create interactive material (characters, stories, themes) relevant to the interests of young girls. She deliberately chose to move away from stereotypical representations of women and girls (as found in other media such as girls' toys (*Barbie*), magazines and movies) and sought to present an image of female protagonists and characters as strong and independent. Following these criteria, *Rockett*, her first video game protagonist, was created as a strong and independent female. This is not to say that she set out to create another *Lara Croft*, the female video game protagonist of the *Tomb Raider* franchise and the very popular heroine among male gamers (Mikula, 2003). Both *Rockett* and *Lara Croft* made their video game debut in 1997.

Laurel rejected *Croft's* sexualized and idealized depictions of femininity attempting to create in *Rockett*, a role model to which young girls could relate. This was a daring decision in

the market at the time where role models for young people (not just girls) consisted of sports and music superstars and air-brushed supermodels who presented idealistic images of masculinity and femininity. Laurel sought not only to simply sell games to girls by changing their image of video games, but also to effect greater change of the social context of mass media by presenting a new perspective of femininity to young girls. In the end, both tasks may have proved too great for one video game company to achieve, and *Purple Moon* eventually shut down and was acquired by *Mattel*, the quintessential purveyor of stereotypical pre-teenage female values that Laurel fought so hard to change.

She describes her difficulty with getting financing for her enterprise in the following terms:

> Why weren't there any computer games for girls? And why did I end up losing my job every time that I suggested it? It couldn't just be a sexist conspiracy. The boys' game business generated billions of dollars; surely even the most virulent sexist in Silicon Valley would be perfectly happy to reap the corresponding billions from girls if he could figure out how to do it.
> (Laurel, 2001, 17)

The example of *Purple Moon* provides several insights into the interpretation of the gender divide in the video game industry and how it affects the games the industry produces. The social context of how girls and women view video game culture appears to be a major impediment for their participation in video games. Changing the social attitudes about what it means to be female and a video game player was one potential step in addressing gender inequality that existed during the 1990s. To the extent that the change in social values, attitudes and constructions of femininity are required to make video games more accessible to girls and women, it is reasonable to expect resistance from other entrenched commercial cultural practices, especially if they are competing for the same entertainment dollar.

From Brenda Laurel's research in the 1990s, gender by itself should not necessarily affect one's engagement with video games. Yet, when Laurel began to make video games she understood a need for a change in the social context of video game culture and began to create content that would have special appeal to girls. The game was to serve not only as a source of entertainment but also as a conduit for this social change. Laurel was creating her own gendered content to the extent that her games favored the interests of young girls as she understood them.

Other video game companies were also attempting to break the male dominated cycle of game development in the 1990s and had certain ideas of the type of games that might sell to girls. The following is a quote from a video game designer about his experience working in the game industry trying to create and market games for girls.

> I worked for *Mattel* making video games for years. They have a very distinct idea of what sort of girl games will sell in the market. They want games that focus on narrative and social situations, with bright, pretty colors and happy, fairyland themes. They cannot be competitive, stressful or violent in any way. There was absolutely no use of timers allowed and even scorekeeping was mostly not allowed.
> (Interview with Jeff Edwards, Video game Designer, 2009)

Such was the nature of video game production oriented towards female audiences since the time of *Purple Moon*, by *Mattel*, one of North America's largest producers of children's toys. *Mattel* was following a successful formula established for its other products. They were marketing according to societal ideals of masculinity and femininity suited towards younger children. They were applying the same methods to their video games. Cultural critic Angela McRobbie (1994) condemns the full force of western culture for setting up and reinforcing such gender binaries according to the logic of corporate consumerism. Edward's description of girl's video games (as understood by Mattel) simply appears to be an extension of our culture's notion performing

femininity as indoctrinated in young girls by the commercial interests of companies such as *Mattel*.

New perspectives have emerged to confront how women are beginning to engage in interactive media as beginning to resist social constructions of femininity. Jennifer Jenson takes Laurel's hypothesis one step further in her research of video games as a pedagogical tool in education. Not only does her research assert that there is very little inherently gendered about the video game medium but also that there is nothing inherently gendered in the types and genres of video game play. According to her research, the perceived affinity of women to video games that are focused more on social elements and less on conflict is a fallacy. Generally speaking, violent or competitive games are not less attractive to women than men (Jenson, 2006).

This assertion confronts the often assumed position that violent video game themes favour male preoccupations and thus alienate women. According to Jenson, the use of devices in video game production, such as stress, competition, violence, spectacle and action can have equal appeal to female audiences as well as male audiences. Additionally, from an educational perspective, there is research supporting the democratic potential for participation in video games. Gee (2003) argues that games are exceptional models for learning. Games are designed to produce feelings, skills and knowledge. Playing games is a social practice where gamers congregate based not on age, gender, class, race or economic status, but on their personal interest and literacy in the game. Gee emphasizes that knowledge and expertise are distributed across player bases and the participation in that affinity space also reshapes the game itself.

From Jenson's analysis, understanding the production, marketing, distribution and consumption of video games in terms of "gendered content" may be an inappropriate axis in

order to appreciate why there continues to be a gender divide in video game culture. So if there is nothing about video game content to account for gender differences in attracting gaming audiences (Laurel) and the production of gendered video games such as violent, competitive games, which have in recent years, proliferated in the market, are not necessarily repelling women from gaming, then what can explain the persistent lack of participation of women in video gaming? A significant part of the problem may be the social context of video gaming that has discouraged female participation; the second is the technology of the console.

I have posited that there is nothing inherently gendered about *playing* video games nor is there anything inherently gendered about the *types* of video games that people play. Reflecting on these assertions, the use of categories such as "playing games" and "types of games" introduce a level of ambiguity that invites criticism. Patricia Greenfield (1984) has argued that the predominantly violent nature of video games has indeed been a significant factor in alienating new audiences (girls) from video games. However, I assert that video games have the potential to be engaged without specifically favoring one gender over another. The adoption of video games, as with any new technology, is very much dependent on the *social context* into which it is introduced.

Focusing on young people, Angela McRobbie (1991) identifies the social context where gender differences start to take hold. From an early age, she identifies male-based magazine publications that start to differentiate boys according to hobbies, sports, and professional ambitions, while female-based magazines focus on make-up, romance, fashion, and physical fitness. According to McRobbie, these teenage-targeted magazines helped established the person as the sphere of primary importance to the teenage girl. The person becomes the all-

encompassing totality to the detriment of other forms of social (and political) self-representation. Socially acceptable lifestyle choices are influenced as a result of our early exposure to mediated images of masculinity and femininity.

Such arguments form a basis for feminist critique of our cultural practices and gender inequalities. For the purpose of this discussion, early practices of gender identity influence the type of cultural practices that men and women adopt later on in their everyday activities. Recent studies have suggested that the lack of female participation in the information technology, computing and engineering disciplines is a result of the perception that these careers do not correspond to the social ideals of femininity (Committee on Science, Engineering and Public Policy, 2006).

More specifically, when it comes to leisure activities, female participation in video games in different social contexts will vary highly. Jensen reports that when playing alone, young girls are prone to be outspoken, excited, and generally risk taking in their approach to playing a new video game. However, in the presence of male peers, those same young girls are likely to be reticent, quiet, and embarrassed. In response to a situation of having to play in front of male peers, a typical reaction by young girls, as reported by Jensen (2005) would be to choose not to play at all rather than play with male peers or have male peers watch them play. The effects of networking technology have served to increase the sociality of interactive media such as video games (Castells, 2000). As gaming has become more exposed to social networks, this has likely contributed to the anxiety experienced (or would be experienced) by girls and women in such an environment.

At this point, gendered nature of recent generations of console video games come into focus and I can point to larger contextual questions about the role of video games in regard to the creation and adoption of new forms of media and their effects on society. According to media critics, each new form of technology presents us with an opportunity and a threat (Mosco, 1996). It can either create democratizing forces to help us understand and address inequalities (such as the gender inequalities discussed here), create new opportunities for creative thinking and expression, or it can impoverish us solidifying old ways of thinking and reinforce existing regimes of control.

Perhaps more than the games themselves, player culture cultivated over the last few decades has contributed to the current gender divide. A female university student recalls her first experiences after receiving a new *Xbox 360* video game console and connecting to the on-line video game network necessary to play multiplayer games with friends and other gamers.

> What started out as excitement turned to disgust. Once I entered the multiplayer realm, my inbox became flooded with perverted and sexist messages and I soon was forced to play all my games without any voice. When playing with friends, we would be picked on because "we had a girl on the team" and some matches were even forfeit by opposing teams because they "didn't want to waste their time". Almost exactly three years later [since I first started to play on-line] not much has changed, the perversion and sexisms remains…. The world of on-line gaming has become another male-dominated platform of competition. The target demographic for video games is male, but if a girl wants to play on-line, she should not be subject to harassment.
>   (Quoted from a 2nd year female
> university student paper, used with permission, 2009)

This woman's account outlines the hostile environment that awaits female console gamers who attempt to connect to on-line networks that facilitate multiplayer video gaming. It highlights that it is not necessarily playing video games or the different types of video games that are imposing

barriers to female participation. It is the social context of video games that perpetuates the gender divide.

This animosity against female gamers was publicly exposed during the *Gamergate* controversy in 2014. *Gamergate* was a campaign of on-line harassment targeting several prominent female game developers. The scandal expanded after media critic, Anita Sarkeesian released several videos critical of the representation of women in games and the movement took on the social media hashtag *#gamergate* (Singal, 2014). Sarkeesian, whose critique focused on the reliance and reoccurrence of stereotypic gender tropes in video games, argued that the lack of innovation and diversity, particularly in gender representation, was harmful to video gamers and gaming culture. The harassment escalated to include death threats against Sarkeesian and other women game designers who entered the dialogue of the role of women in game culture. In a televised interview, Sarkeesian indicated that she felt that she was being targeted because she was challenging the status quo of gaming as a male-dominated activity (Mattise, 2014).

Following the preceding discussion, it is reasonable to question the future participation of women in video games. Looking at past trends as an indication for the immediate future, we can expect that the video game industry will continue to grapple with the problem of equal gender participation as it continues to develop games targeted at its largest consumer demographics. Also related to gender, the success and engagement by audiences of the most recent generations of video games is, in part, a result of player mastery of technology and of technique. After years of development, the level of sophistication in video game hardware and software is matched only by the complexity of the gameplay, processes, menus and the gameplay objectives. Modern video game content is designed and based on years of familiarity that core audiences have come

to expect. These are standard specifications for the user interface, controls, and gameplay mechanics. To overcome this barrier of technology and technique is not an easy undertaking. So if social barriers to digital play have created barriers to entry for equal gender participation in video game culture in the past, existing technological impediments (discussed below) continue to work against female players, even if social norms shift towards a more favorable culture for women playing video games.

5.3 Player Engagement

The success of the video game industry during the last two decades has demonstrated the capacity of the medium to engage its audiences. Understanding the reasons why players have found games so compelling is important in assessing the role innovation plays for these consumers. Players' experience with video games is subjective. However, there are several theoretical tools that may be used to explain players' engagement (Boyle et al., 2012). To describe a player's motivation, Mihay Csikszentmihalyi developed a notion of *flow*. He argued that people are happiest when they are in a state of *flow*, defined as a state of concentration, focused on the activity to which they are attending, to the exclusion of everything else (Csikszentmihalyi, 2007). This is analogous to the expression, "getting into the zone." Players become fully absorbed in their activity which requires a high degree of concentration and control. Video games are often created to provide clear goals, rewards and real-time feedback on player progress towards these objectives and to create an enjoyable, immersive experience (Sherry, 2004).

Another motivational theory that lends itself to player engagement is known as *Uses and Gratifications*. First proposed in 1941 by Herta Herzog, this theory postulates that people

deliberately choose a mix of media to meet their emotional needs and manage their emotional state (Herzog, 1941). Video games are positioned as an escape from the routine and boredom of everyday life. Some of these emotional needs can be the need for relaxation, excitement, challenge, or arousal.

Finally, self determination theory which identifies three basic human needs that exist regardless of the social context may also explain our motivation to play video games. These universal needs are *competence*, *relatedness* and *autonomy* (Deci & Ryan, 2002). Competence is the need to gain mastery and control. Relatedness refers to the need to interact with others, and autonomy is the desire to be in control of one's own destiny acting consistently with one's values and beliefs. Recent generations of console games have done well responding to these three needs creating virtual networked worlds where players can connect with others and practice and develop skills to gain control and overcome challenges.

Above are some of the reasons why players choose to embrace game culture: connectedness, autonomy, sense of achievement, escapism, and mastery. Video games have become popular because of their great capacity to respond to these motivations. In the following section, innovation in creating or designing the next batch of video games is an ingredient that is not necessarily central to satisfying these needs and in some cases may run counter to this goal as in the case of innovative games that may be too difficult or frustrating to master, too hard to understand or too unfamiliar. There is a tension between the demand for formulaic video games and innovative video games. Players ask for fresh, new content, however, it still must provide a grounded and relatable experience.

5.3.1 Mastery and Skill

Mastery and skill are two important elements accounting for the success of recent generations of video game consoles. "Traditionally, the FPS genre has been closely linked to hardcore gaming, perhaps because mastery of ...[such games] requires an investment that goes beyond the game itself" (Jin, 2011). This segment derives pleasure from engaging with familiar controls to accomplish difficult and complex tasks while playing console games (Ratliff, 2015; Harvey, 2015).

Familiarity with the console controller and mastery over its sophisticated technology is critical to an enjoyable video game experience. The game controller is one of the most important components of the hardware system of the video game console. The controller unit is the device that mediates the player input to the console. It both defines and limits the type of actions and options available to video game designers and players and therefore has a significant impact on the way video games are designed and played.

Video game technology itself and more specifically, the game controller, appear to favour the reproduction of similar game types and alienate new users and severely limit the developer's ability to innovate new game types. The *Social Shaping of Technology* perspective (MacKenzie & Wajcman, 1985) is a useful tool for understanding the evolution of the console controller. This perspective highlights the fact that technological design both constrains and confirms patterns of use. In the case of the console controller, ergonomic improvements to its design conform to the requirements and patterns of existing game genres while constraining expansion and exploration of other possibilities for video game control.

The first video game controllers consisted of a single joystick and a single push-button. Refer to the Atari system first produced in 1977 in Figure 9. Typically, this configuration was used to control an avatar in a 2D virtual space; the player used the joystick to control the avatar's direction and movement and the push-button discharged the avatar's weapon or defence system.

Figure 9 Atari 2600 Console (1977)

Along with the enhanced performance of today's consoles over older consoles, their controllers have also undergone generations of improvements in ergonomics and functionality since their first appearance in the 1970s. During that period, video games have become more sophisticated and required more complex types of input. Early video games were typically two dimensional adventures requiring simple up/down and left/right movement. Now that computational technology has enabled complex exploration of three dimensional virtual spaces

for today's digital play, a four-directional controller no longer provides the player with a satisfactory control scheme for three dimensional movements.

In response to the need for more sophisticated avatar control, the latest generation of controllers (Figure 10) are now wireless peripherals equipped with vibration feedback, motion control features, two joysticks (typically operated by the player's thumbs), four action buttons, a directional pad (D-Pad), separate start and menu buttons, and four triggers (typically operated by the player's index fingers). In addition to facilitating more complex input between the player and the console, the newest controller designs have responded to player's need for a more ergonomic design. Whereas early console controllers were clumsy, awkward and uncomfortable to use for extended periods of time, current generation controllers are designed to be held with two hands while sitting, easily allowing players to comfortably engage in digital play for extended periods of time.

Figure 10 Microsoft Xbox 360 Wireless Controller (2005)

Console manufactures have responded to the need for more complex human/game interaction by adding more buttons and joysticks. Game controllers have now become very complicated input devices that are used by video game designers to pilot complex games. Video games have evolved from the earliest video game genres, sport, racing, action/adventure, all of which are conducive to single joystick-based input. In each of these genres, the player controls a single "avatar" (which may be a humanoid, a vehicle, or spaceship) as the primary basis of the gameplay. Thus, avatar-based gameplay mechanics such as those found in sports, racing, and action/adventure games have dominated console titles from the very first console generation. The control of an avatar continues to be the dominant mode of control in the development of new video game content to this date (Salen & Zimmerman, 2003).

In the most recent console generation, the controller has reached the height of its complexity. Its design, now based on thirty years of video game content development, is primarily focused on avatar-based gameplay. Video game development during this period has also advanced in each of these previously noted genres (racing, sports, action/adventure) by incrementally enhancing and adding new features to base gameplay types. We now have a generation of video game players trained in the navigation of three dimensional game space using this sophisticated dual joystick-based input device. As video games continue to become more sophisticated, so do the requirements for increasingly sophisticated input. For experienced players, the mastery of this input device creates a portion of the pleasure derived from the game.

As previously noted, the elements of mastery and skill are important motivators in attracting hardcore players to console gaming. This can be related back to our discussion on gender as hardcore players have traditionally been male. To the extent that publishers and

developers have focused on creating games for hardcore male players with years of playing

experience, this creates a barrier for female players that do not have similar years of experience

with console gaming. This presents a reinforcing trend in the development of new video game

content that makes it difficult to attract new audiences. The learning curve required not only for

the video game, but also the input device itself becomes challenging. Both are very difficult for

novice gamers to master (Zagal & Bruckman, 2008). However, regardless of whether players

are male or female, as long as skill development and mastery remain primary motivators

attracting audiences to console gaming, it is reasonable to expect the future evolution of console

games to remain limited to incremental changes to existing genres, where new content

innovation will be oriented towards exploiting the technical capabilities of the consoles and its

familiar controllers within the confines of existing established game genres.

Despite the path dependent trajectory of gaming consoles, Nintendo was able to

reconceptualise a very important aspect of its seventh generation console, the controller. As

previously noted, the barriers presented by *Xbox* and *Playstation* controllers as well as the

accessibility of their games to casual gamers had become formidable by the seventh console

generation. In a move to attract the underserved casual console gamers (gamers outside the male

18-35 year demographic segment), Nintendo introduced a wand-type controller as its primary

input device in its *Wii* console generation. The wand controller is a motion sensitive device that

can be operated with one hand and does not incorporate a joystick (although this feature is

available as an accessory). It is a much simpler device modelled after a television remote and

only has two buttons, a trigger and a directional pad. This control was designed to be more

familiar and intuitive to players with little or no previous experience playing games, effectively

eliminating these technological barriers to playing video games. This improvement was also

important for girls and women who did not grow up playing games with joysticks. Additionally, the motion sensitive nature of this controller allowed for the translation of a range of human movements, not previously available, with the goal of expanding the scope of digital play.

The success of the *Wii* was in part due to its ability to appeal to non-traditional gamers such as the elderly and women with its ease of operation and easy learning curve. The focus on redesigning the controller allowed Nintendo to escape the performance trap in which Sony and Microsoft found themselves of having to incorporate costly new technology into their seventh generation console, such as BluRay disc readers (Wesley & Barczak, 2010). The new motion controller also permitted the expansion of alternative game types and game challenges (Wysocki, 2013). The *Wii* led the seventh console generation sales with more than 100 million units sold, beating *Xbox* and *Playstation* sales (78 and 77 million unit sales, respectively) by significant margins (Makuch, 2013a). It was successful in expanding the audience of gamers to in include greater numbers of women. Nintendo has reported that 80% of female console players play on the Wii (Hotho & McGregor, 2013). Sabine Hotho and Neil McGregor (2013) attribute the popularity of the Wii among women and novice gamers to the accessibility of its control system. This is a strong indication that technology advancements combined with latent player demand can produce successful leaps of innovation in the console gaming segment despite the industrial constraints.

5.3.2 Economy of Time

The process of consumption is an important factor in the analysis of digital media content. Television shows have a typical duration of 30 to 60 minutes. Successful television shows may become syndicated and re-run on other television networks for years after their initial

release. Similarly motion pictures, which typically offer a media experience of 1.5 to 2.5 hours, begin with theatrical release which may last several months. After this, they are subsequently released on DVD before ending up in the library of media aggregators such as Netflix or Apple's iStore. They then join the media category that Anderson (2008) refers to as the *long tail* as part of large digital libraries of low demand products.

The amount of time required for consumers to extract the value from media content that they have purchased will affect their demand for new or additional content to the extent that media consumers have to budget their time for leisure activities. For the consumption of some media, management of the economy of time is not a significant challenge and has a minimal effect on the demand for more content. For example, a movie-goer may be able to budget two hours of time, several times a week, to go to a theatre (provided he can afford it) and see (new) movies. The time it takes to consume one movie will not significantly affect the time available to see all the other movies the consumer wants to see. This is not the case for the enjoyment of most console games.

Sixth and seventh generation console games often follow a format whereby the player is introduced to a story or a series of puzzles or challenges. As the gamer progresses, he overcomes the challenges and advances the narrative towards a pre-defined conclusion. Finishing the story is the motivation to complete the game. In many games, this is referred to as the "story-mode" and is one of the most popular ways of enjoying console gaming (Salen & Zimmerman, 2003). For added value, depending on the genre and the nature of the title, many console games have additional modes. These are arcade modes (playing for the most points), free roaming modes, where players are free to explore, multiplayer modes or the opportunity to

replay through the story mode at an increased difficulty level. These additional modes provide added value, often by allowing players the opportunity to replay sections of the video game under different challenge situations.

For console titles, players have come to expect approximately 10-12 hours of content to complete the story-mode at a level of difficulty commensurate to the players' ability (Snow, 2011). Many open world console game franchises such as *Fallout, Grand Theft Auto* and *Elder Scrolls* have become popular, in part, because they offer challenges that can take hundreds of hours to complete. Other genres, such as first person console shooter franchises (*Halo* and *Call of Duty*) in addition to their 10 hour story modes, offer popular multiplayer modes which players also can also engage for hundreds of hours. Video games are a cost-effective pastime relative to other entertainment options, a major factor contributing to their popularity.

Nevertheless, a single video game requires a significant time commitment by the player. Unlike other digital media, such as music or television, the interactive nature of video games requires users to commit a higher level of focus and energy on the activity of playing, than listening to music or watching television. Because of this exclusive time commitment, video game audiences have significantly less time available to explore and play a wide range of game content. Unlike some movie or music consumers who have acquired massive media collections, time becomes a limiting resource for video game players who want to experience a wider range of game media. The ten or more hours required to complete a console game appears to be a formidable issue for most gamers. Raptr, the on-line gaming community, reports that only 10-20% of avid gamers play their video games through to the end of the final mission (Snow, 2011;

Raptr, 2015). The problem of the economy of time may be even more amplified when considering gender as a factor.

Sayer (2005) has argued that women have less free time than men to engage in leisure activities because of increased participation in the work force, as well as child care and other household duties. Additionally, women's free time at home tends to be more segmented than their male counterparts (Sayer, 2005). This is an issue as console games are often best enjoyed as an uninterrupted and immersive experience requiring players to set aside blocks of several continuous hours of free time. Such commitments appear to be more readily available to men than women.

The commitment required to engage in console gaming requires gamers to be selective in choosing the games in which they want to invest their leisure time. This encourages gamers to gravitate towards games with familiar narratives and known gameplay mechanics and, as mentioned, it may create barriers to symmetric gender participation in console game culture and explain the lower percentage of participation of women gamers.

5.4 Summary

The video game player has an interesting disposition towards innovation. On the one hand, players enjoy the challenge and satisfaction of picking up and playing a brand new console game and are constantly demanding new games. On the other hand, through many hours of game play, many players build up skill, mastery and expertise which also drives their motivation to continue playing games that they become familiar with. This dichotomy creates difficulty for developers and publishers who understand that players want games to be innovative, but not too

innovative. Gender is an important factor that continues to influence the culture of gaming. Despite research that demonstrates both genders have a positive disposition towards video games, console gaming is still dominated by male gamers. However, the culture of console gaming is not only affected by the male preference for certain types of games, the recent experience of *gamergate* has demonstrated the hostile environment that awaits girls and women that choose the on-line world of console games. Research by Jennifer Jensen (2005) have suggest that young girls are prone to turn away from console gaming rather than be exposed to the harsh criticism they may encounter there from male players.

Finally, one particular group of players, known as hardcore players, appear in the video game community as very influential. This largely male demographic not only play and purchase significantly more games than the average gamers, but, as early adopters, their gaming choices provide leadership to the rest of the gaming community who seek guidance on which new games they should be playing. The stability of the game industry favour a managed administration of innovation whereby new content can be provided to the hardcore players. During the sixth and seventh console generations, these players appear to be mostly young men.

Like any cultural industry, video game developers and publishers have met with mixed success in gauging the appetite for innovation in their audiences. New games are released regularly to sustain the industry and replace old content. The console game industry can and has attempted to appeal to new audiences in the new games it delivers. The question remains how new and innovative should take form in the next generation of games. The publisher's functions is to decipher the sometimes contradicting messages from players and then work with developers to provision player with new content according to the constraints of the industry.

Chapter 6 The Video Game Publisher

The video game publishers are the linchpin of the industry, fulfilling the role of connecting developers with players. The market power of the console game publishers with their global reach, access to capital and control over distribution chains has elevated their role and leverage in making important decisions in the sixth and seventh console generations. Publishers have shouldered the financial risk of anticipating which video games will appeal to gamers and provisioning game developers to create them. The final decisions as to which large budget console games get made largely resides with the publishers. Arguably, this position of power for the publishing role has resulted in it being one of the most contested features of the modern console era.

The *franchise* model of video game development has emerged as the dominant publisher strategy for console game development in the sixth and seventh console generations. By definition, a media franchise is a collection of derivative works produced based on an original (Lemke, 2004). The franchise model is the practice of exploiting successful media properties by producing extensions to that property. In common video game vernacular, these extensions may be referred to as game sequels, prequels, add-ons, DLC (downloadable content), episodic content or expansion packs. Releasing game content over longer periods of time provides immediate commercial benefits for publishers as they are able to monetize media properties over time. In the case of video games, successful franchises can be exploited for decades by adding new content around the core features of successful games. As a risk mitigation measure, when developing new console games, publishers evaluate the potential of a game to establish a new franchise. If the game is well received and financially successful, the publisher is then well

positioned to produce additional games and content that follow the pattern of the original game.
The way this strategy has been adopted in the console game industry and its subsequent impact
on innovation is the focus of this chapter. However, a discussion of the publisher/franchise
model requires identification of some of the key characteristics of console game publishers and
to locate their role within the industry innovation cycle.

As the mediators and facilitators of the console industry, publishers are instrumental in
creating and administering tension between both the players and the developers. Dealing directly
with both stakeholders, it is the publishers' role to reconcile which video games players want to
purchase with the games that developers are able to make. Managing player expectation has
been a continuous challenge for publishers. The giant developer-publisher, Electronic Arts was
voted the worst company in North America by its consumers in 2011 and 2012, highlighting the
antagonism and frustration experienced by EA's customers, the players (Tassi, 2013). Among
the major reasons cited was not developing products that customers want or like, not supporting
the products they did make and not selling their products at a reasonable price (Morran, 2013).
Similarly, other global publishers have also been criticized for their failure to deliver variety,
diversity and innovation in their games (Wesley & Barczak, 2010; Hawkins, 2015; Houghton,
2012).

Relations between publishers and game developers appear no less tense. In an article
published by Kotaku, a popular on-line site for video gamers, an anonymous former game
developer and publisher employee laments the difficulties that game developers often encounter
when working with publishers (Kotaku, 2013). He describes the console publishing model as
working well during the PS2 era (sixth generation) where the industry produced a greater

diversity of titles and the development teams were much smaller. In the seventh console generation, he explains that publishers were no longer effectively able to keep up with the complex requirements of the production process. As a result, they could not positively collaborate on the development of new ideas or correctly manage larger development scenarios. This has resulted in the over-exposure and mismanagement of game franchises as well as unnecessary and gratuitous changes and additions just so publishers can be perceived as wielding their authority, often to the detriment of the project as a whole. The Kotaku article is one perspective on how publisher management of their role can impact the creative process.

This criticism from both developers and players emphasizes the difficult position publishers find themselves in while attempting to maintain the stability of a multi-billion dollar global industry and managing the challenges introduced by innovation. Yet, despite these antagonisms, there has been the growth in the sale of console video games in the U.S. market highlighting the demand for new games. For as Figure 11 shows, the release of new console hardware for the sixth and seventh generations in 2000 and 2005 has prompted periods of rapid expansion for the sale of game software in the industry.

Figure 11 US Video Game Sales, 1996-2012 (Billions of USD), (EDDAR, 2013)
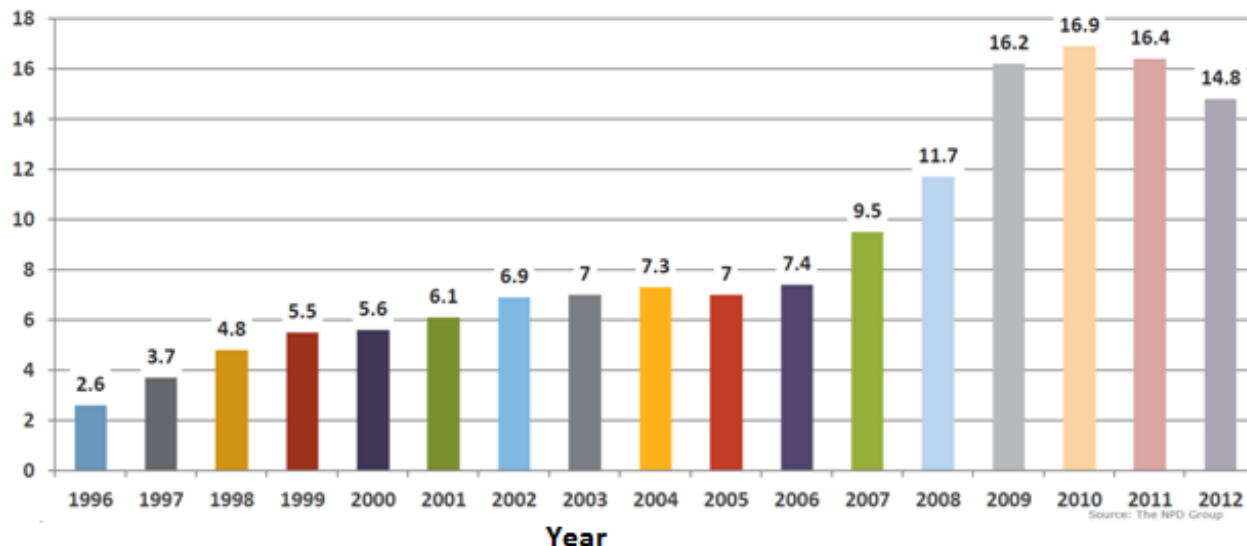
6.1 Who are the Publishers

The video game industry is highly concentrated; a few large publishing firms dominate. (Kerr, 2006). Competition among the publishing community is fierce, motivating efforts to expand their reach while consolidating publishing with in-house game development. This has resulted in the evolution of an oligopoly of publisher-developer giants who control the majority of the console games released in North America.

This trend is reflected in recent corporate activity including the 2007 corporate merger of Activision and Vivendi creating the largest publisher-developer in the industry, Activision-Blizzard (Richtel, 2007). It is noteworthy that the Activision-Blizzard merger resulted in the cancellation of a number of original game concept projects because these games had limited potential to develop into franchises (Jenkins, 2008). In 2008, Electronic Arts filed a bid for the hostile takeover of Take2Interactive. The motivation behind this takeover action appeared to be

Electronic Arts' desire to shut down Take2Interactive's sports game division, 2K Sports, which

competes directly with Electronic Arts sports division EA Sports which produces soccer, hockey,

basketball and baseball games (Vella, 2008). Despite the failure of this bid, Electronic Arts did

succeed in acquiring more than 20 independent studios in the following two years, many of

which have subsequently been closed down (Robinson, 2008).

THQ, the fifth largest North American publisher in 2006 with revenues of $800 million,

filed for bankruptcy in 2012 after a series of failed games and product launches. Ironically, one

of THQ's last original products, the *uDraw*, contributed to the publisher's demise. The *uDraw*,

was a tablet peripheral designed to work with seventh generation consoles. As one of the few

new third-party controller-peripherals produced for the *Xbox 360*, *Playstation* 3 and *Wii*, the

device was original and innovative. It was the first drawing device created for these consoles.

Also importantly, it permitted the development and extension of new game features and

functionality previously unavailable on consoles. When first introduced, it was met with positive

reviews from both players and critics. Unfortunately, the sales of the *uDraw* did not follow and

the company reported a loss in revenue of $100M attributable to its introduction and an

inventory of 1.4 million unsold units (Dutton, 2012) just two years before the 23 year old game

label was retired.

THQ's failure followed on the heels of another long-time global publisher, Midway,

which filed for bankruptcy and ceased business operations in 2009. In 2008, Midway's president

reported that they had spent more than $100 million adapting their core technology, the Unreal

Engine, in part to help with the development of *Stranglehold* (2007) and *Blacksite: Area 51*

(2007) which created technological challenges adding to the mounting losses suffered by the

publisher (Nutt, 2008). These failures in the past two console generations demonstrate the precarious position occupied by publishers in the industry. They are not immune to the same fate as developers when they are unable to find large audiences and produce hits for their costly sixth and seventh generation console titles.

With the notable departures of large firms such as Midway and THQ, the merger of other publishers such as Activision and Vivendi, the decline of global publishers such as Sega and the $775 million acquisition of Bioware-Pandemic by Electronic Arts (Geddes, 2007), the sixth and seventh console generations represented a phase of consolidation for the industry. The oligopoly of publishers became smaller in number but larger in size. Successful publishers continued to expand vertically by developing and acquiring new game studios and focusing their game strategy on developing and exploiting successful franchises. During this period, not only had game creation become increasingly costly and sophisticated, but the apparatus for producing these games has become more concentrated.

6.2 Publisher's Roles

Cultural production can follow one of several different patterns or logics. In his review of cultural industries, David Hesmondhalgh (2007) notes that for all its novelty, the digital game industry operates in a similar fashion to other cultural industries. The game industry follows a publishing logic of commodity production. Hesmondhalgh (2007) concludes that although it is a significant new entrant in the cultural industry sector as well as an important new cultural form, the structure of the game industry does not represent a shift in the sector's prevailing organizational and structural forms. Thus, the business model for the distribution and sale of console games emerged as a hybrid of the model selling books and computer software. Game

developers carry out the creative work which is funded by the publisher who in turn takes ownership of the video game and is responsible for sales, marketing and distribution. The game developer then receives a royalty on proceeds of the sales, similar to the way the book publishing industry operates.

Bernard Miege (1987) described three distinct types of publishing logic. Type 1 publishing logic refers to the production of highly standardized and easily reproducible products. This type of commodity production generally seeks low cost production areas that are highly rationalized, explaining, for example, the tendency to locate the production of standardized hardware with low cost producers in Asia. The manufacture of computer hardware, such as personal computers, falls into this category. Type 2 publishing logic designates the production that requires a high degree of creativity and a combination of labour processes; however, once produced, it can be easily and inexpensively reproduced. Books and magazines typically fall into this category. Type 3 logic refers to authentic artisan production requiring a high degree of creativity and skill to create products that cannot be easily reproduced such as original paintings or sculptures (Miege, 1987, 146-7).

The type 2 publishing model encompasses entertainment texts that are sold on an individual basis to be owned. Creative personnel are often remunerated for the production of these texts from the sale of their intellectual property by the publishers in the form of copyright royalty payments. Console games fall under Type 2 production logic. This form of commodity production distinguishes itself from others in the heightened tension experienced between capital and labour (Miege, 1987) where market power of capital tends to transform the production system as a whole according to its requirements. Creative labour is often at a disadvantage in its

bargaining conditions with capital (Johns, 2006; Stahl, 2009; Kline et al. 2003). However, in the struggle between labour and capital in creative industries, labour can gain significant leverage for better wages and working conditions where there is a clear demand for its creativity and innovation especially when these features are essential in the final product.

In earlier console generations, the publisher-developer model of commodity production became popular where publishers focused on publishing and developers focused on creating games. Each activity was a separate business unit. The tension described by Miege between creative labour and capital was managed through a number of different mechanisms articulated through various types of development agreements which typically included royalty sharing where both parties could benefit from the rewards of the commercial success of a game. In earlier console generations, development costs were lower, the industry was less developed and developer-publisher arrangements tended to be less formal (Kent, 2001; Wolf, 2008; Wolf, 2012).

As the industry grew and consolidation began to occur in the sixth and seventh console generations, publishers began to vertically integrate the value chain and started to focus more on developing their own games and reducing efforts to contract independent developers to make their games (Kerr & Flynn, 2003). This is an important structural change as now publishers began to directly employ significant numbers of creative labour. The case of EA Spouse, discussed in Chapter 4, outlines some of the difficulty experienced by publishers in managing their creative human resources.

Another noteworthy example of this conflict occurred at Electronic Arts' rival, Infinity Ward, an internal game development studio owned by Activision. Infinity Ward is the creator of

the *Call of Duty* franchise. With lifetime sales revenue of more than $10 billion, it is one of the

flagship series of modern console gaming (Handrahan, 2014). After the success of the first *Call*

of Duty title in 2003, Activision acquired a 100% interest in Infinity Ward. After several more

successful installments of the franchise over the next six years, Activision reported to the

Securities and Exchange Commission that Jason West and Vince Zampella, Infinity Ward's

president and co-founder, respectively, had been dismissed from their positions at the successful

development studio in 2009 for insubordination and breach of fiduciary duty (Activision, 2010).

Both West and Zampella retaliated by launching lawsuits against Activision claiming they were

let go weeks before they were due to be granted substantial royalty payments (Reilly, 2010). It

was reported that more than half of Infinity Ward's staff subsequently resigned and joined forces

with West and Zampella to form a new development studio, Respawn Entertainment, funded by

Activation's rival publisher, Electronic Arts. Subsequent development in the *Call of Duty*

franchise was handed over to other internal Activision studios (Gamespot, 2010).

According to analyst Jesse Divnich, this dispute reflected some of the problems

publishers experienced directly employing creative staff (Stuart, 2010). He states that it is not

uncommon to see publishers give their developers a certain amount of freedom and creative

control; however, if they give them too much power, employee relations can start to get out of

control. Publishers are thus in an awkward position where they must focus on developing

profitable titles but in doing so, risk the possibility of retaliation from their creative staff.

If publishers give greater creative ownership to developers, the creative staff will control

significant aspects of the game and will be in a better position to demand higher shares in the

profit they create and dictate development terms. This is a concern for hit driven industries such

as console games where a small percentage of games fund the larger majority of titles that lose money. If publishers were forced to give equal shares of the excess profits for all successful games to the developers who made them, arguably, they would not be able to fund the development of the balance of the titles that ultimately lose money. Regardless of whether the unprofitable games were developed by publisher-employed staff or by third party developers, the publisher probably cannot retrieve financial losses from creative teams who contributed to unprofitable titles. This unfortunate condition has helped structure the development of the video game industry in the sixth and seventh console generations. Affording too much creative autonomy to certain teams will contribute to strained internal relations between creative labour and capital (developers and publishers respectively). As a result of this dilemma, several trends in managing creative teams emerged in the sixth and seventh console generations. None of them focused on improving the diversity or innovation in the end product.

The strategic direction of consolidating the console industry was one remedy. Publishers would acquire game developers who had already created hits. For example, Electronic Arts acquired more than 20 studios between 2004 and 2008, many of them because of intellectual property that they had developed (Robinson, 2008). This practice allowed the publisher to eliminate some of the *hit or miss* risk of producing their own original property. The trend of purchasing game developer studios for their intellectual property worked well in the sixth console generation where game development projects costs often ranged from $1M to $10M (Johns, 2006). During this console generation, from 2000 to 2006, independent game developers had the greater possibility of seeding valuable intellectual property (game franchises) within the industry and there was a pool of successful independent developers available to acquire. After the studio acquisition, once the publisher had gained ownership of the rights to the developer's

hit titles, these games could then be franchised and sequels produced. In many cases, as Robinson (2008) points out, the original development studio was often closed down and the development of sequels transferred to an internal publisher studio.

By the beginning of the seventh console generation in 2006, typical development budgets had increased significantly in response to the capabilities of the new console hardware and there were fewer and fewer independent game developers regularly creating hit intellectual properties that could subsequently be purchased by publishers. Matt Hilleman, the Chief Creative Officer of Electronic Arts described the state of the console industry by saying that there were 25 triple-A games studios world-wide in 2012, down from 125 at the beginning of the seventh generation in 2005 (Martin, 2012). However, the total number of development staff had roughly stayed the same during that same period. As a result, independent game developers often became contractors of the large publishing houses and were creating fewer independently successful titles or left console game development altogether with human resources being transferred to larger studios. Thus, in the seventh console generation, the opportunities for publishers to acquire ready-made hit console franchises from independent game developers began to diminish.

In the seventh console generation, the large publishers with their internal creative resources have been forced to take greater responsibility for much of the new intellectual property development in the industry. With the exception of a small number of independent console developers capable of managing seventh generation console development, many independent console developers either turned their attention to developing games for other platforms (the relatively recent introduction and rise in popularity of mobile and portable platforms created new opportunities for console developers) or they went out of business.

During that time, the failures by the large publishers to work with creative labour, exemplified by the Infinity Ward and EA Spouse incidents, have caused the publishing oligopoly to adapt and attempt to avoid those situations in the future. Infinity Ward was an example of the publisher losing control over two of its celebrity developers and much of their team, whereas the EA Spouse is an example where the publisher risked losing control of entire studios of creative labour.

To maintain control over creative labour, Bill Ryan (1992) emphasizes that different methods are used at different stages of production. At the early stages, this control is achieved through what Ryan calls *formatting*, which he defines as genre-based production to act as a marker for the types of experiences that audiences can expect. This produces more controlled and sequenced content. Management, which includes game producers and marketers, holds an important role. They direct creative personnel; however, symbolic creativity cannot be reduced to a set of procedures and rules (Hesmondhalgh, 2011). The development of professional creative production, especially in the digital era, has tended to consolidate the power of design and interpretation in the hands of management and executives relegating other creative personnel to the status of technicians (Ryan, 1992).

Another method of controlling creative labour deployed in the seventh console generation by publishers was to focus production on big, complex games, made using multiple internal studios. The growth of franchise and licensed games has also served to de-centre the creative requirements from the immediate development team or studio as portions of the creative work for these projects are inherited from the franchise's intellectual property. This along with the trend towards larger games and bigger projects has made it difficult for any one person or team

to effectively be able to claim ownership or authorship of commercially successful games. In

such an environment, great strides of innovation would not generally be encouraged, especially if

they originated from smaller project groups who could identify ownership or significant creative

input. Publishers focusing on derivative production not only reduce their risk in understanding

player tastes, but also the practice affords publishers more leverage to contract with creative

labour as it more difficult for staff to identify their contributions in such large distributed

development networks. Unfortunately, successful innovation has proven to be problematic for

publishers.

Bobby Kotick, the president of Activision, explained his approach to new intellectual

property development as follows:

> You still need to have production of new original intellectual properly, but you
> need to do it very, very selectively. And if you look at the number of new,
> original intellectual properties successfully launched in the market each year over
> the last five or ten years, it's a small, single digit number
>
> (Jenkins, 2008, 10)

To better understand the effect that video game publishers have on the game industry and

how they are able to influence innovation, the function and role they fulfill will be briefly

reviewed. Publishers have three important roles in the commercialization of video games. They

are (1) marketing and public relations, (2) financing game development and (3) providing for the

physical distribution of the games to players (Johns, 2006).

6.2.1 Finance

As previously noted, very few independent game development studios could afford to

finance game development projects as budgets began to escalate in the sixth and seventh console

generation. As large publishers took ownership of financing game development, they also became invested in the creative process in their attempts to prudently manage their large financial investments. Management of multi-million dollar development budgets favour an accountable regime of oversight. However, the production of digital wares does not facilitate high levels of accountability. Because of the iterative or experimental nature of game development (Salen & Zimmerman 2003), it is often difficult to assess games that are half way through the development project to know if they are on schedule or on track to realize the original design vision. As a result control and oversight through all phases of the long game development projects became necessary to ensure accountability for capital invested in game development.

There are high risks that financial investments in game development cannot be recouped should the game fail financially. This serves to ward off potential entrants (developers) that do not have the financial backing to endure one or more project failures. External investment to bridge this gap was uncommon (Wolf, 2008; Johns. 2006). During the sixth and seventh console generation, video game developers found getting investment by traditional sources of financing very challenging (Johns, 2006). The specialized development approach, difficulty in assigning accountability, high cost and hit driven nature of the game development generally caused game development to be viewed by potential investors as too risky and unstable niche for traditional sources of funding such as bank financing or even venture capital investment. As a result, publishers ended up being the primary source of funding for console game development for sixth and seventh generation consoles. Publishers diversify and mitigate financial risk across an inventory of games in development. They take risks on finding the next big blockbuster game by

funding a large variety of games. Their business model works because the successful games can be so successful that only a few successes can fund many failures.

6.2.2 Marketing

Marketing is one of the activities undertaken by publishers in the process of bringing a game to the public. Effective marketing has proven to be necessary to create awareness among consumers, to drive interest and to manage expectations. Marketing is a significant factor affecting the sales and profitability of console games.

Figure 12 Effect of Marketing on 7th Generation Console Game Sales (EEDAR, 2014)

The importance of marketing for console games is highlighted in Figure 12. Using game media reviews as a proxy for game quality, the video game research and consulting firm, EEDAR estimated that high quality console games combined with extensive marketing could expect to sell five to six times as many units as similar games for which little or no marketing

was done. For poor quality games, marketing has less of an impact. However, the biggest difference is for high quality games with extensive marketing which will sell 11.3-16.0 times as many games as lower quality games with little or no marketing. For the larger seventh generation game budgets costing tens of millions of dollars, being in the top right quadrant is where all publishers aspire to be for their games. In fact, games that fall into any of the other three categories will most likely be unprofitable.

Therefore, large budget marketing is no longer an option for the newest generations of video games. It is a necessity. The combined load of marketing and development for seventh generation console games has dramatically driven up costs. Combined marketing and development of console games can now exceed $100's of millions as shown in the recent game launches of *Destiny* and *Grand Theft Auto* (Karmali, 2014; Vilapaz, 2013). Even large global publishers can only manage a select number of media launches each year, resulting in a trend of making fewer games and having those games conform to the demand in each game category or genre.

6.2.3 Distribution

The predominant model in the sixth and seventh generation consoles is the reproduction of the game on physical media for distribution and sale to consumers via retail channels. Each game title is licensed to consumers who buy the game discs for a single up-front price which affords the purchaser unlimited use of the software. The commodity production model is common in other cultural industries such as CD and DVD production (music and motion pictures). This differs from other production formats including flow logic where cultural

production is based on the uninterrupted flow of content in broadcasting industries (radio, television) and the written information model applicable to magazine publishing (Miege, 1987).

The emergence of cultural industries goes hand in hand with the emergence of enabling new technologies. Digital technologies give advantages to economies of scale in production, distribution and marketing. As in other creative (digital) industries, these conditions favour the establishment of intermediaries whose function is to leverage these efficiencies in the distribution (as well as the financing and marketing) of cultural goods (Lampel, Shamsie, & Lant, 2005). The high fixed costs of maintaining distribution channels and global networks has resulted in the industry establishing a small number of publishers focused on expanding their distribution networks. One of the early strategic advantages publishers were able to develop was the creation of an efficient global retail distribution network to be able to access national and international markets with new game content (Kerr, 2006). In order for game developers to get their products on the retail shelves, a relationship with a publisher who has access to the thousands of global retailers was necessary to sell a game title. It is easier and more efficient for retailers to deal with a few publishers who have access to a steady stream of games for release rather than hundreds of independent developers individually. Thus, a few large publishers have come to dominate the retail distribution channels to the exclusion of smaller publishers or developers (Adams, 2014).

A review of the distribution costs helps demonstrate some of the trends of console gaming. Here is a break-down of how costs are typically allocated to game distribution (Zackariasson & Wilson, 2012; Nichols, 2014):

Console manufacturer fee - $8

Reproduction cost (disc) - $5

Shipping and Handling - $2

Retail Fee - $15

Adding together all the distribution channel costs for physical media on console games results in

a cost of $30 for a title destined for sale in North American stores (Zackariasson & Wilson,

2012; Nichols, 2014). The typical price paid by a consumer for a new console game during this

period was $59. Half of the cost incurred by the sale of a console game was lost to distribution

cost. The remaining $29 was required to cover the development and marketing costs. Despite

the relatively low reproduction costs of digital media, the combined sales, distribution, and other

channel costs for consoles games are relatively high (roughly equal to half of the total cost of the

product) when selling games in store. Further, the channel costs are fixed and do not scale down

with an increase in unit sale. As a result, the expense of using the physical distribution channels

further encourages the development of large games so that the distribution costs can be

commensurate with the development costs.

6.3 Franchise Model

Video game franchises have been a very successful format because they have the

potential to engage players over long periods of time. Pierre Bourdieu (1979) proposed that the

attraction of media products is a function of their appeal to a culture specific disposition or habit

that is adopted in respect to the player's social position. Hence, players in engagement with, for

example, fantasy role playing can often extend beyond a single video game title such as *Fable* or

Dragon Age and beyond a gaming category, in this case, RPGs, to a cultural engagement that can

include other leisure activities such as motion pictures, television, or novels. Players'

engagement with their subject matter is in conformance with their value systems.

Mass market advertising has long since taken up the role of selling lifestyles and tastes

rather than simply products (Tedlow, 1996). Video game consumption now figures prominently

among the lifestyle of today's youth with their choices of game titles and genres becoming an

important marker relating them to their social class and personal identity cultures driving players

to favour franchises with known game mechanics, narratives and art styles with which they have

previously come to identify (Buckingham, 2008). A special characteristic of these fan franchise

worlds is that consumers take on a strong sense of ownership and identification with them and

with their points of view (Lemke, 2004). Famous games by definition attract a disproportionate

amount of attention. This is a social-cultural property as well as a technological-economic factor

(Nieborg, 2011).

Table 5 shows a list of some of the PC and console game industry's most popular

franchises. Many of these franchises have been produced for decades, selling hundreds of

millions of copies demonstrating the appeal of these popular games to players.

Table 5 Top Selling Video game Franchises (VGSales, 2014)

Franchise	Publisher	Units Sold (millions)	Year of first Game appearance
Mario	Nintendo	466	1983
Pokeman	Nintendo	260	1996
Wii Series	Nintendo	202	2005
Grand Thief Auto	Take2Interactive	195	1997
Call of Duty	Electronic Arts	188	2003
The Sims	Electronic Arts	175	1989
Need for Speed	Electronic Arts	150	1994
Sonic the Hedgehog	Sega	140	1991
Tetris	Various	140	1984
Final Fantasy	Square Enix	110	1998
FIFA	Electronic Arts	100	1995
Lego	Various	100	1998
Madden NFL	Vivendi	99	1989
Pro Evolution Soccer	Konami	87	1983
Tom Clancy	Ubisoft	82	1996
Halo	Microsoft	80	2001
Assassin's Creed	Ubisoft	78	2003

Franchised, cross-media, and branded content are not new to console games. The franchise model in recent decades has expanded to become the dominant mode of media and cultural production today. For those companies that own, control, or develop intellectual property, the franchise model flows naturally as the most efficient way to exploit intangible media property. As Kline et al. (2003) point out in their analysis of video game commercialization, the logic of economies of scale and the fear of failure favour the serialization of success. In the recent survey by the ESA, one of the most important (positive) factors that influence a player's decision to purchase a game is whether the game is a sequel (ESA, 2013).

Despite concerns over the lack of new and original games through the past decade, gamers have demonstrated a clear demand for franchised and licensed games as well as sequels and add-on packs as expressed in the gamer-produced video, "Are Gamers Killing Video Games?" ("The Game Theorists", 2014). In the video, players are criticized for their hypocrisy for demanding innovative games but only purchasing franchised games. It concludes that innovative games simply do not sell and argues that an inverse relationship between game sales and innovation has evolved. The perceived player affinity for franchises has in turn informed the publishers' approach to creating new games to further solidify this trend.

The ownership privileges of intellectual property favor franchising of successful games. The preponderance of franchising in console games however does create some opportunities for innovation. It does create an important advantage for intellectual property owners who have the exclusive rights to create, market, and exploit additional content in new, successful games. Intellectual property owners (usually publishers) can ensure the consistency and continuity of the subsequent content produced for their successful games. These legal rights can potentially

encounter both developers and publishers to create innovative content that extends well beyond that of a singular commercial release. The ownership privileges provide the potential for console developers to create innovative and interesting mechanics as well as longer and more complex stories that can be expressed over many years and many different game releases by excluding others from tampering or appropriating their original game concepts and material.

Media industries do not appear to have fully grasped the potential of such long term opportunities, resulting in some noteworthy failures transitioning intellectual property into video game formats. Both popular and critical opinion of media franchises has not generally been positive. In the introduction to his book on media franchises, Derek Johnson (2013) describes the perceived mediocrity of the endless drive of sequels, prequels and tie-ins as "...an industrially-driven process perceived as an unchecked expansion and assimilation across cultural contexts, media products have proved culturally threatening not just in their seeming lack of sophistication, but in the challenge to choice, diversity, and creativity posed by their mechanistic, almost viral drive towards self-replication" (Johnson, 2013, 5). However, in his study of franchising in motion pictures, television and to a lesser extent video games, Johnson proceeded to argue that this is an oversimplified position and to fully appreciate the complex landscape of franchised cultural production, you need to look beyond the monolithic replication of countless numbers of spin-offs and branded products and merchandise developed under the auspice of unified corporate conglomerates. In his view, franchises do not simply replicate themselves; however, they are produced and negotiated in cultural contexts with active participation from fan communities that ultimately contribute positively to the introduction of innovation in the replication, re-purposing and re-appropriation of popular media franchises.

In his 2008 book, *Convergence Culture*, Henry Jenkins introduced the term, *transmedia*. He emphasized that progression of digital media technology development was bringing about a convergence of disparate media as they transformed from analogue to digital. He predicted that as traditional media such as television, radio, telephones, movies, and interactive media began to adopt common digital platforms, connectivity enabled by the internet would drive these media to converge. This convergence would, in turn, enable new forms of entertainment. With a common technology backbone, content creators could develop much richer, complex and enjoyable media experiences by combining the best attributes of multiple platforms and delivery channels.

The potential to exploit any valuable media property on multiple platforms is an enticing proposition for owners of digital media properties as a way of expanding its reach, impact and revenue generating capacity. Along with the temporal release of content, multi-channel exploitation of intellectual property is the cornerstone of media franchising. Jenkins (2008) described several examples where engaging multiple channels for properties such as the *Matrix*, *Star Wars* and *Harry Potter* franchises were able to create opportunities to enhance consumer engagement by enriching the fictional worlds and delivering content that benefitted from the synergies of a planned execution among a variety of media channels.

The practice of enhanced multimedia consumer engagement is the ideal that Jenkins envisioned with his notion of *transmedia*. However, the cross-platform and cross-media production have been criticized among stakeholder groups with less optimistic greetings. Before its bankruptcy in 2012, one of THQ's last financial successes was a video game for the Pixar movie, *Cars* in 2006. As a cross-media video game property, it was also one of the most

ambitious cross-platform video game projects produced in the industry to date. The single title

was released concurrently to the motion picture launch on 12 different video game platforms

including consoles, handheld, and mobile platforms, receiving mediocre reviews (Bozon, 2006).

Most reviewers saved their harshest reviews for the handheld versions of *Cars*. It was criticized

as an ill-conceived replica of the more complex console version as described in the

amalgamation of reviews on the popular website, *Metacritic*

(http://www.metacritic.com/game/ds/cars).

In the case of *Cars*, franchising multiple platforms was not used to gain the synergies of

multiple channels or techniques to enhance the media experience. Instead, *Cars*, the video game

benefitted from the synergies of co-marketing what eventually turned out to be one of the most

popular animated motion pictures of 2006. The formatting of the same game created for

consoles on to handheld platforms with screens that were too small and of insufficient processing

power, resulted in a broken and low quality game experience. Cross-media efforts for console

games have encountered similar formatting difficulties. These motion picture tie-ins are

designed for simultaneous release, to be launched at the same time as the movie release.

Typically released within days of the motion picture, movie tie-ins are an example of the cross

platform commercialization practices that have been developed to exploit the costly creation of

intellectual property. One of the biggest financial benefits of this practice is the synergies that

can be created in marketing both a movie and a video game to essentially the same consumer

demographics. This gives rise to many of the major criticisms leveled against video game

developers: lack of original content, derivative gameplay, proliferation of licensed products and

cheaply made movie tie-ins (Newman, 2004).

In his assessment of the video game industry, Casey O'Donnell offers an alternative perspective on convergence. Platforms diverge more than they converge in the video game industry. Each platform, mobile, web, social, and console, offers a differing set of user affordances and expectations (O'Donnell, 2012). For O'Donnell, the technological pre-dispositions of the various types of video game media will ultimately hinder, not encourage transmedia narrative experience. For example, video games created for handheld consoles such as Sony's PS Vita, or Nintendo's 3DS would be designed to take advantage of its portability and small screen size. They would likely be designed to provide casual, arcade-like game experiences of short duration. Console games, on the other hand, would be designed to take advantage of large screen televisions, the privacy of the living room setting, and the greater computational power of the console CPU to provide a more sophisticated, immersive game, often experienced over longer periods of time. As in the case of *Cars: the video game*, the cross branding opportunity for blockbuster movies create a very strong incentive for publishers to maximize profits by porting the same game on to other platforms for which the game was not designed.

The difficulty in overcoming the challenges of cross-media technological biases only partially explains the phenomenon of franchising in the video game industry. The proliferation of movie tie-ins is also related to the licensing and ownership structures of intellectual property. In the case of the video game industry, when a firm licenses the intellectual property rights from a movie, television series, comic book or board game, the licensee acquires the goodwill associated with the brand typically for its immediate revenue generating capacity, but generally has no long term interest in maintaining the brand.

Newman is particularly critical of movie tie-ins where the brand (movie title) is often aggressively advertised around the time of the movie release. There is a significant advantage to release video games tied to movies at the same time. The pressure to have concurrent releases for movies and video games is one factor responsible for the poor quality and lack of innovation in these co-produced games. Once approved for production, a Hollywood motion picture can often be ready for commercial release much earlier than it takes to finish the video game tie-in. Console video games may require significantly more time to design, produce, test and debug. In short, coordinating the schedules for video game production and film development becomes almost impossible (Kohler, 2013). Therefore, when the motion picture is driving the intellectual property, it often results in incompatible production cycles for a concurrent release of the multi-platform property.

Arguably, the most famous example of a failed movie tie-in is Spielberg's blockbuster movie *E.T.*. In the early days of the consoles, marketers at Atari felt that co-marketing and co-branding opportunities for their video games were so strong that quality or innovation did not matter. With less than six weeks of development time available before the 1982 holiday season, Atari produced a movie tie-in for *E.T.*, which is often cited as one of the most noteworthy video game failures (both financially and creatively) of all time as well as being partially responsible for the video game crash of 1983 and the downfall of Atari (Maltman, 2010; Hylton, 2015; Steinburg, 2007). It was a visible collapse and an indictment of the mismanagement of creativity in favour of the pursuit of marketing and co-branding opportunities. The *ET the video game* fiasco was even more notable when compared to the success of the original motion picture. Nonetheless, the process for making *ET the video game* established a pattern for exploiting heavily branded source material in motion pictures through licensing agreements.

The subordination of video game development schedules to the release dates of the motion pictures for which they were licensed has often resulted in the release of movie-ties that were rushed or incomplete. In the case of *ET the videogame*, the normal development period for an Atari 2600 game was six months. Despite this early failure, the co-marketing potential between games and movies continued to present opportunities and licensing movie titles for console games remained a common practise for North American publishers with Electronic Arts producing notable tie-ins for the *Harry Potter, Godfather* and Peter Jackson's *Lord of the Rings* movie franchise and Activision publishing tie-ins for Michael Bay's *Transformers* movie franchise. Licensing children's movies from Pixar, Disney, and Dreamworks was a cornerstone of THQ's sixth console generation strategy. Indeed, during both the sixth and seventh console generations, publishers struggled with each other to acquire high profile sports, motion picture and television licenses.

The alternative to branded content as well as a route towards greater innovation is to focus on new console games rather than recreating or licensing previously developed or franchised content. The decision to create new game properties or create licensed or franchised games is also affected by the time when the game is to be released relative to the console cycle according to industry research group EEDAR (2014). They report that the success rate for the launch of new and original console titles within a year of the launch of a new console generation is 45%, where success is defined as the sale of 1.8 million units. The rate drops to 9% late in the console generation when the console install base is larger. Thus publishers have strong incentives based on traditional sales patterns to tie the introduction of new games properties to within a year of the introduction of a new console and to subsequently franchise and create sequels to those games that were successful later in the console cycle.

In his criticism of franchising in the game industry, Matthew White (2008) claimed that with only a few exceptions, derivative sequels net fewer profits as compared to the original games. He attributes the decline and stagnation in game sales that occurred in 2005 on the industry's reliance on sequels and the general lack of creativity in the game market during that time. This position was supported by Janet Wasko in her critique of Hollywood entertainment industry trends in the digital age. The increasing interdependence between media products is leading to an overall reduction in the diversity of texts and limiting the potential for radical innovation (Wasko, 2013). This might provide additional motivation for publishers to pursue an agenda of greater diversity in their game line-ups. However, publishers have continued to pursue a strategy of creating original intellectual property selectively in reaction to positive responses by players for familiar content. In the seventh console generation, sequels in established franchises have shown a trend of increasing profitability and sales. Relatively new franchises like the *Batman: Arkham* series, Microsoft's *Gears of War* series or the Sony's *God of War* series, appear to reach their profitability apex on the third installment of the franchise. Other franchises such as *Grand Theft Auto*, *Halo*, or *Call of Duty* have produced four or more installments over several console generations and have yet to experience declining sales with their new releases (VGChartz, 2015).

In summary, publishers follow a profit generation and risk reduction motive in their selection of which console games they choose to fund. Attempts to reduce risk and benefit from co-marketing synergies create incentives for publishers to develop movie tie-ins. However the difficulty in managing and coordinating the co-production of motion pictures and the corresponding video game has the potential to adversely affect both the level of innovation in the game as well as the financial success and popular reception of the game. On the other hand,

game franchises seeded in the game industry have emerged as common risk reduction practice for publishers who, once they are able to produce a hit game, can continue to generate profit from it. These game franchises draw their inspiration and format heavily from the original game limiting the potential for innovation.

6.4 Piracy

Pertinent to our discussion on game franchises and innovation, the challenges posed by software piracy act as a destabilizing force to publishers initiatives to establish and generate profit from franchises. Games with higher production values, greater product awareness and global marketing reach become targets. Piracy refers to the illegal or unauthorized sale of intellectual property. In most cases, none of the proceeds from the sale of pirated property flows back to the original media producers. As such, this activity represents a diversion of resources away from the video game industry, impeding its ability to generate new content. Piracy has been a significant factor in the decline of computer video games vis-à-vis console games in the past two decades.

The open format of the computer and the internet has made it problematic for anyone or group of media producers to adopt or impose a viable standard for controlling piracy. Additionally, the inability or unwillingness of many countries to effectively police the traffic of pirated content has compounded the problem (Albanese, 2007; Karaganis, 2011)). As a result, a significant amount of video game content finds its way to consumers who have not paid for it. The Entertainment Software Association, in their 2008 report to the United States Trade Representatives, estimates that video game piracy exceeds 90% in some areas of the world and remains a significant concern in a number of countries including Canada, China, Malaysia,

Russia, Poland and parts of Europe. In the ESA's report, they highlight the piracy issue as a stranglehold on the U.S. video game economy (ESA, 2008).

There are several aspects of piracy worth examining. Players engage in piracy for a number of reasons. First and most obviously, the players simply cannot afford, or are unwilling to purchase all the games they wish to play. Secondly, piracy is a player reaction to the high cost of video games. Players who can afford to buy games simply do not feel the value proposition is correct. Thirdly, it is a defense against purchasing a game which, after a short period of time, they realise that they do not like. Piracy is also a form of player resistance to the lack of innovation and the imposition of rigid models and formats imposed by the industry for owning and playing games.

Piracy has affected the structure of the game industry. On the one hand, the on-going technological evolution of video game hardware and its accompanying intellectual property regime promote incentives for the creation of bigger and more expensive video games. The influence of piracy counters this effect. Because piracy operates on the same distribution model as legitimate production (low marginal cost of reproduction), the more a high profile video game is in demand, the greater is the likelihood that it will be a target for piracy. When the video game industry moves to produce fewer titles with larger budgets, as has been the recent trend in console and PC games, this increases the vulnerability to piracy. This threat creates an immediate deterrent to large budget computer games favouring investment in development for more secure platforms. The effects of piracy have driven investment away insecure platforms and has contributed to the rapid growth of the console segment as a safe place for larger budget game funding to match the capabilities of the technological advances in game hardware.

One of the methods for the distribution of illegal software in North America and Europe is the internet. However, for consoles, the peer-to-peer connectivity using the internet is a closed system and console users are not able to exchange files on consoles as they can in personal computers. Thus, illegally copied console games must be distributed via physical media such as optical discs. The largest install base for consoles is in North America and Europe. These jurisdictions have been the most successful in controlling the distribution of illegal software. Thus, in the parts of the world where the markets for illegal console games are protected by strong intellectual property laws and enforcement, the industry has been able to grow and derive the majority of its revenue. Furthermore, the major console manufacturers have implemented regional encryption on their proprietary media to prevent games sold in one region from running in another in an attempt to further curtail piracy efforts.

The console was initially commercialized at a time when piracy did not pose the same concerns to other sectors of software development in the digital media industry. However, its propriety technology and closed format network did provide for the imposition of solutions to protect them from unauthorized access to its content through the control of the reproduction of its optical media. As a result, the encoding process adopted by the major platform holders makes the unauthorized copying of console based video games more difficult (otherwise known as Digital Rights Management or DRM). Although not completely immune from piracy, consoles provide a significant increase in security over the computer format. The protection from piracy is one of the major reasons that most maintstream large budget video games have moved from PC only to console format over the past decade. Crytek, the developer of Crysis (2007), a blockbuster PC exclusive game announced they would cease making games exclusively for

computers. They cite piracy as the reason for changing the company's orientation saying that

similar games on consoles sell more games by a factor of four or five (Gajic, 2008).

The pressure that piracy puts on publishers to produce video games for consoles as

opposed to PC games is also exemplified by the additional anti-thief measures put on the

computer version of Bioshock (2007), a video game published by 2K Games. Bioshock was

simultaneously released for computer and console in the summer of 2007.   When criticized for

its burdensome and atypical customer verification requirements and DRM measures incorporated

on the game disk, a representative of 2K Games advised the following:

> We went to great lengths to avoid the piracy issue. We achieved our goals. We
> were uncracked for 13 whole days. We were happy with it…. We were trying to
> avoid production DVDs going walkies between the manufacturing process and
> actually turning up on shelves. You find with a lot of games, what happens is that
> anywhere between manufacturing and the stores, one of these DVDs goes walkies
> and ends up in the hands of crackers…. When you're releasing simultaneously on
> the (Xbox) 360 and the PC, one of the things in the back of the publishers' minds
> and the people who want to make all the money is that we don't want to lose
> console sales to people ripping off the PC and the piracy issue.
>
> (as cited in Martin, 2007)

Publishers are concerned that the copy protection for the open format computer version

of a console video game can be easily by-passed resulting in the unauthorized sale and

distribution of the computer version of the game. This may have a cannibalistic effect on the

sales of the console version. When a pirated copy of a PC version of a game cannibalizes the

sale of a legitimate console copy, revenue that would otherwise have been obtained (if, for

example, no PC version were ever made) by the publisher is lost. Although technically feasible,

the potential for piracy on the PC platform does not favour simultaneous PC/console launches of

video games as a result of the threat of cannibalization from pirated PC versions of console titles.

Understandably, the console game market has become the preferred channel for investment in the production of large budget games because of its built-in security features.

Knowledge industries have several options available to mitigate the losses from the unauthorized use of their intellectual property. These techniques have ranged from legal action to various forms of copy protection to requesting voluntary payment. Each has met with various levels of success. The struggle to contain leakage caused by pirating video games is much more involved than the policing of unauthorized downloads via the internet. Legal means of enforcement have done little to curb the increase in software piracy over the past decade (Albanese, 2007). As a result, structural changes to form and content of digital media products as well as distribution methods and formats will have to be introduced to curb, contain or compensate for the effects of piracy. The adaptations made by proponents of the game industry have placed limitations on the types of game content that can be monetized in the North American market.

Nevertheless, over the past several decades, piracy has proven to be a challenge for many cultural industries especially in motion pictures and music as they have entered the digital era. While piracy has negatively impacted the expansion of computer games, growth has been redirected towards making those high budget games on consoles. The console's built in resistance to the effects of piracy have made it the preferred platform to deliver built-in paying audiences for video game entertainment. The experimentation towards ultra-spectacular, mass market, high budget games of the seventh console generation would likely not have been possible on open system devices exposed to the effects of piracy. The closed format, revenue recuperating characteristics of the consoles have favoured the development of the mainstream

brands and mega-blockbusters such as *Call of Duty* and *Grand Theft Auto* that have defined the content development standards for sixth and seven generation consoles.

6.5 Uncertainty in Hit-Driven Industries

One of the main challenges in creative production is that the demand for new cultural production is very difficult to predict. Richard Caves (2000) referred to this difficulty as the *nobody knows principle*. Not only is the capacity to predict consumer taste in cultural industries limited before the release of new products, it is also difficult to assess demand afterwards. Establishing patterns of preference, isolating elements of success, and measuring audience reaction have proven to be difficult tasks for provisioning the development of new cultural content.

In *Hollywood Economics: How Extreme Uncertainty Shapes the Film Industry*, Arthur De Vany (2004) describes the business environment for the production of large budget motion pictures which share some similarities to the console game industry. In a hit driven industry, he argues that audience acceptance and the subsequent box office success of a film can be described by a Pareto distribution, whereby the majority of box office success and industry profit go to a small minority of films. Similar arguments in regard to the video game industry have been made by other researchers (Schmalz, 2008).

De Vany (2004) further explains that shortly after the commercial release of a successful film (roughly four weeks), there is a turning point, where current demand rapidly begins to exceed past demand in a non-linear fashion. It is this turning point which distinctly separates the commercial successes from the failures. The accelerated demand for a movie is the result of

several factors that include the initial success of the box office launch and viral and word of mouth publicity. By the end of week four, most movie goers, who have not yet seen the film, will have decided whether the film is "good" or "bad" and whether they want to see it. These dynamics, again, are not unfamiliar to larger budget video game publishers who often use game pre-order data and first week game sales to estimate the lifetime revenue potential of a video game title (Beaujon, 2012).

De Vany emphasizes that the turning point (should it occur) is largely due to initial audience reception and de-emphasizes other factors such as intense marketing or the presence of high profile movie stars in the film. In his view, it is very difficult to predict the results of any particular box office launch. The initial audience reaction is a major signal the demand for a new movie. Thus, there is no way to know if a movie will be a hit before it is released. (De Vany, 2004) The statistical study by Tschang (2005) affirmed a similar hypothesis for video games in the sixth console generation (2000-2005). He was not able to find any metrics that could predict with any statistical significance whether a video game would be a financial success in advance of its commercial release.

The video game industry faces similar creative pressures and uncertainty as described by De Vany. Both industries produce entertainment goods which require years to create and multi-million dollar budgets and are destined to large mainstream audiences. Moreover, De Vany has argued that the movie industry has very few effective tools at its disposal to ensure that a film can attain "hit" status. The only way to really know is to release the film and let the audience decide. De Vany describes *blockbuster theory* as the response of entertainment industries to this environment of uncertainty. It is the practise of allocating significant marketing and

development resources to a single product, show or game in hopes of making excess profits from declining marginal costs of distribution.

Nevertheless, gauging audience reaction to a new product launch is a critical part of marketing. In movies, as well as other creative industries, the proportion of successful new products versus failures is low, largely because of uncertainty or misunderstanding in audience demand. Similar to the movie industry, the franchise model has become the standard for the console game industry to address the problem of understanding and anticipating audience demand for new games.

Joe Cox (2014) investigated the factors that contributed to the success of large budget video games in the U.S. market. He questioned which factors would maximize the odds of being able to develop and publish a blockbuster game. His findings confirmed the motivations behind seventh generation game production practises. Blockbuster games correlated positively with (a) games launched on the most popular console platforms, (b) games that focused on quality and refined gameplay and graphics as represented by high review scores by critics and (c) games that were brought to market by large global publishers implying high production values and marketing and distribution efforts.

6.6 Summary

Console game publishers find themselves in the difficult position of regulating the supply of new game content. We have discussed some of the ways this role has created antagonism between the other two stakeholders: developers and players. As financiers, marketers, and distributors for sixth and seventh console generation video games, the small group of global

publishers has taken on much of the risk of growing and creating a sustainable industry. The

publishers' control over the development of new games helped to propel the industry to new

heights during the seventh console generation. It was during this decade that the importance of

marketing and brand awareness to publishers escalated. The industry has grown by large

investments in game development which were subsequently followed by large investments in

marketing and brand recognition. These brands became the game franchises whose sequels such

as *Halo* and *Grand Theft Auto* have established new standards for video game development and

marketing scopes and budgets. Publishers have also struggled with some of the consequences of

the growth and popularity of console games. Exposure to the effects of piracy tends to

compound when publishers produce and market fewer games with larger budgets, favouring the

concentration of such games on the relatively closed format of the console, rather than the more

vulnerably open PC system. This tendency to the large-scale, property-extendable blockbuster

games has been further intensified by the difficulties of anticipating player response to new

games. There is, thus a powerful nexus of converging factors tending to channel console game

production in the direction of the big-game franchise. In the next chapter, some further strategies

by which publishers attempt to manage the problems of console game innovation shall be

reviewed.

Chapter 7 Finding Innovation in Console Games

7.1 Introduction

The modern console game industry operates within an industrial framework of technological path dependence. Within the limitations of the console technology the interaction between developers, publishers and players shapes the nature of the games that the industry produces. Interactive models of innovation emphasize the importance of this collaboration between key actors in the industry. An interactive model is useful for an analysis or a study over a short period of time focusing on the two way communication between each of the stakeholder groups. Such a model, as described back in Figure 6, has been the focus of this dissertation establishing the key stakeholders for the production and consumption of video games for the time period of twelve years and two technology cycles.

However, the industrial environment is also prone to long term change prompting the industry to react. Digital technology and software development processes, key factors in game development, evolve over time. Player tastes for entertainment are also prone to change. Finally, console technology is radically renewed and updated every five to seven years creating significant instantaneous change to the innovation potential for the industry. The combination of change and uncertainty in both the production and consumption environment gives rise to an unstable foundation for the industry.

Evolutionary innovation models look at industrial changes over time. In general, the economics of mass media do not promote diversity (Neuman, 1991, Hoskins, 2004). The economics of scale play an important role in media as do the economics of supply and demand.

Russell Neuman (1991) has described three types of concentration that occur in the American mass media: product concentration, format concentration, and firm concentration.

7.1.1 Product Concentration

Product concentration refers to instances where select products become hits (blockbusters) in cultural markets. As a hit driven industry, many titles are produced but only a few of them account for the majority of sales (Elberse, 2008; Nichols, 2014; Schmalz, 2008). In Figure 1, there is the total number of console titles released in the U.S. over an eleven year period of the six and seventh console generations. The trend shows an increase in the sales of the total number of console games during the sixth console generation running up to the introduction of the seventh console generation in 2005-2006 corresponding to increases in total revenue of the industry during those years as shown back in Figure 13. This is followed by a trend of few console games, in part, due to the higher production costs of seventh generation games.

Figure 13 Number of Games Released in the U.S. 2002-2013, (EEDAR, 2014)
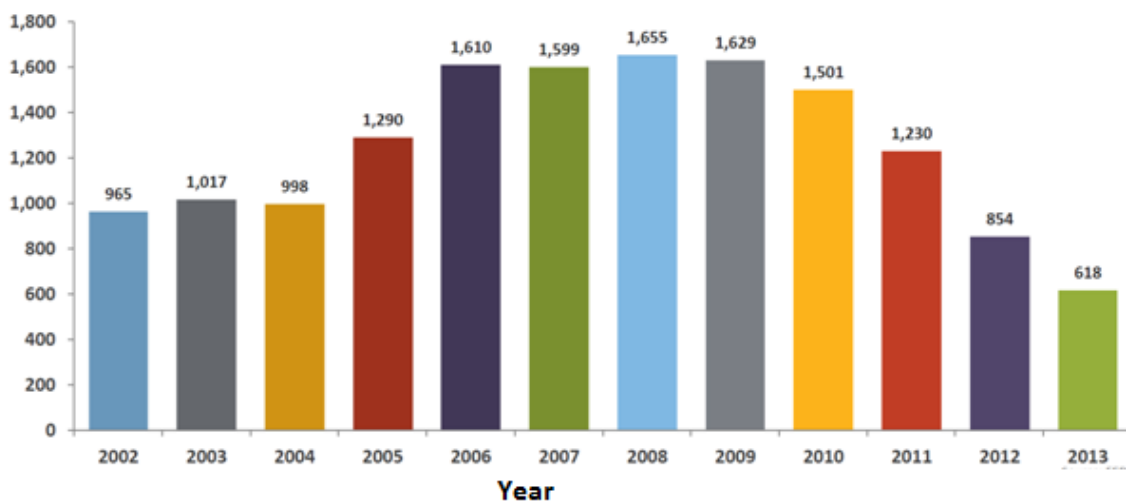
Figure 14 shows the distribution of console games for the seventh console generation. The lighter portion of the bar on the left in the graph denotes the number of unit sales that generated 75% of the revenue. The trend among all console genres is that a small minority of games generate the majority of the revenue reinforcing the hit-dependent nature of console games. Averaged over all genres, EEDAR reports that 12.5% of the titles within these categories earned 75% of the revenue (EEDAR, 2013).

Figure 14 Video game market share by genre in 2005-2012 (EEDAR, 2013)
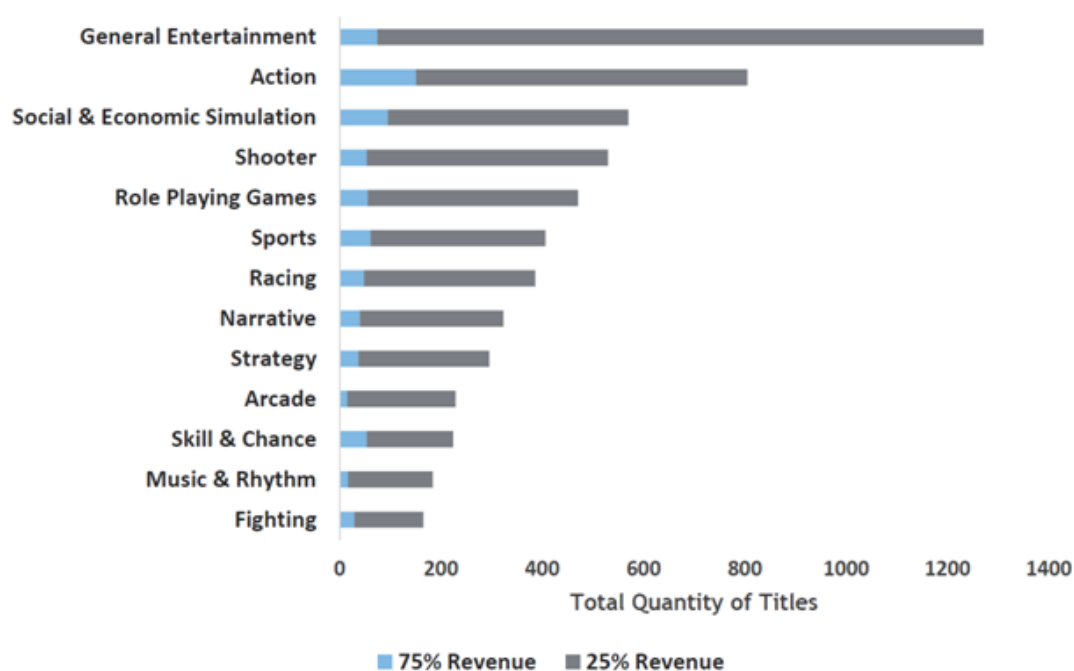

7.1.2 Format Concentration

In media industries such as traditional book publication and motion picture production, the pattern of domination by a few select titles (product concentration) is compounded by the limited number of styles, genres or formats available for media products. Television

programming is an example of how format concentration can affect product diversity. Format

concentration can be related to the different genres of games in the video game industry. The

most popular console gaming genres have been identified in Figure 14. Neuman characterizes

this trend as a fad phenomenon where a few popular formats emerge and dominate for a period

of time but eventually die out. Even though fads are cyclical and emerge and subsequently

decline, the domination of a few popular formats remains a consistent organizing principle in

mass media (Neuman, 1991).

The video game industry is similar to other media industries in this respect. Whereas

there may be a select number of titles that dominate the sales, there are also a limited number of

formats or genres.

Figure 15 Revenue (U.S.) from the Music and Rhythm Genre 2001-2013, (EEDAR, 2014)
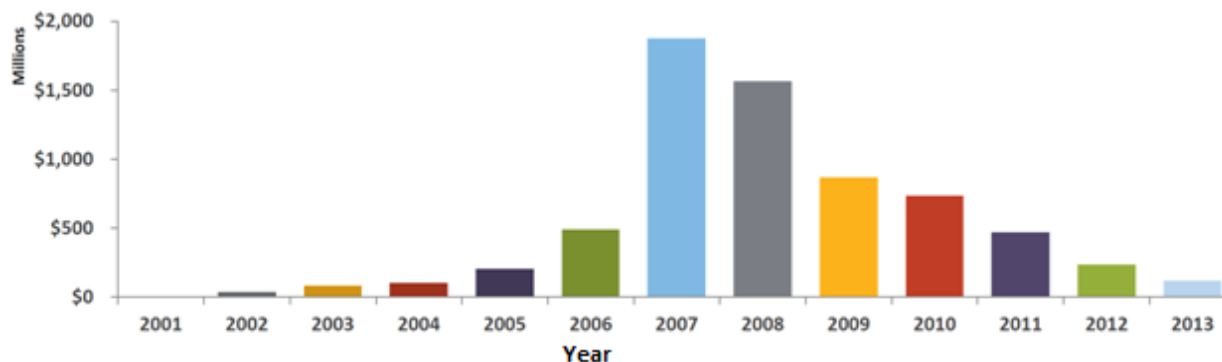
Despite the rigid format of the console game industry, it demonstrated that it was able to create

an entirely new genre during the sixth console generation. The first games in the music genre

appeared in 2001, but it was the launch of the *Guitar Hero* franchise in 2005 with its guitar

shaped controller that helped to popularize the genre. With these specialized controllers, these

games presented a new dexterity-based challenge, simulating playing a guitar synchronized to a

wide variety of popular music which turned out to have broad-based appeal to the gaming community after the initial success of *Guitar Hero*.

By 2009, the franchise was in substantial decline with major publishers Electronic Arts and Activision announcing they were discontinuing the development of their key music genre franchises, *Guitar Hero* and *Rock Band*. Several factors were noted as contributing to its decline including rapid expansion and overcrowding of titles, the cost of the music genre controller peripherals and the licensing fees of the music (Dutton, 2011). However, it is the lack of innovation in the sequels and new games in the music genre that was largely responsible for the decline in sales, and the reason publishers subsequently began to abandon the genre (Stuart, 2011; Ewalt, 2011). Ironically, the innovation and the newness of music games was one of the key selling points of the early music games and the reason why they had done so well immediately after their first releases. These games, however, left developers with no opportunities to iterate, improve, or derive future games or sequels, resulting in the stagnation of the franchise. Despite the positive reaction of players to the introduction of the music genre, as shown in Figure 15, the category ultimately declined and has virtually disappeared in the eighth console generation.

7.1.3 Firm Concentration

From the time of the early console generations, the corporate ownership of the industry has been highly concentrated. This is a result of the emergence of developer/publishers such as Activision and Electronic Arts who led the efforts to globalize the industry to maximize the economies of scale for the sale of their early console games. Throughout the ensuing development of the North American console industry, the top ten game publishers have been

consistently responsible for bringing the majority of console games to market. Barriers to entry have included the high risk of failure, specialized development knowledge, large capital investment, and access to retail distribution channels.

The changes during the sixth and seventh console generations demonstrated a trend of increasing industry consolidation. Several large North American publishers including THQ and Midway exited the industry. This resulted in a larger share of the growing console market to be distributed among the remaining firms. The remaining publishers continued to grow their business by vertically integrating game development activities placing pressure on independent game developers who required partners to access both investment capital and distribution channels. Because of their position and leverage, game publishers have the capacity to structure the market and effectively control the flow of content produced for its players. This capacity is further enhance because of the relatively small group of publishers that control the majority of the revenue generated (refer back to Table 1).

7.2 Supply, Demand and Economies of Scale

7.2.1 Demand Dynamics

Lee Becker & Klaus Shoenbach have argued that most people's media tastes are homogeneous and that in general, they seek conformity in groups with which they identify (Becker & Shoenbach, 1989). From this perspective, the limited number of titles and the adherence of new games to known genres and gameplay mechanics is a service to players who otherwise would find it difficult to navigate the complexities of console games as they inform themselves with regard to the entertainment options available to them. Accordingly, the market

is organized and managed by a small group of publishers to facilitate decision making and reduce the research required for customers to find games that are appropriate to their tastes.

In the general case of mass media, for most people, most of the time, the costs of finding special interest information and entertainment outweigh their desire to find it (Neuman, 1991). This is another element of player demand for console games reinforcing the industry's lack of diversified content. Neuman argues:

> The effort required to monitor all the available media for a snippet of information or entertainment that will resonate with one's tastes and interests usually is more than most are willing to invest. The result is that the average audience member satisfices, following primarily the most widely publicized best-sellers in each medium… Industry wisdom dictates that even the most promising (motion) picture needs to be jump-started by heavy upfront advertising.
>
> (Neuman, 1991, 46)

Console games are sophisticated media products that require a commitment (time and money) on the part of the player. According to Neuman's analysis, the ascendance of console gaming as a mainstream cultural activity in the post-industrial era would have required a managed approach to content creation combined with intense marketing to be able to attract and sustain the attention of the average audience members.

7.2.2 Supply Dynamics

One of the fundamental characteristics of media production is its regime of economies of scale. Mass production principles of supply dynamics decisively govern new media and video game production in particular because of their typically high development costs and low distribution and reproduction costs. The production of more units results in a reduction in the marginal cost to produce each unit and an overall lower cost for every unit produced.

Previously, we described video game production as a time consuming and labour intensive process. Once complete, however, the cost of replicating video games on console media is relatively small. This creates a heavy incentive on the production of mass appeal video game content.

There are three economies of scale for video games that are relevant: the economies of scale (a) for information commodities, (b) for production, and (c) for distribution. Economies of scale for information commodities describe the high returns to scale for information industries for which the cost of the raw media is very low. As noted in the previous section on media economics, the marginal cost of reproduction and distribution for digitally encoded information commodities is very low. This characteristic favours media production for large, mainstream audiences with homogenized tastes (McChesney & Schiller, 2003).

The second type of scale economics occurs in production. In film and video media, lower production costs occur in larger studios where high fixed costs and the need for specialized talents occur. Recent trends in industry consolidation and growth by acquisition of large publishers such as Electronic Arts and Activision are in response to the need to lower production costs by sharing resources such as specialized labour and technology which may include game engines and specialized development tools that may be reused on multiple projects.

Finally, the economics of scale for the distribution of games in a global market promote the development of larger, bigger budget games combined with aggressive marketing to maximize the chance that the console game will be among the 12.5% of all the games that make 75% of the profit (EEDAR, 2013); refer back to Figure 14.

7.3 Support for Innovative Products

The successful introduction of a new genre or franchise is a notable occasion in console gaming from an innovation perspective. Because of the focus on developing franchises, the opportunities to develop substantially new games are diminished as sequels within franchises largely follow established game patterns, narratives and styles. However, in the development of new franchises, the opportunity to exercise higher levels of innovation increases. As discussed in the case of the music genre, where there is no room to iterate on new features, functionality, or game play, the genre will have a tendency to decline as players become disinterested and bored. In order to develop genres and franchises, some level of change and evolution is required. In Figure 16, the sales in the *Need for Speed* franchise have been traced over several years. Each year, the publisher, Electronic Arts, released a new update in this racing genre franchise as shown in the graph by EEDAR. Sales in the franchise peaked in 2005 and subsequently began to decline over the following five releases each year. Similar to the *Guitar Hero* franchise, the *Need for Speed* franchise had very little room to innovate on its gameplay formula of street racing, resulting in declining sales as players became tired of essentially buying and playing the same game year after year.

Figure 16 Need for Speed Franchise Sales, 2003-2009 (EEDAR, 2014)
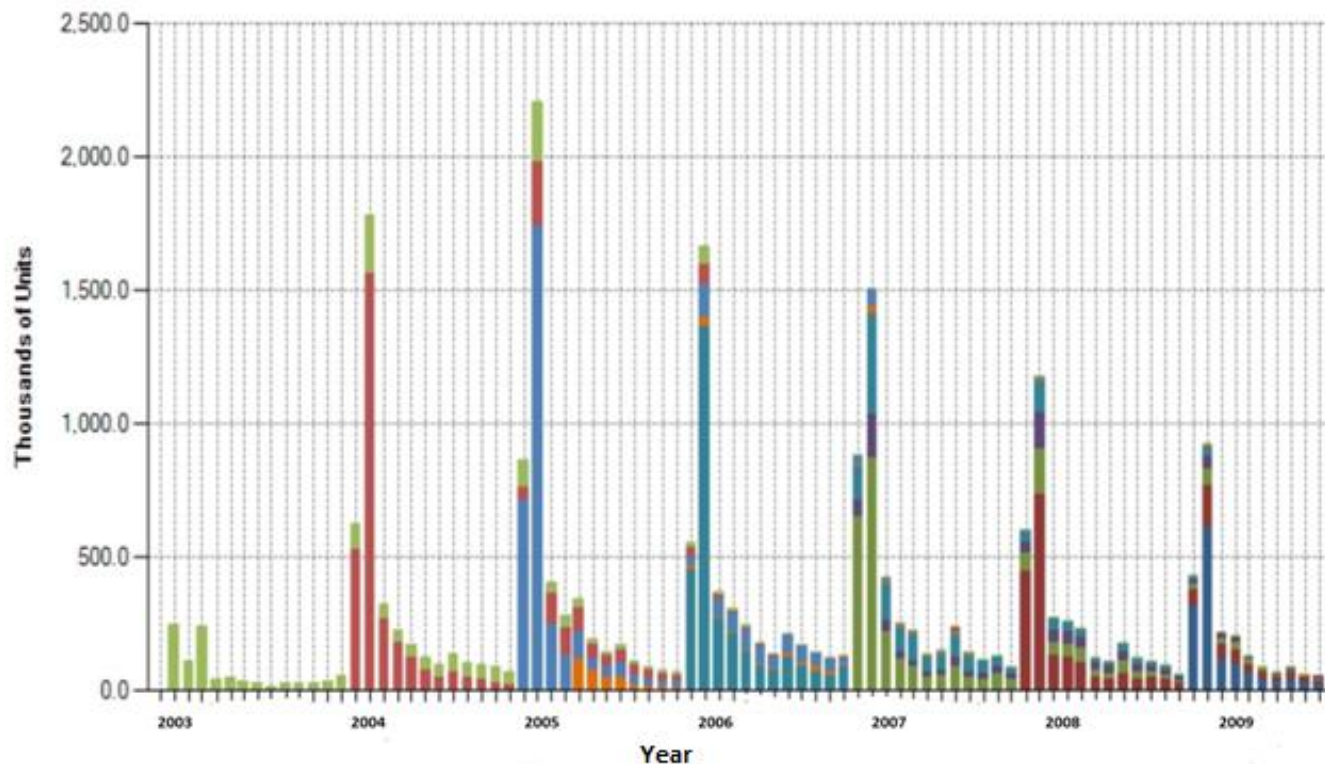
The console industry's embrace of the franchise model does not imply that players are uncritical about the games they purchase and will blindly follow the publishers' lead when they produce sequels to popular consoles titles. When developers fail to add enough new features to familiar game series or franchises, players will react adversely to them. There are many examples in the sixth and seventh console generation where publishers and developers have figuratively killed console franchises due to poorly conceived sequels in popular game franchises.

Notable among such casualties in the sixth and seventh console generations are the *Medal of Honor* (Rougeau, 2013) and *Turok* (McWertor, 2009) franchises, among others which were abandoned largely because of sequels that did not achieve the commercial success necessary to

sustain the series. In the case of the two aforementioned games *Medal of Honor* and *Turok*, both

Michael Rougeau (2013) and Michael McWertor (2009) reported that poor performance not only

caused the cancellation of the franchise by the respective publisher, Electronic Arts and Disney,

but also led to the closure of the studio that created the last games in the franchise, Danger Close

and Propaganda Games.

In contrast to the trends observed for the *Need for Speed* franchise and more generally,

the music genre, certain franchises and genres have shown great capacity to flourish through

many sequels and updates. First person shooter games and open world action games have a

substantial flexibility to add incremental innovation around franchised intellectual property.

While retaining core elements of the gameplay from one game to another, each of these two

genres has been able to innovate by providing new locations, new narratives and some new

gameplay features that have been able to capture and hold players' attention over many years and

many sequels. This was accomplished within the framework that defined the two genres. For

first person action shooters, the defining genre characteristic is that the player views the action

through the eyes of the character they are controlling in the game. Sandbox or open world games

represent a genre where players can freely roam where they like and have the option of choosing

their missions or objectives in the game. Two of the previously discussed franchises, *Grand

Theft Auto* (open world action) and *Call of Duty* (first person shooter), have each been around for

more than a decade, yet their latest console releases have sold more than 20 million units each,

leading the popularity of console titles and game sales.

A popular or successful lead game is not enough to ensure the long term success of a

franchise. To develop a franchise, the game must follow a format that will allow for the long

term development and carefully measured innovation for subsequent games to achieve similar levels of success. Unfortunately, the effects of this requirement resonate through the console industry. Figure 14 shows that the console industry has produced significantly more action, simulation, shooter, and role-playing games than games in other genres. One of the important reasons behind this is that these genres have lent themselves more easily to sequels in the sixth and seventh console generation. Developing strong intellectual properties around these genres has been popular among publishers because they can most easily develop franchises around them and dispense *appropriate* amounts of innovation necessary to create, sustain, and build profitable, long term franchises.

7.4 Innovation at the Fringe

In the *Bias of Communications*, Harold Innis (2003) provides a comprehensive study of how new media are adopted. On a societal level, Innis described how monopolies of knowledge and power (government organizations, religious institutions, corporations, etc) develop as new forms of communication media are embraced by different civilizations. He emphasized how existing power structures and social arrangements seek stability and tend to be resistant to change. Accordingly, technological innovation for new media is often developed in the margins of society because of their capacity to upend existing power arrangements. Once new communication media became more widespread, this created instability in the underpinnings of social relations that resulted in the weakening of venerable societal institutions. This weakness in turn created new opportunities for innovation as a result of diminished oversight and regulation. In Innis' view, this is the point where societies reach their cultural apex and "Minerva's Owl takes flight" (Innis, 2003, 21). This asserts Innis' thesis that civilizations are the most innovative immediately before they fall.

In the case of the console video game industry, the insight provided by Innis is useful on two different levels. First, despite all the capacity and potential that may exist for innovation in an industry or an industry segment, resistance from established structures is to be expected. The video game industry should be no exception, with billions of dollars are invested in monopolies of power and knowledge which manifest as corporate arrangements, licensing agreements, technological infrastructure, and marketing and development expertise. It is not unreasonable that any form of innovation which may disrupt the established structures in the industry or the planned execution of resources invested would be met with a "certain" amount of resistance.

Second, it may be argued that innovation has moved from the console platform to other less regulated and less structured platforms such as PC, mobile, portable or social games. In his earlier work, Innis argued that in an industry where there are constraints, structural impediments to innovation or other forms of resistance, that innovation and renewal will begin to occur at the fringes of the industry (Innis, 1956; Innis, 1971). These new opportunities for innovation may occur where there is less corporate control, government regulation, or easier access to markets. He found that these industries adapted their industrial structures to the conditions around them. Where roadblocks occurred in the evolution of an industry, changes would occur at the margins. In this dissertation and I have explored the different ways innovation is organized and managed in the production of console games. It is now worthwhile to examine some of the avenues (margins) in the wider game industry where the production environment and development conditions have been more favourable to innovation.

 In 2007, Apple's introduction of its iPhone began to send ripples through the video game industry. Apple's iPhone was a smart phone that incorporated a touch screen and an intuitive

user display. With a few simple steps, new programs (apps) could be purchased on-line from the

Apple's propriety store and installed on these powerful new devices. The process was simple,

easy and immediately became popular among iPhone owners. Video game developers also took

notice. Within a year of the iPhone launch, more than 250,000 new applications (apps), most of

which were games, appeared for the popular iPhone platform (Hjorth, 2011). During the

following seven years, the iPhone platform continued to grow. As a gaming platform, the iPhone

sold more units than any console platform.   The iPhone helped jump-started the industry

segment referred to as mobile gaming, which has experienced the highest growth in the gaming

sector during the years 2007 to 2013 (Gaudiosi, 2015).

There are several reasons for the rapid expansion of this segment. First, mobile games

continue to grow as the global adoption of smart phones expands and the cost of these devices

decreases. Secondly, smart phone games can be played almost anytime and anywhere that the

player has a few spare minutes. Thirdly, and important for our study, the production of smart

phone games are not constrained by the same proliferation of industrial limitations on innovation

that console games are.

From an innovation perspective, mobile games provide a stark contrast to console games.

Mobile games have appeared with a variety of production values from low budget to mid and

high budget games. As a result, price points vary significantly among different games. Although

the on-line store for many mobile phone manufacturers is a closed system, they (notably Apple

and Google) have imposed few of the restrictions that console manufacturers have on their

networks. The barriers to entry, including access to the development platform, high level of

investment required and large game formats at fixed prices, do not exist for mobile developers as

they do for console developers. Because of the smaller mobile game development budgets, publishers are no longer a necessary requirement for financing and distribution. Distribution services are no longer needed as mobile games are digitally distributed via cellular data networks or the internet. Marketing is the final essential service provided by publishers in the console segment. Mobile developers can choose to do their own marketing through the use of social media, such as Facebook, Youtube, Twitch, and Twitter, or contract out to specialized marketing firms or simply not market their games at all (Pasqua & Elkin, 2012). This segment structure has diminished the importance of the role of the publisher in the mobile game industrial model and reduced their ability to organize and control the market and industry structure relative to console games.

As a result, with smaller budget games, fewer barriers to entry and variable price points the total quantity of games produced for mobile devices has skyrocketed. Whereas the console game industry produced several thousand games each year during the seventh generation (2005 to 2013), the mobile game industry was producing hundreds of thousands. While console games would take two to three years to develop, mobile games were often completed by experienced teams after only several months. Because of the diminished controls and oversight by publishers and the additional creative freedom experienced by game developers, innovation has flourished on mobile platforms where developers are releasing multitudes of new, bizarre, genre-defying games.

In fact, one of the challenges experienced in mobile gaming is the massive amount of content being created. The difficulty with the over-supply of games is compounded by the entry of amateur and student developers who are also able to develop games for mobile platforms,

often in their spare time. Players often find it difficult to navigate the massive variety of games available on mobile platforms as a result. Branded content has an advantage in this environment and this is an area where traditional publishers-developers have made their entry into mobile gaming. Large publishers compete in this segment by employing a strategy of promoting licensed and branded content to help their games get recognition and awareness from gamers over the thousands of other games that are produced each week for mobile devices. In these cases, it is often the lack of innovation and the reuse of familiar material that are able to capture players' dollars when faced with overwhelming choices.

Arguably, the variety, diversity and innovation present in the mobile game industry appear to create as many new issues for developers and players as the lack thereof in the console industry. Players enjoy the ability to choose from a wide variety of content; however, they must take a more active role in finding the games that suit them. Often those players seeking novelty may have to expend considerably more energy and time searching before they find the innovative gems that they seek. For game developers, publishers, and players, the mobile game industry represents an exciting segment of the industry, where players have a huge supply of diverse, creative and novel games to choose from while developers are free to make games without many of the constraints to innovation that subjugate the console game segment. This innovative environment has its drawbacks for both consumers and developers. Consumers find it difficult, if not impossible, to manage the massive amount of content that is added for mobile devices each day. When presented with many new games, the difficulty of finding the ones that suit them and then assessing their innovative characteristics is often overwhelming.

Developers are faced with similar problems of potentially creating a spectacular game and then having it lost among the hundreds of thousands of others that clutter the virtual mobile on-line stores. After its first year of operation, Apple announced that it had paid $1 billion in royalties to game developers (Apple Annual Report, 2008). However, with more than 250 thousand apps, that translates to approximately $4,000 per app. In fact, as the mobile industry continues to grow, 90 percent of games produced for mobile platforms do not generate more than $1,000 (Guglielmo, 2014). This level of finance performance is not sufficient to sustain the long term health of the industry, suggesting that as the industry matures, it may be prone to some of the upheavals and organization around innovation experienced in other sectors of the game industry.

7.5 Creative Advancement

Even after 30 years of growth and evolution in the game industry, it is difficult to isolate those watershed moments where a recognizable classic took the industry to new creative and artistic levels. Recently, one game critic opined the following:

> ...the knell for deeper art, broader sophistication and greater maturity in games just keeps getting louder, but do we know what we want? The question of "gaming's Citizen Kane", for example has become so widely-echoed that it has begun to frustrate fans and industry-watchers alike. Maybe history will show us that we already have our "Citizen Kane". Or hey, wait, aren't the cultural and practical differences between film and games so broad that it's useless to analogize?
>
> (as cited in Alexander, 2009)

Ian Bogost (2009) maintains that masterworks are not how artistic legacy is proven anymore. According to Bogost, films that were considered artistically legitimate "right off the bat" helped the motion picture industry to move forward. However, legitimacy simply cannot be

judged in the current era in the same way we could when we only had a few radio stations or television channels and art existed in walled gardens. Legitimacy has become distributed, a mesh. "We should all just work on our little vertex of the mesh, like we are weaving a big macramé of legitimacy" (Bogost, cited in Alexander, 2009).

Here, Bogost was criticizing the need or desire for titles or genres to "step-up" and produce a classic to legitimize the creative endeavours of the game industry as something more than vulgar musings. Attempting to create a masterpiece or even looking for classic video games as a way of legitimizing or expanding the creative endeavours of making video games distracts us from the point that video games now come in all sorts of shapes and sizes and are enjoyed by millions of people around world. Bogost is countering a perceived argument that great leaps in innovation are necessary for normal advancement of the medium and the art form.

Despite a call for creativity, there is a fundamental need for video games, not to depart from, but to work off player's collective memory, experience and expertise. Positive interactive experiences require the audience to be grounded and comfortable in their game space. Recognizable patterns in the gameplay mechanics, the surroundings, the interactive objectives and the motivations are necessary. Preferred innovation often takes the form of small incremental change to proven gameplay modes that are easily understood by the gamer. The juxtaposition of game content and mode of play does have the potential to deliver complex and rich interactive experiences. Ranging from the unsettling experience of playing an avatar which is losing its sanity in the video game *Eternal Darkness* to the political and social messages in the popular *Metal Gear Solid* series, the instrumental use of the gameplay mode to reinforce the theme and messages of the narrative is not uncommon in this medium.

As many people in gaming culture hold the view that video games are an emerging art form, we may be inclined to isolate (critically and commercially) successful examples looking for classic games which have the potential to be enjoyed and studied for decades, games which move the medium to the next level. There is a growing consensus that video games represent a new type of art (Jenkins, 2006). The depth of video game art will depend on the level of sophistication and innovation that designers can incorporate. As a process of artistic creation, video game production is labour and capital intensive; video games are subordinated to the constraints of capital and designed for immediate consumption.

Video games thus conform to the commercial requirements of popular culture. There is little place for innovations that are too complex for mainstream audiences. Games that take years to understand or appreciate will simply fail immediately and often quietly. Unlike a painting or literature that can be enjoyed for years, video game media are literally consumed and renewed each year. Video games are a relatively new media and possibly even a new art form. Despite the desire of eager developers to create industry defining classics, and the call from players to be dazzled (not to mention the profit publishers would make from such a classic), broad leaps of creativity and innovation associated with long term success of a single artistic endeavour will tend to be elusive as publishers focus their energy and resources on franchise building and satisfying immediate consumer needs. Legitimacy will not occur through large leaps in innovation which help define and solidify the nature of the medium, but in small increments as part of an on-going evolution of the medium.

7.6 Final Thoughts on Innovation and Franchises

In order to study the innovative capacity of the console game industry, this dissertation proposed a model of the collaboration among the three key stakeholders: constraints, tensions and conflicts that affected the production of innovation were examined. The starting point for this inquiry was the notion that, free from commercial and legal constraints, video games have considerable capacity to be highly differentiated and innovative expressions of their creators. The individual video game was selected as the unit of analysis.

However, our analysis has shown that individual video games are becoming concentrated in their format as is the structure of the industry that produces them. That is, publishers of the game industry have promoted a strategy of funding and developing fewer game throughout the sixth and seventh console generation with a goal of selling more of each title. This has contributed to the tension and unrest during this decade of growth of the industry. In general, consumers appear to want innovative games while developers want to exercise their creativity in new and exciting ways. With the potential for more diversity inherent in the medium, these stakeholder groups direct their discontent towards the publishers for the lack of diversity and innovation in the games they choose to produce and promote.

It is understandable for stakeholders to establish high expectations for innovation in each game, given the long production times and costly inputs for each game. However, the industry has embraced a model of technological path dependence and leveraged the intellectual property regime to create an industry of franchises and genres. The console industry, for better or worse, under the direction of the game publishers has focused its creative energies, not on the creation of innovative new games but rather on innovative new franchises. In the seventh console

generation, these franchises have become so costly to produce that they could almost only be conceived and created at the behest of the large global game publishers who are best positioned to invest significantly to develop the brand awareness of new game franchises necessary for their long term financial success.

The genesis of new franchises is by its very nature more creative than the production of tie-ins and sequels. The first game of a franchise sets the pattern(s) for all the subsequent games that come after it, which can include gameplay mechanics, settings, characters, art style or other creative aspects of the game. The next games in the franchise copy some or all of these creative aspects. Not every game can be innovative. Referring back to Schumpeter's thesis of creative destruction, new innovation results in the destruction of the old. Despite the unrest in the industry, during the years 2001 to 2012, it is unlikely that any of the stakeholders, including the publishers, players and developers, were prepared to ramp up for the destruction or abolition of known game mechanics, familiar patterns of gameplay, or stable methodologies for game development. These are the rituals and the foundations of game culture that have brought relative stability to the industry after several earlier cycles of boom and bust where product innovation played a more active role in the development of the industry. By better understanding where innovation is occurring in the industry and what affects it, some of the tension among stakeholders, all of whom have significant personal and professional investments in the industry, can be realistically reassessed and potentially some of the discontent assuaged.

The console publishers have chosen to channel innovation, not into individual games, but into game franchises. Compared to the hundreds of console games that are produced each year, there are only a handful of new franchises. New franchises are seeded when publishers decide to

take the risk of creating an original game. These new intellectual properties are often

deliberately designed and created with the intention of developing them into franchises.

However, publishers will only franchise what they perceive as successful games. An Electronic

Arts executive stated that:

> In general we're thinking about how we make this a more broadly appealing franchise, because ultimately you need to get to audience sizes of around five million to really continue to invest in an IP like Dead Space. Anything less than that and it becomes quite difficult financially given how expensive it is to make games and market them. We feel good about that growth but we have to be very paranoid about making sure we don't change the experience so much that we lose the fanbase.
>
> (Usher, 2011)

In this case, sales in excess of five million were required for Electronic Arts to continue

developing the *Dead Space* franchise. When Electronic Arts attempted to renew the *Metal of

Honor* franchise in 2010, their executive producer, Greg Goodrich advised the New York Times

that sales of three million units were required for the publisher to consider additional games in

the franchise (Suellentrop, 2010). Another global publisher, Capcom has publically announced

that they will not make sequels for any game that does not sell more than two million units

(Sirani, 2014). To this end, there are several notable examples of the new games introduced at

the end of the seventh console generation such as *Skylanders (2012)*, *Destiny (2013)*, and *Disney

Infinite (2012)* were released with the intention of building franchises. They were all large

budget developments and accompanied with extensive marketing to accomplish this goal.

The success of console games as measured by unit sales is a dominant factor in

determining whether it will be developed into a franchise. Ironically, games that fail to meet

sales' targets may be some of the most creative games, but if they are not adopted by consumers,

they fail to meet an important criteria for innovation. Failure to understand this commercial truth has possibly led to some of the tension between the major stakeholders. Individually, new games created for successful franchises must necessarily bring something new for gamers if the franchise is to grow. This may be a new story, updated graphics or the correction of deficiencies identified after the release of the first game. As we have explored in the previous chapter, both developers and players, often have difficulty identifying this level of newness as innovation. However, more readily identifiable is innovation that occurs with the successful launch and adoption of new franchises and genres. These franchises and genres have significantly more capacity to bring deeper forms of innovation to the industry. They also have the tendency to increase and decline in popularity and eventually fizzle out. While the console game industry publishes hundreds of new games each year, it only successfully launches dozens of franchises, and even fewer new genres. The conditions of the console industry are such that both gamers and developers need to look beyond the individual game for innovation and diversity as the focus of the game industry during the sixth and seventh generation console cycle was on commercializing existing and known gaming patterns and established intellectual property.

Chapter 8 Conclusions

With powerful digital technology and computers, the connectivity of the internet and the advancement of multi-media sound and display systems, the potential for creativity in console games is seemingly without limits. Yet, in the case of the console game industry, innovation has not been stretching the limits of creativity. Moreover, the focus of the industry has been on understanding the evolving adoption patterns of the audiences and delivering a constant flow of new products that are commensurate with their playing habits. Despite the potential in the medium, the struggle over innovation among the stakeholders is more closely focused on finding new ways to retain the industry's roots and traditions rather than discarding them in search of entirely new ways of reinventing itself.

Kline et al. (2003) describe the production of video games as an "exemplary instance" of Post Fordist labour, emphasizing, among other things, the high degree of innovation, creativity and technical expertise required. Leif Schumacher (2006) challenged this perspective arguing that the video game industry is still replete with old fashioned Fordist standards and practices. His study found that video game development was still a labour intensive activity that lacked the automation, diversity and flexibility often associated with Post Fordism. He also questioned the level of creativity afforded to game designers when developing large, mostly standardized console games. He argued the resulting industrial arrangements in the video game industry more closely resembled a hybrid of Fordism and Post Fordism where many labour intensive jobs were still necessary.

Video game consoles provide a platform for delivering interactive game content to consumers. Game players consume this content and require new content. In earlier console generations, the medium rapidly gained popularity because it brought entirely new experiences and created large markets of customers. After five console generations, starting from their first commercialization in 1977 until 2001, console gaming established a market, an industry, and a culture. Video games, as developed on these programmable computer devices, have a great capacity for innovation while players have shown they are prepared to spend their entertainment dollars for new virtual adventures. We have explored some of the factors that affect how these new adventures are conceived, produced, marketed and consumed.

The arrival of the sixth console generation was a landmark for the industry with the introduction of *Xbox* from Microsoft combined with the success of Sony's counterpart, the *Playstation* 2. The technological power of this new generation fueled the drive to make larger, more complex games. These new conditions began to exert pressure on the industry to innovatively engage its media in the more costly, risky industrial environment. New barriers to entry caused a decline in the number of independent developers. Publishers continued to structure the global industry around the technological, legal, and financial constraints of the marketplace in their attempt to establish and build a sustainable, profitable and organized industry.

The console game industry adapted to the evolving technological conditions. As global console game publishers sought to gain a larger market share of the expanding industry (refer to Figure 2) during the sixth and seventh console generations, they embraced the technological potential that the new console manufacturers created. Consequently, to shore up the risk of

rapidly escalating development and marketing costs, publishers created few games, cemented game development around well-defined genres, began to serialize profitable game titles, licensed known intellectual property successes from other media, and reproduced games using successful gameplay features from previous games. Innovation and diversity in console game software was often too risky for large budget games of the sixth and seventh console generations as publishers favoured the creation of more graphically relativistic, technologically sophisticated versions of established franchises.

Innovation is both a critical and a contested domain among the key stakeholder groups in the console gaming industry. It is regulated through market structures by profit seeking organizations attempting to create stability and continuity in addressing audience demand for new content. Intellectual property copyright has been an important instrument in regulating innovation as it has provided a degree of assurance for the game industry and its investors that they may recuperate the investment in large game development projects by allowing the development of game franchises where the cost of developing (successful and innovative) new game content can be amortized over several titles or in the case of some franchises such as those in the sports genre, annualized over yearly updates to the same game.

These risk aversion strategies combined with structural elements of the video game industry have, however, impaired the conditions for the production of innovation. The copyright and intellectual property regime and resulting work for hire arrangements already present in the game industry also suppressed the potential for innovation by fencing in areas of intellectual property. As we have discussed, the intellectual property regime has also served to isolate developers from the creative process, often placing them in a subservient creative role to

publishers. Risk adverse practises of publishers were matched with risk adverse behavior in players seeking to maximize the benefit of their software budgets. Given the choice between familiar game types and new games, they often chose to invest their entertainment dollars in known franchises in the seventh console generations resulting in an overall decline in console games produced for the seventh console generation.

There was still a need for new games; a need that was largely driven by hardcore game players. This largely male group has helped to define the culture of console gaming. With their established preference for violence, spectacle, competition, and war games, catering to hardcore players' tastes proved less risky for publishers.   Opportunities would present themselves to publishers for the creation of new intellectual property, such as the decline of an existing game franchise or a failure of a competitor to publish successful games in an existing category or genre, for which several cases have been noted. In such instances, large publishers would attempt to create new game franchises, but very selectively. At the end of the seventh console, administering innovation remained a challenging issue in the video game industry. This has led to an industrial environment where creative workers who seek careers in the video game industry have the potential to be deceived about the work demand and corporate environment they can expect in making video games. Some are surprised by formulaic development practises that focus on creating sequels and derivative games and feel the vast potential for creativity and innovation is deliberately being ignored or denied. They are not alone as players and game media critics have also repeatedly called for more diversity and better attention to niche demand.

After reading this critique of console gaming, it may be easy to believe there is a crisis of innovation in the industry. Despite all its potential, innovation is being curtailed at every turn.

Both the market apparatus and the industry/capitalist appear to favour a rigid format for console games defined by fixed purchase price (typically $50-$69), large development budgets, distribution on fixed media formats (discs), for franchised or licensed game properties trapped in a path dependent technology cycle. As we have shown, this is culturally problematic in several important ways. Corporate control limits the creative potential of video game professionals, can foster precarious employment situations and often prevents game developers from benefitting from the success of their work. This affects players as well when they are not offered the diversity of format, price or content that the medium of video games is capable of providing.

However, the reader should recall our earlier discussion as to whether video games really do need to be innovative to succeed and take their place as a worthwhile cultural pastime. Despite all the criticism, people are paying record sums for console game software to deliver more spectacular, technologically sophisticated gaming experiences, where it has become commonplace for the game industry to reproduce, reuse, and recycle significant proportions of familiar game content. Thus, the peculiar innovation framework of the sixth and seventh console generations, with all its constraints, represents an interesting moment in technological evolution of interactive media. As shall be explained in the following section, the tenuous links that hold this framework together have already started to strain in the eighth console generation creating new avenues for innovation in console gaming.

8.1 A Final Word

The eighth console generation began in 2012-13 with the launch of the *Xbox One*, *Playstation* 4 and *WiiU*. At the time of the writing of this dissertation, the industry stakeholders are already grappling with this next substantial change to the technological regime of console

gaming. This next technological cycle is already demonstrating new trends with regard to innovation. All three console manufacturers have increased the prominence of their proprietary on-line networks to sell new games directly to customers via the internet to maximize the economies of digital distribution over the traditional retail channels for selling console games largely used during the sixth and seventh console generations.

Already at the beginning of the eighth console cycle, there is some evidence beginning to emerge that the drive to produce a wider variety of console game content from game developers is starting to gain traction. This is a result of the improvements in broadband internet combined with more openness from console manufacturers (Sony, Microsoft, Nintendo) to work with independent developers to create new opportunities. Digital distribution of new games directly to consoles has started to become an important channel to challenge the inefficiency and rigidity of retail distribution. This recent development has allowed for the creation and distribution of different varieties of console games that defy conventional genres and formats. Smaller budget games that confront the typically large scope requirements of console games are now emerging at lower price points via digital distribution. The strength of these games is that they do not necessarily rely on technical complexity and can escape the costly race for photorealistic graphics and high production values.

The success of selling and distributing games via the internet is dependent on the customers' willingness to participate in electronic commerce taking into consideration the privacy and security concerns. Internet commerce pioneered by companies such as Amazon and Ebay as well as the proliferation of digitally distributed music from aggregators such as Apple have helped prepare consumers for a new era of digital distribution of video games during the

sixth and seventh console generations. Already, eighth-generation console players are showing their willingness to purchase games over the internet (Peterson, 2013c). In recent years, broadband capacity has increased to be able to better handle the transmission of the gigabyte-sized downloads required to complete the digital transaction of video games purchased and delivered via the internet.

Many independent developers are now able to access the marketplace via digital distribution. The console manufacturers (Sony and Microsoft) have for the first time engaged in an open dialogue with console developers without necessitating the representation of a publisher. The result is that the on-line console stores are now distributing more independently-developed content. These games, now often being produced without the assistance of a large global publisher, are not subject to the size, price, and format constraints previously discussed as pertaining to the sixth and seventh console generations, at the developer's own risk.

As noted at the end of Chapter 5, developers alienated by the corporate constraints may be encouraged to go outside the traditional development arrangements. By appealing directly to the global community of players, crowdfunding has enabled viable sources of funding and allowed developers to bypass the need for publisher financing of their video game projects. Popular crowdfunding sites such as Indigogo and Kickstarter have been able to create a dialogue for game developers to collaborate with players directly, short circuiting the dominant industry model described for sixth and seventh generation game production. This has allowed developers to work on smaller projects appealing to niche groups of gamers that would never have been funded by global publishers (Smith, 2015).

The *innovator's dilemma is* a method for conceptualizing the challenge that publishers face in managing production (developers) and consumption (players) of console games. The term describes a contemporary technology model where successful firms eventually run into difficulty because they are not able to introduce new innovation to meet their customers' latent or future needs (Christensen, 1997). This industry model describes a company's tendency to focus on protecting its existing intellectual property instead of turning its attention to the development of new potentially disruptive innovations which may cannibalize existing product lines. Christensen (1997) finds this to be a common problem that is present in a wide range of industries that he studied including the personal computer and steel production industries. The dilemma for companies and industries occurs in determining the point at which you abandon and write-off the investment made in old technology and practices and start investing in the next generation.

In Christensen's (1997) view, typical industrial cost-benefit analyses often employed in evaluating new innovation opportunities will have a tendency to mislead firms to steer away from investing in innovation when the rapid technological change occurring in the marketplace has not allowed enough time for investment in existing technology and intellectual property to be sufficiently depreciated. This situation leaves companies and whole industries at risk of being overtaken and left behind. This results in a condition where established firms in an industry are increasingly resistant to embracing new innovations and are vulnerable to new firms entering the industry. Rather than engaging in new innovative practices and developing new products, firms often invest in creating barriers for new entrants and protecting their existing investments and products until they are adequately depreciated. In the console game industry where game

content in continuously being replenished, the decision when to abandon old intellectual property is an important aspect affecting innovation managed by large game publishers.

In this latest technology transition, the console game business may be experiencing the effects of Christensen's innovation dilemma. During the critical growth period of the sixth and seventh console generation, the adherence to standardized practises and rigid business models helped fuel the expansion of console gaming and favoured the growth of certain types of games. The decisions to grow the publishing business by following a model of developing AAA blockbuster franchises and exploiting physical retail distribution to protect market share is now giving way to new entrants who are focusing on digital distribution of genre and category defying games. Digitally distributed games are more readily becoming available at different and differentiated price points for console products as a result of the flexibility of economics of the on-line distribution channel and player demand for these more differentiated game experiences is increasing. Global publishers who are slow to react to these evolving market conditions may be exposed to challenges of losing their market share to developers who are more flexible and reactive to changes in the production and consumption environment.

In some regards, the controls on innovation have appeared to have been pushed to the point of collapse in the new technology regime of the *Playstation 4*, *Xbox One* and *WiiU* and to a certain degree, liberated sections of the console industry from the control of global publishers. These emerging changes in the eighth console generation emphasize the precarious conditions that allowed publishers to structure the industry to implement such a narrow focus of content development for game console. Whether these conditions will endure as console gaming continues to evolve is uncertain. What is certain is that the dynamic technological environment,

the pressures of commercial game production, and capricious and changeable consumer tastes will continue to drive the industrial structure and the level of innovation in future generations of console gaming.

8.2 Further Research

In this study, the industrial climate of innovation for console games during the sixth and seventh console generation was examined. The analysis was largely confined to one major topic affecting each of the industry stakeholders: gender for players, franchises for publishers and work for hire for developers. This categorization was helpful in focusing the analysis and explaining the innovation trends observed in the industry. This was not intended to be an exhaustive list of the innovation characteristics of each group.

The innovation model proposed described the interaction of three actors in the video game industry. Other actors play important roles. Notable among these are the game media, retailers and game critics. Critical review scores have traditionally been very important to the success of console franchises. Positive reviews almost always precede successful games. Conversely, poor reviews usually signal impending failure. It is worthwhile to question criteria used by game reviews and assess the influence games media have had in shaping the expectations of the consumer console market during this period. The collaboration in the production of console game reviews that occurs between game media, publishers and players is an important aspect in the functioning of the industry which merits critical review and academic attention.

Retailers were another important stakeholder influencing the structure of the game industry. Most console games during this period were sold in dedicated gaming stores or electronics retailers. As the interface at the point of sale, retailers had an important influence on consumer decision making. Retailer's decision to adopt a strategy of rental and sale of used games changed the ecosystem in which games were produced and commercialized. As the game industry evolved during the sixth and seventh console cycle, the retail environment also evolved. The role that retailers have played in the evolution of the sixth and seventh console generation merits further critical review.

Modding has become known as the practise in console games where players take existing games and game technology and modify them. This appropriation of the medium first started to appear on a large scale with the success of early first person shooter genre PC games such as *Quake* and *Unreal* when developers began publicly releasing their development tools along with the game itself (Newman, 2008). User-created content has since become an important part of gaming culture (Banks, 2013), but largely confined to the more open and accessible PC platform. Nevertheless, modding is both an expression of the creativity of the player community and potentially also a reaction by certain groups of consumers to the innovation regime.

In future studies, it will be helpful for research projects to examine the console industry over seven (or more) technology cycles. The console industry experienced a turbulent birth in North America, experiencing severe cycles of growth and contraction. Arguably, how innovation was engaged has been a key factor during these struggles and the management of innovation will continue to drive the growth of the industry in the future.

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