THE VIRTUAL HAND: EXPLORING THE SOCIETAL IMPACT OF VIDEO GAME INDUSTRY BUSINESS MODELS

Mark D. Cruea

A Dissertation

Submitted to the Graduate College of Bowling Green State University in partial fulfillment of the requirements for the degree of

DOCTOR OF PHILOSOPHY

December 2011

Committee:

Oliver Boyd-Barrett, Advisor

Savilla I. Banister
Graduate Faculty Representative

Radhika Gajjala

Sung-Yeon Park
The purpose of this study was threefold. The first goal was to investigate the evolution of business models within the video game industry with a specific focus on the console segment within the United States and including Microsoft, Nintendo, and Sony as the three largest console manufacturers. The second goal was to examine the connections between these business models and practices of planned obsolescence. The third goal was to determine the connections between the business models in use and any associated externalities. Externalities of particular interest included effects related to violence, gender, race, military connections, and the environment. Political economy served as both theory and method. Results showed that past business models have heavily relied on a cycle of production and consumption that contributes to a culture of overconsumption and regularly produces and reproduces both positive and negative externalities that are not accounted for as a cost of doing business despite the effects borne by society.
The circumstances of human society are too complicated to be submitted to the rigor of mathematical calculation.

-Marquis de Custine
This dissertation is, of course, dedicated to all video game enthusiasts. Our love of games has created a vibrant and growing field of study in academia. Because of you, I have a profession about which I am passionate. This work is also dedicated to my parents, who instilled in me a love of learning, and who I am sure had no idea that the purchase of a home Pong unit from Sears in the 1970s would lead to a profession some 30 years later. In addition, I want to dedicate this to my children. In the years since I returned to school, they have gone from elementary to middle and high school students. You grew up too quickly. I hope you know how extremely proud I am of both of you. Most importantly, I want to dedicate this work to my wife, who has been the glue that held our family together over the last few years. In many instances, she did so with a husband who was not always present. I am indebted to you in so many different ways. I will always and forever be yours.
ACKNOWLEDGEMENTS

I want to personally thank my chair, Dr. Boyd-Barrett, for all of his time, feedback, and patience during this process. This project began in your political economy class – a class I almost didn’t take, but I am certainly glad that I did. In addition, I want to thank my committee, Drs. Gajjala, Park, and Banister, for the committed and timely feedback throughout the process of completing the preliminary examination, proposal, and dissertation. I would also like to acknowledge all of my professors at Bowling Green State University for challenging me in ways I have never been challenged. I especially want to thank Dr. John Warren for his patience and wonderful guidance as I transitioned from my masters program in the English department to Communication. You were the epitome of a truly great graduate coordinator, and your presence on this earth is sorely missed.

I would be remiss if I did not mention my family for their continued love and support. My father has always stressed the importance of relationships in life, and unfortunately, I have had to neglect many of those in recent years. Don’t worry dad, I did not forget. To my children, Rachel and Connor, you now have a full-time father again! Never forget that I always have and always will love you. To my wife, Susan, thank you for all of those conversations as I struggled through seemingly incomprehensible material and for all of your proofreading and feedback. Love is often about sacrifices, and you have sacrificed the most. I will always remember.
# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>CHAPTER 1: RATIONALE – PRESS START TO BEGIN</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Video Games Defined</td>
<td>3</td>
</tr>
<tr>
<td>Rationale</td>
<td>5</td>
</tr>
<tr>
<td>Popular Culture Phenomenon</td>
<td>6</td>
</tr>
<tr>
<td>Role of Academia</td>
<td>7</td>
</tr>
<tr>
<td>Unique Interactivity</td>
<td>9</td>
</tr>
<tr>
<td>Societal Impact</td>
<td>11</td>
</tr>
<tr>
<td>Why Political Economy?</td>
<td>17</td>
</tr>
<tr>
<td>Organization of the Study</td>
<td>19</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CHAPTER 2: A REVIEW OF THE LITERATURE – THE BACKGROUND STORY</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business Models</td>
<td>21</td>
</tr>
<tr>
<td>Planned Obsolescence</td>
<td>24</td>
</tr>
<tr>
<td>Fashion</td>
<td>24</td>
</tr>
<tr>
<td>Automobiles</td>
<td>26</td>
</tr>
<tr>
<td>General Consumer Goods</td>
<td>26</td>
</tr>
<tr>
<td>Consumer Electronics</td>
<td>27</td>
</tr>
<tr>
<td>Conspicuous Consumption and Advertising</td>
<td>29</td>
</tr>
<tr>
<td>Essential Capitalism</td>
<td>30</td>
</tr>
</tbody>
</table>
Creating Demand .................................................. 32
Externalities .......................................................... 35
Violence .................................................................. 37
Connections to the U.S. Military ............................... 44
Gender .................................................................. 51
Race ...................................................................... 54
The Environment .................................................... 57
Visual Attention, Spatial Abilities, Education, Prosocial
Games, and Civic Engagement ................................. 64
The Political Economy of Communication Research ....... 65
A Brief Research History of the Political Economy
of Communication .................................................... 65
Recent Research Developments in the Political
Economy of Communication ..................................... 68
The Political Economy of Video Games ........................ 71
Labor ..................................................................... 71
Production and Consumption .................................... 73
Historical Cycles and Moral Panic .............................. 74
Industry Overviews .................................................. 77

CHAPTER 3: THEORY AND METHOD – OPEN AND CLOSED WORLDS ........ 79
<table>
<thead>
<tr>
<th>Chapter</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Political Economy</td>
<td>80</td>
</tr>
<tr>
<td>Definitions of Political Economy</td>
<td>80</td>
</tr>
<tr>
<td>The History and Development of Political Economy as a Discipline</td>
<td>82</td>
</tr>
<tr>
<td>Central Characteristics of Political Economy</td>
<td>89</td>
</tr>
<tr>
<td>Conceptual Framework for a Political Economy of Communication</td>
<td>94</td>
</tr>
<tr>
<td>Strengths and Weaknesses</td>
<td>110</td>
</tr>
<tr>
<td>Research Questions</td>
<td>115</td>
</tr>
<tr>
<td>Method</td>
<td>116</td>
</tr>
<tr>
<td>Subjects</td>
<td>118</td>
</tr>
<tr>
<td>Data Collection</td>
<td>120</td>
</tr>
<tr>
<td>Data Analysis</td>
<td>122</td>
</tr>
<tr>
<td>CHAPTER 4: DATA ANALYSIS AND FINDINGS – PLAYING THE GAME</td>
<td>123</td>
</tr>
<tr>
<td>Company Overviews</td>
<td>124</td>
</tr>
<tr>
<td>Nintendo</td>
<td>124</td>
</tr>
<tr>
<td>Sony</td>
<td>126</td>
</tr>
<tr>
<td>Microsoft</td>
<td>128</td>
</tr>
<tr>
<td>Evolution of Video Game Industry Business Models</td>
<td>129</td>
</tr>
<tr>
<td>Razors and Blades</td>
<td>131</td>
</tr>
</tbody>
</table>
# LIST OF TABLES

<table>
<thead>
<tr>
<th>Table</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Console Release Dates for Nintendo, Sony, and Microsoft</td>
<td>255</td>
</tr>
<tr>
<td>2. Nintendo’s <em>Zelda</em> Franchise: Video Game Release Years by Console System</td>
<td>256</td>
</tr>
<tr>
<td>3. Microsoft’s <em>Halo</em> Franchise: Video Game Release Years by Console System</td>
<td>257</td>
</tr>
<tr>
<td>4. Sony’s <em>Ratchet &amp; Clank</em> Franchise: Video Game Release Years by Console System</td>
<td>258</td>
</tr>
</tbody>
</table>
CHAPTER 1: RATIONALE – PRESS START TO BEGIN

In the mid 1970s, I was about twelve years old, and at the time, *Pong* had become a successful arcade game; home console units had recently made their debut as well (Kent, 2001). Caught up in the craze, I begged my parents to buy a *Home Pong* unit from Sears. Unfortunately, my mother, convinced that these devices would harm the television, was extremely resistant to the idea. Eventually though, we bought a console, and from the moment it was connected to our television set, I was captivated. In addition, while video games are ubiquitous today, in the 1970s they were revolutionary. Never before had such interaction taken place with a television screen. Although the act of hitting a white block back and forth across the screen seems quite simple now, at the time, it was simply wonderful. My interest continued into high school and expanded to include some of the first handheld units such as Mattel’s *Football*. It was also quite simple in nature. Housed in a putty colored unit, the game consisted of a switch to use one of the game’s two settings (Pro 1 and Pro 2), a screen with LED blips that represented a ball carrier and five defenders as well as a scoreboard with basic statistics, and six buttons that allowed the player to control the ball carrier, kick the ball, and check the score. I received mine on Christmas Eve one year and kept my parents up late that night to the sound of beeps and whistles. In fact, I still have that game today. It sits on a shelf in my office, and even though it is very outdated in terms of today’s gaming platforms, it’s still fun to get out and play once in a while.
Perhaps the obvious question is “Why were these games so interesting to me?” I believe the answer is quite simple – I was good at them. I wasn’t involved in sports very much, yet I could take this game to school, play against anyone, and beat them almost every time. I just didn’t lose very often. As a result, these games provided me with a boost in self-esteem; it simply felt good to do well at something. I also liked taking the games apart, trying to ascertain what made them work. During college, video games were not a large part of my life with the exception of a few visits to an arcade. This decline in interest is also partly due to the fact that the early eighties saw the beginning of the video game industry’s great collapse (Kent, 2001) and many thought that video games were nothing more than a fad that had seen its better days. However, after graduating from college and getting married, the industry saw a resurgence led by the Nintendo Entertainment System (NES) and once again I was hooked. During the next 25 years, I owned a variety of console systems, and today my son plays primarily on an Xbox 360, but we also own a Nintendo GameCube, Wii, and various incarnations of the Game Boy handheld unit. As far as I am concerned, I still play a variety of games primarily on the Xbox 360, PCs, and Macs. With that background in mind and more than 35 years after I connected that first Pong unit, I still have a love for video games. In that sense, I am not much different from the many scholars who currently study video games because they love the subject matter. Simply put, we are enthusiasts; we are passionate about video games. For me, part of that
passion ties to my interest in reading. I have always been an avid reader principally because I liked entering new worlds that could be explored in my imagination.

Similarly, video games allow me to enter different worlds; however, I can explore these worlds in ways that I could not with a book. The most obvious is the addition of graphics. However, an additional and more important difference is how video games give you control of the main character. You have an effect on the game world through your interaction. This additional element is much different than reading, or, for that matter, cinema and television. That interaction is what draws me in to the gaming world. Moreover, unlike what can happen in “real” life, even if I fail, I can try again until I get it right. Eventually you succeed and that success boosts your self-esteem; even as an adult, it still feels good to win. All of that history has led to this dissertation and my decision to focus my career on studying the medium. More than once, a professor has told me that an academic should study a topic about which he or she is passionate. To all of those professors – I took your advice!

Video Games Defined

Before proceeding further with this study, it is necessary to provide a working definition of video games. This term has been debated by many and used differently in various contexts. Baer (2001) provides some of the history of the term’s origins dating back to Steve Russell’s pioneering work with Spacewar! in the early 1960’s at MIT. Part of the debate centers around the use of the word “video” since it’s meaning at the time
was different than it is today (Baer, 2001). In the 1960’s, the term video was used to describe systems using raster scan, a specific technology that involved dividing an image into a sequence of horizontal lines (Shiers & Shiers, 1997). Russell’s game was instead played on a PDP-1 that used vector graphics, a much different technology. Moreover, Baer contends that the term video game was not actually coined until the 1970’s. Baer’s observation is echoed by Wolf and Perron (2003) who assert that the term “video games” first appeared as a subject heading for the Reader’s Guide to Periodicals (March 1973-February 1974). Furthermore, articles on video games appeared as early as 1970, but the headings “Electronic Games” and “Computer Graphics” were used. Today, a variety of terms appear in publications including “video games,” “videogames,” “computer games,” “video computer systems,” and “electronic games.” The correct term has been debated and arguments range from the broad to the specific. On one hand, the term “electronic games” has been criticized as too broad because it encompasses more than what one would typically think of as a video games. In other words, any game, as long as it had an electronic component, could be considered an electronic game (Wolf & Perron, 2003). In an attempt to make the focus broad, Kerr (2006) argues for the use of “digital games,” which encompasses video and computer games as well as arcade and mobile games. On the other hand, the term “computer games” has been deemed too specific since it limits the topic to only games played on computers and excludes other types of games such as those played on consoles. For the
purpose of this study, “video game(s)” will be used consistently throughout to describe the hardware in question. This decision is based primarily on the fact that the research will not examine all types of gaming devices, such as arcade games, but instead, will focus on console gaming units and handheld gaming devices. The use of “video games” is also more consistent with the majority of scholarly research that has been conducted to this point (Wolf & Perron, 2003). When necessary, “mobile gaming devices” will be used to describe portable units – such as the Nintendo Game Boy or Sony PlayStation Portable – in a more general way.

Rationale

With the preceding discussion in mind, a very important question must be answered: Why study video games? The answers to that question are multiple, but all are equally important. In an effort to provide some answers, this chapter will elucidate on just why video games need and deserve attention from academia, including video games’ place in popular culture, the role of academia in expanding our understanding of the world, the uniqueness of video games, video games’ impact on society, and finally, the connection between overconsumption and environmental degradation. In the end, the reason for choosing political economy as the preferred lens of choice will also be examined, and the organization of this study is provided.
Popular Culture Phenomenon

Perhaps the most salient reason to study video games has to do with the medium’s role as a popular culture phenomenon. Now at the top of the entertainment economy, along with television, film, and music industries, video games have become an economic juggernaut. Similar to Hollywood movies, events are planned to premiere highly-anticipated games, and the industry also has its own awards shows complete with celebrity appearances. What’s more, witness the long lines of fans – reminiscent of music fans hoping to buy a concert ticket for their favorite band – waiting outside stores for hours just to be one of the first to purchase and play a new game (Jindra, 2007). To further analyze this phenomenon, we must consider the economic impact of the video game industry.

How economically powerful is the video game industry? Consider statistics from the Entertainment Software Association’s (ESA) 2010 report on sales, demographic, and usage data. According to the ESA, computer and video games can be found in 67% of American households, the average adult gamer has played for 12 years, and the combined sales figures for computer and video games in 2009 totaled 10.5 billion dollars. While sales were down approximately 10% from 2008, the 2009 figure is still 10.5% higher than in 2007 and an astonishing 42% higher than in 2006 (Entertainment Software Association, 2010). What these figures represent is that a high percentage of households have video game playing capabilities, that gamers are playing
video games for an extended number of years, and that expenditures on video games and related hardware in the United States alone is nearly equal to that of Hollywood’s box office receipts which were reported to be 10.6 billion dollars for the combined U.S. and Canadian domestic markets in 2009 (Motion Picture Association of America, 2010). In addition, all of this spending is taking place during an economic downturn.

Certainly, an industry with this degree of economic impact deserves academic attention. Moreover, the role that academia plays in furthering our understanding of the world, including virtual worlds, also needs to be addressed.

Role of Academia

An additional reason for studying video games has nothing to do whatsoever with the medium itself or the industry’s economic impact. Instead, the focus is on the academy and its role in society. As Märyä (2005) asserted:

There is an ongoing, mostly silent revolution taking place in our culture and society. The realm of imagination and creativity, or skills for problem-solving and construction are no longer restricted in the tangible physical world. Extension and investment of modern life and energy into digital puzzles and parallel universes presents modern universities with a major challenge. We must take these popular realms seriously, or face loss of both intellectual and social relevance. To meet the demands presented by these changes, there is need for a new discipline, and also more general reformation in academia (¶ 1).
Märyä’s observation is multifaceted. On one hand, he notes how the virtual world, including video games, now encompasses many aspects of what was formally the purview of the non-virtual world, including imagination, creativity, and problem-solving skills. In turn, he also tasks academia with giving these digital spaces their due, hinting at the lack of attention in previous years potentially due to the view that video games are a lower form of popular culture. Third, Märyä points out that ignoring video games may put academia at risk of losing intellectual and social relevance. In essence, to ignore such an economically important industry would be a huge faux pas on the part of universities. Last, Märyä also stresses the need for a new academic discipline – one that focuses on video games and treats it as an academically-worthy subject (Märyä, 2005). Märyä also indicated that change in academia is inevitable, and in fact, it is already occurring. As evidence of increased acceptance, he points to the formation of the Digital Games Research Association (DiGRA) in 2003 and the launch of Game Studies journal in 2001 (Märyä, 2006). Further evidence can be found through the establishment of additional journals such as Games and Culture, ELUDAMOS, and Simulation & Gaming among others (Rice, 2007).

Märyä’s view appears to be that video games have been treated as the black sheep of academia. However, even if one does not take this view and sees video games as just another aspect of cultural studies, which has been a respected part of academia for a few decades, it is important to note that video games are a recent addition.
Moreover, one may contend that while video games may indeed end up with their own body of theory, there are many existing frameworks, including critical cultural, reception studies, and political economy, that can help us add to our understanding of this rich medium.

**Unique Interactivity**

Moreover, another salient consideration is the uniqueness of video games among other forms of popular culture entertainment. As opposed to more traditional forms of entertainment, including film or television where passive viewers have no control over the character on the screen, video games allow a melding of sorts between the player/viewer and the digitized character created through the game’s programming (Stallabras, 1993). As stated by Stallabras:

> Given the technical means available, and certainly when compared with those of the cinema, this project appears chimerical, yet the experience of even quite crude games can be compelling just because it is interactive. Twitches of joystick and mouse produce great apparent bodily or mechanical movements, rather like driving a car, where the same disparity between movement and effect is apparent. Simulations of flying and driving, where the computer screen becomes a windscreen, directly exploit this effect producing fantasies of movement and control, counterfeiting speed. Even when the player looks at the scene as onto a stage and the alter-ego appears as one of the characters, the
identification remains compelling because this figure is directly controlled.

Bodies focused around the tiny actions which operate the controls still attempt to reflect on a larger scale the frantic movements of their digital protagonists; the player winces as the character falls from some precipice, is crushed or otherwise meets its demise. Most of all, in trying to provide a palpable and unified reality in which the player operates, by linking response, vision and sound, the computer game aspires to a phantasmagoric experience of total immersion.

(para. 2)

In addition to and as a result of this level of interaction, each and every player’s game-playing experience will differ because each player’s social and psychological makeup is different – no two blendings of a player and character can be exactly the same (Gee, 2006).

Further, it is important to recognize that other types of games, such as board games, also require a level of interactivity. The difference between this type of interactivity and that required to play video games lies in the type and depth of interactivity. For instance, traditional board games ask us to interact in some physical and psychological way, such as in making decisions on how and where to move a game piece and then physically interacting with said game piece. Video games take this a step further by asking us not only to make decisions in the game world, but to also interact with another’s mental structure – to assume their identity (Manovich, 2001).
Manovich deftly ties this to Althusser’s concept of interpellation, in essence, mistaking “the structure of somebody else’s mind for our own” (p. 61). In the end, while a game may have a basic storyline, a second story, or what Gee (2006) called the real-virtual story, is also played out. This experience, Gee stated, requires a new set of tools for analyzing this relatively new medium. Part of the question revolves around whether playing video games affects the way we perceive and analyze information. This interactivity is likewise addressed by Wolf (2006) who asserts that existing analytical tools, such as those developed for film theory, do not adequately contend with the nuances that video game interactivity entails. As a result, video games offer researchers a unique venue to expand the tools available for academic exploration.

*Societal Impact*

However, while it is important that video games may lead us to new analytical tools, the uniquely interactive capabilities of video games must also lead us to question the potential societal impact of the medium. In essence, it is important to uncover the potential effects that are resultant from playing video games, as well as the particular meanings that are derived from video game play. The following section briefly examines the potential impact on society through media effects – including the effects on violence, race, and gender – as well as how current business models and strategies lead to overconsumption of resources resulting in a negative impact on society.
**Media Effects**

In relation to video game violence, there appear to be two different views on how violence in video games affects society. On one hand, there are researchers who assert that the violence contained within games is having a negative impact on society and especially on children. This viewpoint is strongly supported by Anderson and Bushman (2001) who conducted a meta-analytic review of the literature on violence and video games and concluded that the research has definitively shown a connection between video game violence and increased aggressive behavior in children and young adults as well as increased physiological arousal, aggression-related thoughts and feelings, and decreased prosocial behavior.

As a counterpoint to Anderson and Bushman’s (2001) research, Jenkins (2004) distinguishes between research regarding effects and research regarding meanings where effects assume a passive recipient of a game’s content and meanings research examines how meaning is created in a more active process. According to the effect’s model, a person who plays violent video games will essentially be trained by the game to become more violent. No processing of the content occurs – just a mindless absorption of the violence and a subsequent release of that aggression. Meaning, on the other hand, is more active, whereby existing beliefs interact with the ideology of the game world, and when existing beliefs coincide with those of the game, reinforcement
occurs. Conversely, when differences exist between current beliefs and the game world, the game world is far less persuasive.

With this distinction in mind, Jenkins’ conclusions are less damning than those for Anderson and his colleagues. Despite this seemingly unbridgeable difference, both sides bring up important considerations. For one, given the number of children and young adults who play games, we have not seen a sharp increase in violence that should be obvious if the effects model holds true. However, it would be uniformed to assume that there are no effects whatsoever. In either case, the potential for antisocial behavior exists, but whether this potential comes from direct media effects or from a meaning-making process where video game violence reinforces existing tendencies, is yet to be agreed upon. As a result, the violence in video games must be acknowledged, and, to date, has received a significant amount of attention. Moreover, while these studies focus primarily on individual effects, if the results of the effects model hold true, society is certainly impacted as a result. As well, while studies about violent video games constitute a sizeable portion of the research, other societal issues are examined in the literature. These include the roles of race and gender in video games as evidenced by recent studies (Barrett, 2006; Jansz & Martis, 2007; Leonard, 2003; Sze-Fau Shiu, 2006; Williams, Martins, Consalvo, & Ivory, 2009).

What we have seen so far is that video games certainly have a strong economic impact, that they deserve attention from academia, that video games offer unique
possibilities for expanding the available tools for studying popular culture, and that issues of violence, race, and gender have received – and deserve – more attention. What hasn’t been addressed is how the video game industry potentially affects society in an indirect manner – through practices that impact the environment.

Business Practices, Overproduction, and Environmental Impact

Whereas the preceding discussion has already provided numerous reasons for studying video games, an additional consideration for this study lies in the impact that the industry has on the environment through a culture of conspicuous consumption that gives rise to overproduction and environmental degradation. In short, basic capitalist economics require that in order for an economy to expand, consumption must likewise increase in order for profits to grow. To help profits increase, for-profit organizations must use a business model that helps stimulate consumption. For the goals of this study, a business model can be defined as “the method of doing business by which a firm can sustain itself” (Rappa, 2003). Essentially, business models, sometimes referred to as revenue streams, are methods by which an organization can earn revenue from its products and/or services. In regard to video games, a number of business models are employed, but one of the primary strategies used to expand business is that of planned obsolescence. In essence, planned obsolescence is a method of creating new consumers or obtaining repeat business by limiting the life cycle of a product. Therefore, when the product wears out, becomes obsolete, or if the consumer
simply likes a newer version, then a new item must be purchased if the consumer desires to continue using the same or a similar good (Harmer, 2005; Packard, 1960; Slade, 2007; Toffler, 1970). Therein lies the problem with much of the consumer electronics industry including the video game industry. Within the video game industry, new consoles are periodically developed, generally with new, improved graphics, and a new cycle of consumption can begin permitting video game developers to create and sell more games. It is a primary assumption in this study that this practice of planned obsolescence leads to consumption at a level that is detrimental to society.

This high level of consumption, or overconsumption, can be defined in a number of ways. Within the context of a consumer society, Brown and Cameron (2000) cite Elkins (1991) in defining overconsumption as “the excessive use of goods and services arising from a mistaken belief that ‘the possession and use of an increasing number and variety of goods and services is the principal cultural aspiration and the surest perceived route to personal happiness, social status, and national success.’” With this definition in mind, excessive consumption levels can be measured by whether or not a person’s acquisition of goods and services actually fulfill the individual. From an environmental standpoint, however, the definition of overconsumption changes to reflect how the consumption of goods and services leads to depletion of natural resources. While these two definitions are related, they are different. For instance, an individual can become happy by consuming enough of a good or service that is
plentiful in nature, but in this instance, while overconsumption has occurred to the point of happiness or fulfillment, depletion of natural resources has not taken place. Conversely, an individual may consume enough of a resource to barely subsist and therefore not be fulfilled per se, but if that resource is scarce in nature, then overconsumption has occurred in relation to the depleted or reduced levels of an already scarce natural resource (Brown & Cameron, 2000). While these definitions are useful to consider, a definition more appropriate to this study is offered by Princen (2002) who offers that, “Overconsumption is the level or quality of consumption that undermines a species’ own life-support system and for which individuals and collectivities have choices in their consuming patterns” (p. 33). The notion of undermining a species’ own life-support system is particularly salient since it points to two possibilities. The first is related to Brown and Cameron’s conception of depleted natural resources. However, the cycles of consumption promoted by planned obsolescence also lead to environmental degradation through the disposal of toxic substances that can negatively impact the environment. In regard to video games, older consoles and games are merely discarded to become part of the ever-growing landfills in which consumer electronics are an increasing component (Environmental Protection Agency, 2010b). All of these concerns taken together lead to the necessity of understanding the impact of the video game industry on society. As a result, this study will undertake the goal of examining the business models used by video game
companies in an effort to grasp the externalities associated with video game industry business models.

Why Political Economy?

With the preceding goal in mind, a framework is needed that provides the best chance of determining this potential impact. As such, I intend to draw upon political economy as the paradigm within which this study is framed. In recent years, authors have begun addressing the applicability of political economy to video games. Miller (2006) stated that as of his writing, political economy had not received enough attention in game studies and further asserted that a combination of “political economy, textual analysis, and ethnography” (p. 8) is necessary in order to begin addressing video game studies properly. Yee (2006) added that, “Video games play important roles in the increasingly blurred intersections of our social, economic, and political spheres” (p. 68). The preceding observations lead to the importance of asking questions about who makes the games, who makes money from games, how audiences are targeted, and how games fit within our social life – questions that are at the heart of political economy and this study since the aim is to determine how social and economic spheres are interacting in regard to video games.

In 2009, Mosco defined political economy as the “study of the social relations, particularly the power relations, that mutually constitute the production, distribution, and consumption of resources, including communication resources” (p. 2). Mosco adds
that within communication, products “such as newspapers, books, videos, films, and audiences, are the primary resources” (p. 24). With Mosco’s definition in mind, this study treats video games as communication products/resources. Essentially, this study examines video game industry business models, which incorporate the production, distribution, and consumption of video game software and hardware, and the potential societal impact resulting from these business practices including social and power relations.

Furthermore, it is helpful to consider that political economy is comprised of four equally important concerns – historical analysis, social totality, moral philosophy, and social intervention. These concerns are certainly at the center of the proposed research. For the first concern – historical change – social change is examined historically, and in order to understand how the notion of overconsumption affects society, it is important to examine how changes in business models have resulted in unintended consequences, both positive and negative in nature. Second, political economy is concerned with the social totality meaning that a broad view is needed to understand the issue under consideration. This standpoint includes the social, political, and economic interactions that take place, all of which are necessary to understand how business models can lead to overconsumption, growing waste issues, and other impacts on society. Third, political economy encompasses moral philosophy, which entails considering what is best for the public good. As this study aims to comprehend the potentially negative
effects of overconsumption, a concern for the public is particularly evident. Finally, political economy should lead to praxis – active change should result (Mosco, 2009), and it is my sincere hope that the results of the proposed research lead to a change in consumption practices and organizational accounting methods that are better for all of humankind. It is because political economy views media in historical, institutional, political, and cultural environments that it makes the best choice for this research.

Moreover, political economy has never been restricted to the study of any one field or industry. Instead, it has been applied quite well to many fields and industries including communication and video game studies (Dyer-Witheford & Sharman, 2005; Kerr, 2006; Mosco, 2009). Hermes (2005) summarizes the importance of political economy when she stated that it is essential to understand “where our critical priorities should lie: with politics, power, and how and by whom the world (including the media) is run” (p. vii). Following this line of reasoning, this study chooses to focus on the video game industry – a socially, economically, and politically viable industry. Indeed, it is critical for us to understand how the video game industry operates and how their methods of conducting business affect the world around us.

Organization of the Study

Chapter I provided a brief introduction to this complex issue and also outlined the rationale for this study. The second chapter reviews the literature for key concepts including business models and planned obsolescence, as well as conspicuous
consumption and advertising. In addition, the types of externalities associated with video games are examined as is political economy and its connection to communication and the video game industry. Chapter III outlines the theory and method for the study with particular emphasis on political economy, and the research questions germane to this study are presented. Chapter IV discusses the data analysis and findings, while Chapter V presents a discussion of the results as well as the limitations of the study and suggestions for future research.
CHAPTER 2: A REVIEW OF THE LITERATURE – THE BACKGROUND STORY

In a video game, the background story fleshes out the details of what has happened in the past. In other words, what is the history of the virtual world that preceded the start of the game? In much the same way, this review of the literature provides the background for this study. What follows is an overview of relevant concepts, including definitions that tie to the basic foci of this study and the research questions that are asked. These concepts include business models, planned obsolescence, conspicuous consumption, and externalities. To complete the review, the literature that focuses on the political economy of the video game industry is also presented.

Business Models

The term business model has been in use for some time now, and definitions vary across the literature. In fact, a recent search of the World Wide Web using the specific phrase “business model definition” resulted in over 69,000 potential web pages and documents. While I am sure that many of these web pages duplicated the same definition, the sheer number of hits testifies to the breadth of definitions that are possible. As a starting point, consider the historical beginnings of the term. According to Magretta (2002), the term business model came into being with the advent of the personal computer and electronic spreadsheets. Prior to this time, business forecasts were often limited and relied on human expertise, but electronic spreadsheets allowed a
more analytic approach to business planning that had previously been unattainable. A business model, Magretta also asserted, is not the same thing as a business strategy. While a business strategy is concerned with competition, a business model is not. In essence, Magretta states that all new business models are built on a generic value chain that includes two parts. The first part includes “all activities associated with making something…. Part two includes all the activities associated with selling something” (p. 87). Likewise, Picard (2002) – in reference to business models within media industries – defines business models as “the conception of how a business operates, its underlying foundations, and the exchange activities and financial flows upon which it can be successful” (p. 26). Put more simply, a business model is the method by which a business makes money including all steps in the process from design and the purchase of raw materials to advertising and distribution of the product and/or service. For the purposes of this study, a business model, or revenue stream, is defined as the methods used by a company to earn revenue from its products and/or services.

Before looking at planned obsolescence, it is necessary to briefly discuss a few of the important points associated with business models in the video game industry. This overview is not intended to replace the first research question, but instead, is intended to provide a preview that is broader in nature as it focuses on the industry as a whole and not just console units or mobile gaming platforms. To begin, most scholars and industry insiders agree that the first commercially successful video game was Pong.
Kent (2001) explains that *Pong* was not the first video game per se. Instead, he deliberately focuses on *Pong* being the first commercially successful game. Other video games preceded *Pong* on the market, including Ralph Baer’s Ping-Pong game for the Magnavox console, which Nolan Bushnell adapted for the arcade unit. In addition, Bushnell had tried, unsuccessfully, to market an arcade version of Russell’s *Spacewar!* under the name *Computer Space*. Unlike *Computer Space*, *Pong* was very simple to use. Placed at Andy Capp’s Tavern in Sunnyvale, California, *Pong* was a near instant success. According to Kent, soon after placing the unit in the tavern, Al Alcorn, one of Atari’s first employees, received a phone call from the tavern’s owner because the machine had developed quite a following, but was not working properly. Thus the stage was set for a highly lucrative business that later developed into video game arcades – businesses that assembled a number of electronic and video games in one location. While arcade gaming systems were very popular, one had to visit an arcade, usually at a local mall or shopping center, in order to play. One advantage to console units was that they could be played within the home, and although early systems could only play one or a few games, the convenience made it attractive. Eventually, console units went away from systems with the game(s) hard-wired into the circuitry and cartridge-based systems were born (Kent, 2001). This model is still used today although variations of digital discs have long since replaced the bulkier cartridges.
Planned Obsolescence

An additional concept of importance to this study is planned obsolescence, which is defined as “a method of stimulating consumer demand by designing products that wear out or become outmoded after limited use” (Planned Obsolescence, n.d.). As one can see, the concept of planned obsolescence is closely tied to our definition of business model, specifically to the concepts of design and development as well as production. Planned obsolescence is certainly not a recent phenomenon and has been built into products including general consumer goods, and more specifically into automobiles, clothing, and modern-day electronics. Harmer (2005) traced the evolution of planned obsolescence back to the early 1900s. According to Harmer, the 1920s saw the escalation of mass production, but with the stock market crash in 1929, production slowed significantly. Consequently, America saw the founding of a new profession in industrial design, which focused on styling and planned obsolescence. McKellar (2002) adds that combined with advertising, Americans were called upon to buy themselves out of the depression. What follows is an overview of how planned obsolescence has been used in the fashion industry, the automobile industry, general consumer goods, and the consumer electronics industry, which, of course, includes video games.

Fashion

As one example, consider the fashion industry, where planned obsolescence is a permanent fixture. In her 2002 work, Saviola examined how planned obsolescence
applies to the fashion and clothing industries noting how designers are employed in an effort to prolong the lifecycle of mature product lines. Emphasis is placed on creating new fashion to effectively create desire for a product where no real need is present. In fact, in the early 1900s, Simmel (1904) reflected on how the clothing industry relied heavily on fashion and planned obsolescence when he stated that “not the slightest reason can be found for the creations of fashion from the standpoint of an objective, aesthetic, or other expediency” (p. 134). Simmel continued by explaining how there is no connection between the material need for purchasing an item of clothing and the actual decision to purchase. More recently, Slade (2007) expounded on this idea by noting that certain consumers are drawn to new and original products. He remarked that these consumers “change their product preferences continuously and quickly, a fact that is especially obvious in their styles of dress” (p. 267). Slade also reflects that while frequent changes in clothing fashion are predominantly associated with women, men also fall prey to the same ideology. In particular, Slade notes how up until the early 1960s, men’s clothing life cycles typically averaged five to seven years. However, that life cycle shortened, and men’s fashions now typically change about as frequently as women’s (Slade, 2007). These new fashions are part of big gala events where new clothing lines are introduced in an effort to whet the public’s appetite for the new, and must-have, designs.
Automobiles

While planned obsolescence is ingrained in the fashion industry and has been used by clothing designers for decades, it is certainly not a new concept to the automobile industry either. Slade (2007) relates a story involving Henry Ford and General Motors head Alfred Sloan. According to Slade, Ford’s thinking revolved around building cars that were clunky, but built to last while Sloan preferred cars with style that were less sturdy. Sloan’s goal was to create a need among the public for the latest, most appealing vehicle effectively creating demand for new cars. Periodically, new models were introduced and promoted using the new styling as a primary selling point. While some technical advancements also accompany these model changes, the practice of planned obsolescence was also seen as a way to escaping the Great Depression of the 1930s. During the post war boom in the 1940s, the automobile industry thrived on planned obsolescence with the practice of yearly style changes becoming more commonplace – a practice that continues today (Harmer, 2005). Planned obsolescence has thus been a mainstay of the automobile industry for about as long as it has with fashion.

General Consumer Goods

In the 1950s, another economic slowdown affected the American economy and the practice of planned obsolescence spread to other general consumer goods in an effort to stimulate demand (Harmer, 2005). Indeed, by 1960, planned obsolescence was
firmly entrenched in the United States and considered by business as an acceptable practice. As evidence, consider Packard’s (1960) recollection of a quote by a noted industrial designer, who stated:

Our whole economy is built on planned obsolescence…. We make good products, we induce people to buy them, and the next year we deliberately introduce something that will make those products old fashioned, out of date, obsolete…. It isn’t organized waste. It’s a sound contribution to the American economy (p. 46).

The preceding quote clearly illustrates how the notion of planned obsolescence became naturalized. By the 1960s, the practice was so commonplace that the average American saw no reason to question the potential consequences. About ten years later, Toffler noted in his well-known book Future Shock that we now used “rented goods and commodities designed for almost instant death” (Toffler, 1970, p. 73). Goods were, and are, designed to be purchased and then simply discarded to the trash heap in order for consumers to have the latest, more fashionable design – all in the name of allowing the economy to expand and profits to grow. These practices can also be seen in the consumer electronics industry.

Consumer Electronics

Even though the environmental movements of 1980s and 1990s took critical steps to examine planned obsolescence, the naturalness of the practice has made it difficult to
slow its progress (Harmer, 2005). Looking at the present day, Slade (2007) provides a useful examination of planned obsolescence noting how the practice is currently ubiquitous with modern technology. Devices such as computers and cell phones are kept only 18 months to two years at the most before they need replaced. Planned obsolescence is also admittedly part of many firms’ business strategies as evidenced by comments from Randy Mott who in 2003 was the CIO and senior vice president of technology for Dell. According to McKean (2003), Mott stated that he “believe[s] in planned obsolescence. As you make technology decisions, you should also be planning how and when to obsolete that technology” (p. 8). When planned obsolescence is examined as whole, it is obvious that it contributes immensely to the overconsumption of products that could be made more durable. This is also true of the video game industry, which introduces a new console every few years in an effort to gain new sales from new titles as well as rereleases of old games with more current graphics (Kent, 2001). In the end, these consumer products, including cell phones, computers, video game systems, cartridges, and discs, as well as all other disposable consumer electronic goods, end up being replaced on a frequent basis, as individuals continue to spend in order to have the latest, greatest electronic gadget. These newer models do contain new features and functionalities and are not merely stylistic or fashion-related changes, but that does not change the fact that old models are generally just thrown away. In fact,
the rapid change in technology only seems to escalate the problem. Moreover, these business practices also tie to the idea of conspicuous consumption.

Conspicuous Consumption and Advertising

Defined as “lavish or wasteful spending thought to enhance social prestige” (Conspicuous Consumption, 2010) conspicuous consumption, like planned obsolescence, has become ingrained into American society. But from where does this need to consume come? One view is that conspicuous consumption is tied to the massive advertising expenditures made by big businesses each year. In his book, The Consumer Trap: Big Business in the American Life, Dawson (2004) states that big businesses in America are spending over one trillion dollars per year in order to market their goods and services. For the most part, the public plays its role by consuming all kinds of products and services whether they are needed or not. But why do we consume all of these products? Is there some innate desire to consume? Dawson’s answer is no. Instead, he asserts that this desire is manufactured. In other words, businesses need to stimulate demand and are willing to spend large sums of money to do so as the exceptionally high figure shown above demonstrates. Furthermore, Dawson argues that the primary reason for these large expenditures is to maintain the capitalist system and the disparities associated with it. These disparities can be tied to the practices of business owners who maintain their power and continue to get richer while consumers are caught in a cycle of spending and consumption in order to have the latest product or
service, many of which never really fulfill any of need – except for those created by the marketing departments in corporate America. His observation contradicts the idea that people are capable of making their own spending decisions free from influence. If this were true, why spend such large sums of money? In fact, Dawson’s observations are directly descendent from Marx and his concerns about capitalism.

Essential Capitalism

As a starting point for this part of the discussion, consider Marx’s basic views on capitalism as outlined by Lebowitz (2004). In essence, capitalism is a relationship between the people, who are separated from the means of production, and the capitalist, who owns the means of production and purchases the worker’s labor. While this relationship is important, what is perhaps more salient is that the owners who purchase the workers’ labor have one primary motive – to make a profit in order to make their capital grow. The capitalist not only has the right to direct the workers, but also retains control of the work product created by those same individuals. Other than receiving compensation in the form of wages, the worker does not benefit from the sale of what he or she has produced. Capital is thus the result of worker exploitation and the products created are simply an historical reflection of this exploitation. Lebowitz continues by explaining that the workers’ own product is then turned against them. Since profit is the primary goal for the capitalist, it is in his or her own best interest to reduce wages whenever possible in order to increase profit. This makes it more
difficult for workers to provide for their own needs and enjoy the result of their work. To the point, capitalism is not concerned with the needs of the workers. If anything, it is in the capitalist’s best interest to turn workers against each other in a competitive fashion so that the cost of labor can be reduced and profits increased.

Furthermore, the system reproduces itself because this exploitation is not obvious. If anything, the relationship between the capitalist and the laborer appears to be natural to all involved. That does not mean that the worker never fights back. However, these fights are often related to issues of fairness targeting issues such as working hours, working conditions, or better wages. In the end, the system merely replicates itself. Certainly, gains are made at times by the worker in the form of higher wages or increased benefits, but during times of economic slowdown, the capitalist is able to drive down wages and reduce benefits once again (Lebowitz, 2004). This cycle can be directly observed right now as the United States is in the middle of a deep recession and companies are able to negotiate with unions for wage cuts, longer hours, and fewer benefits. Threats of lay offs are made in an effort to gain cuts in favor of the business owner. Krugman (2009) clearly outlines how a depressed economy results in competition among laborers for work, which reduces wages. In his overview, Krugman explains that when workers at one company accept lower wages in order to save jobs, other companies soon follow. The logic is quite simple. The lower wages at the first company allow the same company to reduce prices to improve sales. Other companies
then need to follow suit in order to stay competitive and begin seeking wage cuts in order to lower costs and prices. As Krugman shows, it is during these recessionary periods that the worker suffers most.

Moreover, Lebowitz (2004) further clarifies the workers’ dependence on capital by explaining that when the exploitation of the worker appears natural, then it also appears natural for the capitalist to be in control. Basically, as the worker becomes more dependent on the capitalist, the relationship between the worker and capitalist appears more natural or commonsense. The result is a system in which workers see themselves as dependent on capital, but it is important to note that it is not just a mere appearance of dependence. The workers are truly reliant on capital as long as they are separated from the means of production. This dependence results in workers continuing to sell their labor in order to make money to meet their needs. The purchases made by the workers are key as they put more profits back into the hands of the capitalist who continues to exploit the worker. The cycle thus perpetually replicates itself.

*Creating Demand*

At this point, the relationship between the capitalist and the laborer should be clear – the capitalist owns the means of production and purchases the labor power of the worker who then uses his or her income in order to purchase goods and services in order to satisfy needs and wants. The naturalness of the system makes it difficult to
question. In and of itself, the system is bad enough when workers use their income to purchase basic needs, but as outlined earlier by Dawson (2004), big business has found ways to create even greater demand for goods and services, which are not necessarily required for human survival. Costs are driven up as well because of the increased marketing, and these costs are subsequently passed on to the consumer.

McChesney and Foster (2003) explicate on this matter in their discussion of monopolistic competition. According to the authors, large companies no longer compete on price; instead, they partake in monopolistic competition, which consists of ...

...attempts to create monopoly positions for a particular brand, making it possible for corporations to charge more for the branded product while also expanding their market share. Competition is most intense in what Thorstein Veblen called the ‘production of salable appearances,’ involving advertising, frequent model changes, branding of products, and the like.... All human needs, relationships and fears, the deepest recesses of the human psyche, become mere means for the expansion of the commodity universe under the force of modern marketing (p. 1).

The authors concluded that commercialism has grown exponentially. With this explosion in advertising comes increased competition for airtime. Those companies that fall behind in sales must advertise more or risk losing to the competition. In the end, there is an ever growing – overabundance really – of advertising. Not only has the
total time of advertising increased, but the total number of advertisements in a given
time period has increased as well. Furthermore, digitization has aided this
transformation. With digital technologies, broadcasters have been able to easily reduce
program length in order to make more room for ads. Moreover, advertisements can be
found lurking in different areas of a television screen during sports programming, news
broadcasts, and regular programming (McChesney & Foster, 2003).

In addition, the new paradigm involves giving a product personality. That
personality is then branded on each consumer’s consciousness so that individuals relate
to products on an emotional level. In fact, marketers have become much more
sophisticated in the techniques they employ. Again, digitization plays a role as it
allows marketers to gather unprecedented amounts of data on potential markets,
permitting corporations to target audiences with great precision. Moreover, these
techniques are increasingly used on younger and younger people. Children are a prime
target: first, because they have not yet developed brand loyalties, and second, because
they have not yet built defenses against advertising. As a result, marketers are
targeting children at increasingly younger ages (McChesney & Foster, 2003). Gary
Ruskin, head of Commercial Alert, was quoted my McChesney and Foster as stating
that “[i]n our business culture, children are viewed as economic resources to be
exploited” (p. 14). So what does this all mean? Very simply, the increase in advertising,
coupled with increasingly sophisticated marketing techniques including a recent focus
on children, has led to an unparalleled culture of consumption that creates demand where once there was none.

Externalities

In political economy, the notion of externalities is an important concept. As defined by Johnson (2005), an externality is a positive or negative effect on an individual or individuals as a result of another’s actions. A positive externality results when an individual or firm not involved in producing or consuming a good or service receives some benefit from said production or consumption. For example, if a person makes improvements to his or her home, then the surrounding neighbors also benefit from the increased market value of their homes even though they were not involved in the original homeowner’s refurbishment. On the other hand, a negative externality results when an individual or firm not involved in producing or consuming a good or service is detrimentally affected by said production or consumption. For instance, if a homeowner neglects the upkeep of his or her home, then the surrounding neighbors will suffer as their property values decline (Johnson, 2005). Moreover, externalities operate on many levels. For example, the issue of violence operates primarily on a smaller scale. While society at large is certainly concerned with the potential for violence, the potential effects operate on an individual level as one person acts on his or her aggression toward another individual or individuals. On the other hand, issues of gender and race operate on both an individual and societal level, with both gender and
racial stereotypes perpetuated through video games, which can certainly impact individuals through discriminatory practices. Similarly, the historical lack of games designed for females operates on both an individual and a societal level. In both cases – stereotypes and a lack of games for females – large segments of a population are affected through the perpetuation of the stereotype, but the day-to-day impact is often on individuals. Furthermore, the impact on the environment operates on an even larger and broader scale affecting everything from regions near the landfills that potentially contain toxic wastes to entire countries and continents, which could be affected if smaller disruptions lead to a larger ecosystem disruption. It is also salient to point out that unlike the previously mentioned externalities, the environment is impacted before and after production through the use of natural resources in production and the resultant environmental degradation from pollution. For this study, both positive and negative externalities are of particular interest. Up to this point in time, a large portion of video game research pertains to negative externalities, but a few positive externalities have been identified in recent years. This research examines the effects of video game violence, the connections between the video game industry and the U.S. military, the prevalence of gender-based stereotypes, issues of race, and a summary of the positive externalities. A review of this literature follows.
Violence

As noted in the first chapter, there is continued debate as to the effects of video game violence on those who play the games. On one side, there are those researchers (Anderson & Bushman, 2001; Barlett, Anderson, & Swing, 2009; Hartman & Vorderer, 2010; Olson et al., 2009; Schmierbach, 2010) whose research shows a link between play of violent video games and aggression. These findings have been backed by the American Academy of Pediatrics (2009) as well. The review conducted by Barlett, Anderson, & Swing (2009) is of import. In their examination of the literature, the authors divided the studies into categories based on the findings of those studies. The categories included confirmed, speculative, and suspected findings for positive and negative outcomes. For the confirmed negative outcomes, the general conclusion is that “constant playing reinforces the belief that hurting others is a successful way to resolve conflict” (p. 380). Moreover, the negative outcomes can be broken down into several types. These include an increase in aggressive feelings, behaviors, and cognitions, and increased physiological arousal, as well as a decrease in prosocial behavior. Furthermore, suspected negative effects include long-term aggressive attitudes, desensitization to violence, decreased empathy, an increase in attention deficit, decreased school performance, and a decrease in executive control, which is defined as the process by which we “inhibit automatic response in order to behave in ways consistent with...personal goals” (p. 392).
Other recent studies also support these findings. More specifically, violent video games have been tied to increased risk of bullying and physical fights (Olson et al., 2009) and reduced guilt associated with the violence because it was only a game. In other words, the participants had become desensitized to the violence (Hartmann & Vorderer, 2010). As well, a study conducted by Schmierbach (2010) concluded that the game mode was a mediator of the level of aggression. Whereas cooperative play modes tended to lessen aggressive cognition for males and females combined, solo and competitive play resulted in increased likelihood for violent strategizing. Earlier studies also point to increased aggression. For example, a meta-analysis conducted by Sherry (2001) revealed a positive correlation between playing video games and increased violence with specific effects associated with fantasy-style games containing both human and fantasy characters. Interestingly, the results also showed higher degrees of aggression with shorter play times. Furthermore, Anderson and Bushman (2001) also conducted a meta-analysis and found that violent video games increased aggressive behavior in both children and young adults as well as increased physiological arousal, increased aggression-related thoughts and feelings, and a decrease in pro-social behavior.

On the other side of the debate are those (Gauntlett, 2005; Jenkins, 2004) who distinguish between effects and meanings. As mentioned in the rationale, the effects model assumes that a video game player passively receive the content, in effect,
mindlessly absorbing the violence. On the other hand, the meanings model assumes higher interactivity between the player and the game. If existing beliefs about violence are that violence is acceptable as a solution, then those beliefs tend to be reinforced by video games. On the contrary, if differences exist between the player’s existing beliefs and those of the game world, then the game world is less likely to be persuasive. These findings connect to evidence that other factors outside of video games are likely to affect the degree to which violence in the game influences the game player. Gauntlett particularly criticizes the notion that audiences are nothing more than passive sponges that consume a given text without processing the experience in any meaningful way. Furthermore, Ferguson, San Miguel, and Hartley (2009) found that antisocial personality traits, depression, delinquent peer association, and psychological abuse by parents or guardians were more likely linked to increased aggressiveness than violent video games. Two additional studies point to issues within the research that purport to find a link between aggression and violent video games. For example, several studies showing a link between video game play and aggressive tendencies are correlational in nature, which is much weaker than a causal connection. In addition, unreliable aggression measures and publication bias were seen as significant faults with many of these studies (Gauntlett, 2005). Gee (2005) also observed that the Japanese play more video games and watch more television than Americans do, but have a less violent society than the United States. Additional criticism is leveled by Gauntlett (2005) who
points to numerous issues within media effects literature including the questionable practice of applying methods that were developed for the natural sciences to studies involving complex human behavior. In essence, Gauntlett asserts that video games are neither innately good nor bad, but, instead may or may not lead to increased aggression and violence depending on “family, social, or cultural” (p. 5) contexts. In all, the results are mixed, and many studies ignore the reality that even though a significant number of children and adults play violent video games, we simply have not seen a huge outbreak in aggressive behavior nationwide or across the globe (Ferguson, 2007, 2008). In fact, Ferguson (2008) has shown that during the decade spanning 1996-2005, video game sales increased over fourfold while youth violence showed an approximate two-thirds decline during the same period.

In a related concern, researchers have started looking into the possibility of a connection between violent video game play and domestic violence. At this time, only one study was located that examines this possible connection. This study, which was conducted by Ferguson (2011), examined the connection between watching violent television or playing video games and domestic violence among Mexican-Americans. Results showed that neither of these media-related activities was associated with domestic violence. Instead, physical abuse during childhood was a more consistent factor. There is evidence that media-related events have been correlated to domestic violence, such as with the study by Card and Dahl (2011) that made a connection
between domestic violence and losses by NFL teams when they were favored to win. However, more research needs conducted before any definitive statement can be made regarding a similar connection between playing violent video games and domestic violence.

In the end, one can conclude that the issue of violence in video games is probably not as clear as some researchers and the mainstream media have made it out to be. The issue is actually quite complex with a variety of factors influencing whether or not a gamer tends toward violence as a result of playing video games. Indeed, nearly two decades ago in 1993, the U.S. National Academy of Sciences issued a statement that declared individual, family, biological, peer, school, and community factors as all contributing to the violence issue (Anonymous, 2003). In other words, while we do not see an outbreak of violence among all or a number of video game players, it would be naïve to assume that there are no effects at all.

Another aspect of the violence debate, but one that departs from the media effects research, is the use of cultivation theory to try and understand how and if video games influence one’s perception of the world. Cultivation is centered on the interaction that viewers have with television messages (Gerbner, Gross, Morgan, Signorielli, & Shanahan, 2002). In this respect, cultivation is not concerned with how television may “effect” an individual in some passive manner, but instead looks at an active process wherein various groups may be influenced in many different ways with
these influences being very “subtle, complex, and intermingled with other influences” (Gerbner et al., 2002, p. 49). In simpler terms, cultivation theory postulates that the media, and more commonly television, work to shape peoples’ views of social reality (Gerbner et al., 2002).

As of this writing, few studies have been conducted that examine the influence of video games from a cultivation standpoint (Griffiths, 1999, 2000; Sherry, 2001; Subrahmanyam, Kraut, Greenfield, & Gross, 2001). One study of note is the study by Anderson and Dill (2000) whose findings contradicted the bulk of cultivation research that focused on television. Instead, the authors did not find any significant influence from playing video games. In addition, Van Mierlo and Van den Bulck (2003) did not find cultivation effects with video game play with the exception that violent video game play did predict a higher estimation of violent crime and the number of police officers in the workforce. Williams (2006) also found limited results in his study of cultivation effects involving one month of online video game play. In this instance, the perception of danger in the real world was only correlated to video game play if the dangers corresponded to situations or events within the game world. No such correspondence was found with other real-word crimes not evident in the game world. As such, the authors’ findings in both these studies are more in line with what cultivation researchers refer to as the mean-world syndrome, which purports that playing violent video games causes individuals to overestimate the amount of real-world violence in
society. Related research conducted by Scharrer and Leone (2006) into third-person perceptions found that adolescents perceived others of the same age or younger as being vulnerable to these mean-world effects.

Finally, it should be mentioned that a small body of research has been conducted that examines the role of catharsis in relation to video game play. Fundamentally, the catharsis hypothesis asserts that, as opposed to causing violence and aggression, media can act as an outlet for aggression (Feshbach, 1955). A study of television violence (Feshbach & Singer, 1971) found that exposure to violent television content did not increase violent behavior, and for some participants, aggressive behavior actually decreased. However, it was later determined that the difference in aggression was more likely attributable to the fact that the participants exposed to the nonviolent films acted more aggressively than the participants who watched violent films because the participants in the former simply did not like the nonviolent films and responded in a negative manner (Sparks & Sparks, 2002). So far, few studies examine the catharsis effect for video games and these have met with mixed results. One study (Winkel, Novak, and Hopson, 1987) found no increase in aggression from video game play while Graybill, Kirsch, and Esselman (1985) found results that were more consistent with the catharsis hypothesis. Moreover, a third study (Kestenbaum & Weinstein, 1985) used a survey to discover that adolescent boys self-reported that they used violent video games as a way to manage conflict and aggression. On the other hand, a study by
Bushman, Baumeister, and Stack (1999) resulted in participants choosing a more violent alternative (hitting a punching bag) after being exposed to a pro-catharsis message. Considering the fact that so few studies even address the relationship between video game play and catharsis, that most of these studies are relatively old, and that the results are mixed at best, it is not possible to determine if violent video games can work in such a positive fashion.

Connections to the U.S. Military

In the past, quite a bit of criticism and evaluation has been directed at the military-industrial complex first addressed by President Eisenhower in his 1961 farewell address to the nation. The term refers to connections between the armed forces, businesses, and branches of the government particularly examining the money flows and potential for corruption. Since the time of Eisenhower’s speech, a variety of organizational combinations have been examined including the military-industrial-congressional complex and the military-industrial-academic complex (Eisenhower, 1961; Giroux, 2007; Higgs, 1995). More recently, concerns have been raised about the military-entertainment complex, a relationship that involves various elements of the media and entertainment industry with the military and branches of government. Of particular interest to this study are the connections the military has to the video game industry. For decades this connection has been developing and deepening. Early on in the development of computer technology, the military looked for ways to simulate war
games. In fact, the U.S. Department of Defense has been the primary developer of war games since the 1950s. As video game technology progressed, the military has sought ways to either continue developing their own computer simulations or has contracted with independent commercial developers to do the work for them (Lenoir & Lowood, 2005).

One of the earliest uses of video games by the military occurred in the 1970s when James Dunnigan introduced *Mech War* to the Army War College (Macedonia, 2002). In the 1990s, the Marine Corps Modeling and Simulation Management Office modified *Doom II: Hell on Earth* into *Marine Doom* for training purposes. Additional games developed in the 1990s include a combat simulation developed for the Marines by Mak Industries and the tank simulation, *Spearhead*, for the U.S. Army. Not long after, the Department of Defense began using *Rainbow Six: Rogue Spear* for training in urban settings. Other games utilized by the Department of Defense include *Rainbow Six: Raven Shield* and *SOCOM II: U.S. Navy Seals* (Leonard, 2004). Moreover, in an important move in 2002, the U.S. Army produced its own video game, *America’s Army*, which was made available as a free download over the Internet. Originally, however, *America’s Army* was used as a recruiting tool instead of for training (Shaw, 2010).

Today, the game is in its third incarnation appropriately titled *America’s Army 3* and has since been used for both training and recruiting (Cnet TV, 2005; Hsu, 2010). Furthermore, in 2004, the Marines were reportedly developing two other games.
first, *Close Combat: First to Fight*, was a first-person shooter intended for use as a tactical simulator, while the second, *Red Phoenix*, was a platoon-level strategy game with an anti-terrorism setting (Peck, 2004). As well, the Xbox game, *Full Spectrum Warrior*, also available in 2004, was used in a modified form by the military, but what is most interesting about this game is that it was developed at the University of Southern California’s Institute for Creative Technologies. As a result, the military-entertainment complex is extended to a military-academic-entertainment complex (“Playing to win,” 2004; Shaw, 2010). More specifically, the Army contracted with the Institute for Creative Technologies “to research and produce virtual simulations and video game worlds that aid soldier training, development, and even post-traumatic healing” (Shaw, 2004, p. 794). This arrangement then enables academics to incorporate an understanding of “human learning, language, behavior, emotion, and affect” into “the binary architectures of virtual war” (Shaw, 2004, p. 794).

As shown, using video games as a recruiting tool is relatively new, and some speculation has taken place that the timing is important given the terrorist attacks on September 11, 2001. With the U.S. war on terror in full swing, new recruits were badly needed. Estimates place the yearly demand for recruits at 80,000 (Ahluwalia & Miller, 2008). *America’s Army* has allegedly helped fulfill that quota with over five million registered users in its first year (Lugo, 2006). As of 2008, that figure had doubled (Ahluwalia & Miller, 2008). Two factors are identified in this success. One is the draw
of a free game, and when it comes to video games, free is always better than the typical fifty-dollar price tag for a new game off the shelf. Second, it’s made by the U.S. Army. While not typically thought of as a video game developer, the fact that the game is a military simulation means that it gained instant credibility because it was made by the Army (Lugo, 2006). Indeed, even if only a fraction of those registered users actually signed up for the armed forces, the Army still considers the game money well spent considering its relative cost effectiveness. For instance, consider that in the early 2000s, the military’s annual recruiting budget was approximately four billion dollars (General Accounting Office, 2003) while the annual cost for maintaining and upgrading America’s Army is closer to four million (Gwinn, 2003).

With video games apparently firmly entrenched as an option for the military, there are considerations that must be made about the military’s use of the medium. While one can argue that the recruiting costs are a reasonable expenditure given the overall recruitment budget, what is less clear is the effectiveness of video games as a training tool. On the positive side, the military is fully aware that as newer generations enter the armed forces, a larger percentage of that population has played and enjoys playing video games. Take, for instance, the study conducted by Orvis, Moore, Belanich, Murphy, & Horn (2010) which found that close to 50 percent of soldiers 24 and under played action video games on a weekly basis as compared to less than 20 percent of those who were over 40. One might think that with such a large percentage
of soldiers already playing video games on a regular basis, adapting and using video games as a training aid would make sense. The results, however, are mixed. On one hand, a study by Orvis, Horn, and Belanich (2009) found that individuals with more experience playing relevant videogames were more at ease using videogame-based training. In addition, individuals who had greater confidence playing video games (video game self-efficacy) were also more motivated in such training simulations. Moreover, a study in The Economist reported mixed results that varied on the type of game used for training. For example, games that simulated tactical infantry combat proved less useful than larger scale simulations that stressed command of larger groups of soldiers (“Playing to win,” 2004). Additionally, a study that examined the ability of a game player to detect changes in contexts with competing demands for attention found no evidence that one’s ability to play action video games increased that individual’s chance of detecting changes on a digital display like the screens often used by the military (Durlach, Kring, & Bowens, 2009). As a result, the effectiveness of spending the public’s tax dollars on video games as a training tool becomes questionable until further evidence is found to justify the payment of large sums for questionable results. At the very least, using video game simulations for training purposes should only be used extensively for games that operate on a larger scale since there is more evidence in support of their effectiveness.
Lastly, another consideration of the military’s use of video games as recruiting and training tools ties to the ideological effects of such practices. To date, many criticisms have been leveled at the U.S. military. For one, critics identify the disconnect between the real and virtual military experiences, especially when it comes to the lack of realistic outcomes and contexts. For example, in many of these games, when an enemy gets shot, there is simply a small, red spray of blood that comes no where close to the bodily damage inflicted on many real-world combatants. The enemy, once shot, simply falls to the ground and in some games, merely fades away into nonexistence. In addition, several of these simulations involve American soldiers invading foreign cities that are seemingly occupied by only enemy soldiers. Civilians, if present, are few in number and often cannot be killed or even injured. On the other hand, the realness of the virtual world itself acts to blur the line between what is real and what is a screen. As a result, it becomes easier to accept that what is witnessed on the screen mimics reality and makes killing easier (Leonard, 2004; Lugo, 2006). This blurring has become more pronounced in recent years as video games have shifted away from depicting historical battles or even fictional sites to mirroring current conflicts that enable game players to help defeat our current enemies. As such, it becomes easier for game players to accept the dominant ideology as natural (Leonard, 2004; Power, 2007). In other words, killing Muslims, and especially Arab peoples, is perfectly fine and even necessary as a complex issue becomes nothing more than a distinction between good
and evil based on stereotypical representations. Going a step further, invasion and occupation of these lands is also naturalized in a manner reminiscent of colonialism (Shaw, 2010). What’s more, gamers playing *America’s Army* are further indoctrinated through a quite simple exploitation of the load times between portions of the game.

Load times are the times in between major sections of a game. These times are used to load a new section of the game world from the hard drive or optical disc so that the player can continue. For most commercial games, developers seek to minimize these times since game players do not want to wait long before getting back to the action.

*America’s Army* on the other hand, has comparatively long load times, but deftly places what is known as the Soldier’s Creed on the screen for gamers to see while he or she waits. This creed is the same creed given to every soldier to help reinforce the Army’s values (Lugo, 2006). As reported by Lugo (2006):

> According to Colonel Kevin A. Shwedo, G-3 of the United States Army Accessions Command at Fort Monroe, “The sooner we proliferate the Soldier’s Creed throughout the Army, the faster we will start to blur the lines of MOS [Military Occupational Specialty] loyalties and we start understanding we’re a Soldier and we’re a warrior first.” (pp. 13-14)

If intentions are correct, then any person enlisting in the Army who has already been exposed to the Soldier’s Creed through the game will have a head start in adopting and internalizing the values the Army considers valuable.
Moreover, what many U.S. citizens may not be aware of is how terrorist organizations are taking these same video games and using them as their own recruiting and training tools in essence reversing the ideological process for their own uses. As Morgan (2006) explains, “The makers of combat video games have unwittingly become part of a global propaganda campaign by Islamic militants to exhort Muslim youths to take up arms against the United States” (para. 1), as “Tech-savvy militants from al Qaeda and other groups have modified video war games so that U.S. troops play the role of bad guys in running gunfights against heavily armed Islamic radical heroes” (para. 2). Indeed, such unintended consequences have specific ramifications for the U.S. and points to one of the many concerns related to the newest version of the military-entertainment and military-academic-entertainment complexes.

**Gender**

In addition to the research on violence, a number of studies have been conducted examining issues of gender in video games. Dietz (1998) used a content analysis to find that out of over thirty games analyzed, only fifteen percent portrayed women as heroes. Otherwise, when women were portrayed as something other than a hero, they were generally shown with large breasts and significantly smaller hips. In another content analysis (Beasley & Collins Standley, 2002), 47 randomly chosen games were examined for representations of women. A large percentage of the female characters had either average or voluptuous breasts, and the female characters with voluptuous breasts had
unrealistically large breasts. Furthermore, in a content analysis conducted by Scharrer (2004), the author examined advertisements for video games. First, male characters outnumbered female characters by a ratio of three to one. In addition, about a fourth of the ads contained no female character at all; when females were present in the ads, they were depicted as significantly sexier and more attractive than the male characters.

In addition to the studies just mentioned, Glaubke, Miller, Parker, and Espejo (2001) found that female characters were severely underrepresented, male characters were most likely portrayed as competitors while females were portrayed as props or bystanders, stereotypical roles were frequently adopted by male and female characters, and game features generally did not appeal to females. Dill and Thill (2007) also found that female characters were underrepresented and were more likely to be sexualized and scantily clad. However, the authors went a step further and conducted a second study that surveyed college students in regard to video game magazines. The two primary questions were open-ended and asked the respondent to describe a typical male and female video game character. Results were consistent with the hypermasculine and hyperfeminine stereotypes typically addressed in video game studies. Ogletree and Drake (2007) found similar results with participants estimating that the largest number of video game characters was male, and female characters were more sexually provocative. More recently, Williams, Martins, Consalvo, and Ivory (2009) found comparable results. Additional studies had similar findings for video
game covers (Burgess, Stermer, & Burgess, 2007), video game reviews (Ivory, 2006), introductory films (Jansz & Martis, 2007), and magazine articles (Miller & Summers, 2007). In each study, male characters outnumbered females, and females were typically exaggerated and objectified.

Another consistent finding has been the disparity between the amount of time men and women spend playing video games. In one study, men were reported to spend 11 hours on video game play each week, as opposed to women who spent less than a half of that time playing video games (Lucas & Sherry, 2004). Many other studies essentially replicated the disparity (Funk, 1993; Griffiths, 1991; Kaplan, 1983; Phillips, Rolls, Rouse & Griffiths, 1995; Provenzo, 1991), while some studies looked at different game genres and still found similar results (Griffiths, Davies, & Chappelle, 2004; Taylor, 2003). Many reasons have been proposed to account for this difference including reduced access (Woodard & Gridina, 2000), play preferences and video game design (Dietz, 1998), and the excessive violence and competitive nature of video games (Funk & Buchman, 1996).

Upon review, the issues of over-sexualized female characters and the disparity in play time can be traced to industry practices. These practices occur for at least two reasons. Gansmo, Nordli, and Sorenson (2003) assert that the video game industry has little understanding of the differences between male and female game players and that the industry doesn’t see any reason to understand. In addition, Kerr (2006) maintains
that the industry tends to rely on feedback from current game players to design the next game. However, since the majority of current game players are male, the industry keeps designing games that meet male game players’ interests and women are largely ignored, only perpetuating the negative consequences of gender stereotyping of video game play.

Race

Of equal importance is the issue of race within video games. One consideration is how video games act as new kind of blackface for those who play. Part of minstrel shows and vaudeville, blackface involved white (and later black) actors using makeup to appear as black characters on stage, generally portraying blacks as stupid and animal-like, using Black Vernacular English to reinforce the stereotype (Toll, 1974). Lott (1995) explains how minstrelsy was a “manifestation of the particular desire to try on the accents of ‘blackness’ and demonstrates the permeability of the color line” (p. 6). These concepts lead to Leonard’s (2006) contention that video games work in a similar way by using virtual reality to “try on” blackness and cross the color line. In essence, video game players can go beyond one’s own body and enter othered bodies. The unfortunate result is that since so many characters in video games are based on stereotypes, playing as a black character – or, for that matter, any other race/ethnicity – only serves to reinforce these stereotypes. Sze-Fai Shiu (2006) similarly addresses the issue of donning yellowface in regard to video games and Asian culture as a method for
largely white populations to try out what it feels like to be Asian. In the end, the unique interactivity of video games as identified by Gee (2006) is salient because this interactivity results in a blending of the player/character that serves to reinforce the cultural stereotypes and attitudes in a more complex way than other forms of media.

Indeed, evidence that racial stereotypes in video games are accepted as authentic can be found in a quote from Arische Ritter on a Stormfront discussion board. Stormfront.org is a White Supremacist website where a discussion took place regarding the Grand Theft Auto (GTA) series of games. Ritter (2005) wrote the following about GTA: San Andreas:

> Has anyone played this game? Some might be turned off to it simply for the fact that you play as a negro [sic] the entire game. But for those of you who have played it, have you seen how much of our point it stresses. You run around and you shoot people, you can go in peoples [sic] houses and steel [sic] tv's [sic], vcr's [sic], stereos, etc. When you're in a certain car, you can do what is called a "Pimpin' Mission", where you ride around picking up prostitutes, delivering them to customers around the city. In my opinion, this is one of the greatest games around. It blatantly shows how the negroes [sic] have corrupted our society.

Ritter certainly appears to believe that the GTA: San Andreas game accurately depicts black culture and its resulting negative effect on American (white) society. However,
further evidence of said stereotyping is provided by a number of studies that looked at racial representation within video games and the statistics are alarming.

Among these studies is one conducted by the Children Now organization. Published in 2001, the following statistics reveal a picture that is less than flattering to non-white races and ethnicities. For instance, White characters constituted the majority of characters (56%) in video games. Furthermore, there were no Latino or Native American male characters in any game. These diversity issues were also true in games rated “E” for Everyone, where only 22% of characters were African American, and Latino, Native American, and Asian/Pacific Islanders accounted for a dismal two percent of characters. This lack of diversity was compounded by the fact that each racial/ethnic group was usually assigned a stereotypical role. For example, the vast majority of heroes were white, while African Americans and Latinos were generally portrayed as athletes and characters of Asian or Pacific Island descent were most commonly fighters of some type. Victimization was also a concern since African American females were, by far, most likely (86%) to be the victims of violence. African American females were also the least probably group to have a realistic response to violence (Glaubke, Miller, Parker, & Espejo, 2001).

More recent studies continue to corroborate the early findings. In 2009, Williams, Martins, Consalvo, and Ivory conducted a large-scale content analysis to examine issues of gender, race, and age in video games. Similar to the Children Now study (Glaubke,
Miller, Parker, & Espejo, 2001) less than a decade earlier, Williams et al. found that White populations greatly outnumbered all other racial groups for both male and female populations and across four of the rating categories maintained by the Electronic Software Rating Board (ESRB). This study also added an examination of how the proportion of racial groups in the virtual world reflected the proportion of racial groups in the United States. As expected, White characters were vastly overrepresented as were Asians.

*The Environment*

As we have seen, negative externalities associated with the video game industry have received some attention. What has not received much scrutiny is how the industry’s business practices have impacted the environment. However, there is a great deal of literature that examines how capitalism has had a direct and negative effect on the environment. According to Foster (2005), there are numerous signs of environmental crises. These include, but are not limited to, the increase in the world’s average temperature, the increasing rate of global warming, drops in rice, wheat, and corn yields, near depletion of oil deposits, global water shortages, reduction in major fish stocks, the species extinction rate, and consumption exceeding the world’s regenerative capacity. Essentially, Foster maintains that the current relationship between humankind and the environment is no longer sustainable; all of these individual crises are simply adding up. Upon closer examination, there are three fronts
on which capitalism attacks. The first is through the use of natural resources in the accumulation of capital, and the second occurs during the production process where pollution is spilled into the environment. In addition, the environment is also affected when products, no longer considered fashionable, are merely discarded into landfills allowing toxic substances to leech into the surrounding environment (Foster, 2005). All three scenarios are undesirable and the consequences for humankind and the environment are, in all probability, potentially disastrous. Each scenario will be examined individually.

*Use of Natural Resources in the Accumulation of Capital*

Concerns about the effects of capitalism on the environment can be traced back to Marx and Engels. In 2001, Gimenez addressed the concerns of environmentalists who, according to the author, do not always make the connection between their day-to-day struggles and the forms of oppression resultant from capitalism. However, Gimenez maintains that the structural barriers imposed by capitalism are essentially roadblocks to efforts made on behalf of the environment. Her examination of Marx includes his views on the metabolic rift that occurs when “agricultural and trade practices...despoil the earth without replenishing resources and rob whole regions of their natural conditions of production” (p. 60). Altvater (2007) expanded on these concepts explaining how capitalism, through labor, uses natural resources as a tap – or source – to fulfill the needs of production. Burkett (1999) also addressed this issue
noting how nature is a source, as is labor, for creating wealth in a capitalist society. It is therefore important to consider how the environment is affected by capitalism and its treatment of natural resources as a limitless source of wealth accumulation.

Unfortunately, this view of nature as a free source ultimately downgrades the value of nature and therefore any resulting damage to or “using up” of the environment is considered inconsequential. Earlier, the practice of planned obsolescence was discussed. One of the resulting effects of planned obsolescence is the tendency toward overconsumption of goods as a result of marketing efforts to stimulate demand. The observation that capitalism requires overconsumption in order for wealth to continuously expand becomes even more important when combined with the perception that natural resources have little value other than assisting the capitalist in the pursuit of profits. As consumption increases, more materials are needed to expand production, and little concern is given to the innate limits of those same natural resources (Burkett, 1999). In fact, capitalism has historically treated natural resources as infinite (Sweezy, 2004). However, in reality, they are not. Eventually, use of the earth’s resources will not only deplete those same resources, but can also result in significant damage to the ecosystem. One need only investigate the species extinction rate which is at its highest in 65 million years to understand how much damage has already occurred (Foster, 2005). Additional proof is found in the destruction of the Amazon rainforest and its attending plant and animal populations to understand how depletion of natural
resources affects the ecosystem (Foster, 2002). In the end, consumption must be reduced to a sustainable level or the entire ecosystem, including humans, may be irreparably damaged.

*Pollutants, Waste, and the Accumulation of Capital*

An equally important consideration in regard to the natural environment is the damage done to it through both production and consumption processes. The question that needs asked deals with where the damage is occurring. In the case of production, we have already seen how the depletion of natural resources is causing harm. In addition, production processes also cause damage by releasing pollutants into the air, ground, and water. Magdoff and Foster (2002) explain how Marx saw the relationship between humankind and nature as critical to maintaining a sustainable environment. When the environment was used for meeting basic needs, a metabolic relationship existed that was mutually sustainable. However, with capitalism, the aforementioned metabolic rift occurs. With people moving to the cities in order to obtain employment, food needed to be shipped from the country to the city and soils became depleted of critical nutrients. At the same time, food wastes in the form of “human sewage and garbage” (p. 2) contaminated the natural water systems. This was only the beginning of environmental degradation. As capitalism grew as a system of wealth accumulation, so too did the ways that the environment could be damaged.
Indeed, as a result of capitalism, this metabolic rift is still in place today since the overriding goal to maximize profits relegates the environment to that of a second-class citizen. Take, for instance, the use of new chemicals to create new types of or improvements to manufactured goods. Without any regulation, businesses would be free to release these often-toxic substances into the environment. Even with regulation in place, pollution still occurs (Magdoff & Foster, 2002). Additionally, the “automobile-centered society” (p. 3) in the United States and elsewhere has had enormous consequences. Not only do the emissions from motor vehicles cause damage, but fuel is also wasted driving to and from work as suburbanization has taken hold. Furthermore, suburbanization in and of itself means that entire ecosystems are destroyed in order to make room for human expansion (Magdoff & Foster, 2002). Recent data also shows that fossil fuel emissions sharply intensified in the early 2000s far ahead of what was predicted in the 1990s by the Intergovernmental Panel on Climate Change (Foster, 2008).

What is more, the predilection toward overconsumption once again comes into play. As Sweezy (2004) stated, “Capitalists do not confine their activities to producing the food, clothing, shelter, and amenities society needs for its existence and reproduction” (p. 91). Regrettably, it is this propensity to overconsume that has led to larger landfills, filling the land, water, and air with additional pollutants. Mészáros (2001) added that “the reality of unqualified growth under our conditions of social
metabolic reproduction happens to be wastefulness” (p. 14). So what happens to all of that waste? In the end, this waste often goes to landfills and much of it can be hazardous. According the United States Environmental Protection Agency (EPA) (2010a),

Many types of business generate hazardous waste. Some are small companies that may be located in your community, such as dry cleaners, auto repair shops, hospitals, exterminators, and photo processing centers. Some hazardous waste generators are larger companies like chemical manufacturers, electroplating companies, and petroleum refineries (para. 1).

While the disposal practices of these materials are regulated, the potential for leakage into the environment is still possible (Erle, 2004). Non-degradable plastics are another potential problem area with plastics making up 12.3% of all municipal solid wastes in 2009 (Environmental Protection Agency, 2010c). Moreover, while businesses may be responsible for part of this hazardous waste, the culture of consumption significantly adds to the problem. The average household is therefore another contributor to the hazardous waste predicament. As explained by the EPA (2010b), these wastes include such substances as “paints, cleaners, oils, batteries, and pesticides” (para. 1), which can be corrosive, ignitable, or reactive in nature. Since it is difficult to regulate these substances, it is highly likely that many make their way into local landfills where potential harm can result.
Discarded Consumer Electronics

In recent years, and due to the explosion of consumer electronics (CE) devices, another serious threat has entered into the equation. The EPA (2011) reported that CE equipment includes televisions, video equipment, computers and associated peripheral devices, audio equipment, and phones. Currently, these devices only account for approximately two percent of the municipal solid waste stream, but that percentage is steadily rising. The EPA also reported that in 2007, CE devices accounted for 2.5 million tons of waste. The problem lies in the materials used in CE devices. Many contain lead, mercury, brominated flame retardants, and cadmium, all of which are harmful to humans and the environment (Environmental Protection Agency, 2011). Additionally, the EPA (2010d) stated that about 20 million computers were expected to become obsolete in 1998, and that by 2007, that number was expected to more than double. Moreover, even though recycling efforts are in place, only 18% of more than two million tons of CE appliances were recycled while 1.84 million tons ended up in landfills. Furthermore, a report from Pike Research (Lombardi, 2009) predicted that by 2015, e-waste from consumer electronics will reach 73 million metric tons globally. While the report stated that the amount of e-waste will begin to decline after 2015, this prediction is based on increased recycling efforts, which have yet to be proven.

At the beginning of this section, Gimenez’s (2001) view on Marx’s critique was established, including how capitalism’s structural barriers act as roadblocks to efforts
made on behalf of the environment. Her conclusion was that it is necessary to examine Marx’s theoretical critique and for Marxists to “be involved in specific struggles, learning from their experiences and sharing their learning with those whose views may be different but whose political goals might be the same” (p. 60). In other words, theory must be understood and then translated into praxis. A critical examination of the business practices employed by one segment of the CE industry, namely video games, can go a long way to helping understand how capitalism affects the environment. Unfortunately, video game companies are one of the contributors to this environmental degradation. For one, as a form of planned obsolescence, new consoles and portable game systems are released every few years in order to stimulate new demand and increase sales/profits. Regrettably, as these new systems are released, old systems eventually make their way to the landfill. Similar practices are in place for video game cartridges and discs associated with each generation of gaming system. These items are made of circuit boards containing toxic substances and plastics, all of which can negatively impact the environment.

*Visual Attention, Spatial Abilities, Education, Prosocial Games, and Civic Engagement*

While a good portion of the research into video games is associated with negative externalities, there is also evidence that video games can have positive effects. Unfortunately, these areas of research are in their infancy and need additional attention. The following discussion outlines the few areas with which positive effects have been
connected to video games. First of all, Barlett, Anderson, and Swing (2009), whose review looked at both negative and positive effects, concluded that video games had a positive impact on visual attention tasks and spatial abilities. Additionally, video game’s ability to provide frequent reinforcement showed them to be useful in educational settings. Furthermore, Greitemeyer and Osswald (2009) found that playing prosocial games reduced the hostile expectation bias and decreased accessibility to antisocial thoughts. Another study by Lenhart et al. (2008) has also shown a correlation between certain types of gaming experiences and civic engagement, which is decidedly more positive in nature. While not claiming a cause and effect relationship, the study did find that teens involved in gaming were more likely to help other players, show more interest in societal problems, explore social issues of concern to the player, and make decisions that affect how a community, city, or nation should be run (Lenhart et al., 2008).

**Political Economy of Communication Research**

In this section, two areas will be examined including an historical look at research in the political economy of communication as well as more recent research developments in the field.

*A Brief Research History of the Political Economy of Communication*

As indicated above, we now turn to a more focused examination of the political economy of communication. Before addressing its development, however, a basic
understanding and definition of communication is required. Mosco (2009) provides a brief overview of a number of definitions, including Shannon and Weaver’s (1949) introduction of the transmission mode into communication research. This model portrays communication as a process by which one person encodes a message and another decodes it. The goal is to minimize noise. As a result, communication is distilled down to a binary choice of noise or something that is not noise. In comparison, sociologists define communication as the “process of establishing meaning, found in all social situations” (Communication, 2005, p. 91). Alternatively, social systems theorists define communication as the “interplay of social and cognitive dynamics, i.e., interactions between speakers and receivers, which are determined by social and cognitive rules” (Klüver & Stoica, 2005, p. 877). Mosco’s (2009) definition draws on parts of these, but focuses on relationships. This time, communication is defined as “a social process of exchange, whose product is the mark, or embodiment of a social relationship” (p. 67). As such, his definition leads us to understand that communication and society mutually constitute one another. In regard to political economy, past research has focused on how communication is socially constructed, how channels of communication are formed by social forces, as well as the range of messages that are often transmitted through these channels. Mosco adds that it is “equally important to think about how communication practices…construct a social and cultural world that includes myth and symbol” As a result, “Communication is not just the transmission of
information; it is also the social construction of meaning” (p. 68). One important point –
communication is not the same as any other product or commodity. It does not
diminish with use. Therefore, it cannot be treated as any other commodity. Research
into the political economy of communication certainly reflects this difference (Mosco,
2009).

Historically, many social and intellectual forces have influenced the political
economy of communication. These forces include the transformation of different media
such as the printing press, and more currently, the different types of new media and the
Internet. In addition, the growth of the political economy of communication can be
partially attributed to the government’s involvement with communication, and early
research was directed toward supporting social movements that encouraged public
control over communications. Indeed, a substantial portion of this research started as
an examination of how power was used by large media organizations (Danielian, 1939;
Smythe, 1957). Other research falling under the political economy of communication
included media/cultural imperialism research, which traced the spread of business and
political control from Western countries to others, the development of the New World
Information and Communication Order (Nordenstreng & Varis, 1974; Preston, Herman,
& Schiller, 1989; Roach, 1993; Somavia, 1979; Somavia, 1981; Traber & Nordenstreng,
1992), and critiques of the developmental paradigm including its technological
determinism (Pendakur, 2003; Thomas & Nain, 2004; Zhao, 2008).
Recent Research Developments in the Political Economy of Communication

Today, there are several areas that have come to embody research in the political economy of communication. Mosco (2009) traces five trends in contemporary research including the globalization of political economy, the political economy approach to the history of communication, standpoints of resistance, the transition from old to new media, and media activism. When discussing the globalization of political economy, Mosco notes that early on, political economists tracked both national and regional tendencies in regard to communication. Over time, these regional differences have diminished. Moreover, there has been movement of scholars internationally, various universities have established international centers to study communication, and there has been growth in the number of scholarly associations and academic journals addressing the issue. Several developments have sparked this interest, but chief among them are the changes in the way business is conducted over multiple countries and continents, which often makes it difficult to tell the national origins of a corporation. There has also been a decided move to integrate power in both business and state. Lastly, the growth of new communication technologies has facilitated changes in the international division of labor due to the ability to provide more flexibility and reduce costs all in an effort of increase profits (Mosco, 2009).

The second trend concentrates on the political economy approach to the history of communication. This research emphasizes the need to be sensitive to history
including the relationship between government and corporate power. While this has long been a concern for political economists, there are differences from earlier research. These differences involve the building of democratic media systems, grass roots historical perspectives, and recent social and labor movements. Another departure from earlier political economic research includes a focus on media personalities (Mosco, 2009). Today, there has been a great deal of attention paid to how the “media systems in place today are the result of a deeply contested history, involving not just dueling capitalists and their allies in government, but labor unions, citizen groups, consumer cooperatives, religious enthusiasts, and social justice organizations of all stripes (Mosco, 2009, p. 110). Part of that contested history ties to the push for democratic communication and how businesses were able to overcome movements for reform by instituting cross-ownership or purchasing multiple media in one area (Mosco, 2009).

Third, the various standpoints of resistance have also been under scrutiny. Two areas, in particular, are of great interest. The first area is feminist standpoint theory, which addresses the need to consider the women’s point of view. Part of this research has examined media and power from a feminist standpoint, another part has examined the location of women within the new international division of labor, and yet another on how women can shape international communication. The second area is labor standpoint. This line of research concentrates on how the introduction of new communication and information technology has impacted the workforce through
reduced employment and a restructuring of work practices. As well, the issue of labor convergence is discussed including how trade unions from separate areas have joined together into one larger union as a way of consolidating power (Mosco, 2009).

The fourth trend, the transition from old to new media, has also caused ferment within the field. Of particular interest is how issues that existed with old media are still present with new media. Another area of interest focuses on the promises of new media, which claim to be the answer to a number of society’s ills. For instance, the Internet and other information technologies are often touted as the great equalizers between social classes. Skeptics point to the lack of access and the digital divide as evidence that these technologies have been built into nothing more than myths that help promote different information and communication commodities all in the name of profits and an increase in capitalistic efforts. Moreover, Mosco addresses these issues as part of the digital sublime, which works to mask the banal world of everyday politics. Other issues tied to new media include copyright disputes and electronic surveillance (Mosco, 2004, 2009).

The fifth and final trend is media activism. Since one of the four cornerstones of political economy is praxis, the issue of media activism is especially important. For this trend, the primary emphasis has been on the activities of different organizations including the Union for Democratic Communication, the International Association for Media and Communication, the World Summit on the Information Society project, and
the Free Press. Recently, the issue of network neutrality – the fight against division of the Internet into fast and slow lanes – has also drawn attention (Mosco, 2009).

In addition to these five trends, other research on the political economy of communication research has examined the potential power of information communication technologies (McKercher & Mosco, 2007; Pellow & Park, 2002; Schiller, 2007; Sussman & Lent, 1998), the supposed emergence of the information society, and the way in which new technologies can be used to help capitalism expand by increasing the size of markets (Castells, 2004; Flichy, 2007; Mosco, 2004, 2009).

The Political Economy of Video Games

While a good portion of existent video game research focuses on issues of violence, gender, and race, there has been little political economic research conducted in regard to the video game industry. To conclude this review then, an overview of the literature on the political economy of video games will be discussed. This literature includes issues of labor, production and consumption, historical cycles and moral panics, and industry overviews.

Labor

One of the issues under scrutiny is how labor is alienated. Early on in the industry, it was custom practice for video game producers to prohibit game designers from crediting themselves for the work completed on the games they created. All associations were with the producers. Designers later found ways to overcome this
limitation, but the existence of such a practice is an excellent example of Marx’s assertions regarding separation of the work product from the laborer (Kent, 2001).

More recently, Ondrejka (2006) found that labor has been affected by what he calls “crunch mode.” For Ondrejka, crunch mode refers to the unending cycles where development teams work virtually nonstop in order to complete a project. A related issue is the international division of labor and the effects of the video game industry’s practices. Miller (2006) particularly noted the use of young Chinese women to build computer systems for gaming and the impact such a practice has on Chinese society all in the name of profit creation for largely Western companies.

Moreover, in 2006, Dyer-Witheford & de Peuter published their study inspired by the blog postings from the spouse of an Electronic Arts (EA) employee. The resultant study examines video game labor on four fronts. The first looks at the enjoyment video game employees get from their work, while the second dissects the practice of exclusion within the industry where a male-dominated workforce is the result of severely gendered practices that maintain a system of inequality. The third front considers the exploitation prevalent in the industry where long hours and unpaid overtime are the norm, and finally, the fourth analyzes how employees are beginning to resist by considering legal action or the formation of labor unions as well as leaving the industry for other jobs or continuing education. Clearly, the labor practices of the video
game industry are not always productive for society. In addition, there are effects on development, production, and consumption of video games.

*Production and Consumption*

Other related areas are being affected by the video game industry as well. For one, Wolf (2006) draws attention to the cross-media franchises that have developed between video game and other industries. Additionally, Ondrejka (2006) points to new marketing and distribution techniques being developed in the video game industry while Steinkuehler (2006) reinforces and deepens this notion when relating the complex “‘mangle’ of production and consumption” (p. 97). The give and take between designers and game players is also addressed (Pickering, 1995; Robison, 2006). As an example of this interaction, consider a 2006 study by Yee that followed a different angle to examine the political economy of video games. Here, the author looks at how video gamers often describe their time playing video games as obligatory, tedious, and often job like. In essence, the authors show that the work carried out in video games is much like the work performed in business corporations and that the borders between work and play are becoming blurred. Other examples of how the lines are blurring between the real and virtual include an examination of how commerce in virtual worlds could become taxable (Lederman, 2007; Risen, 2008), and how the economies of real and virtual worlds are intersecting (Castronova, 2003).
Historical Cycles and Moral Panic

Whereas a substantial portion of the literature focuses on industry practices related to labor and production, contemplate how Miller (2006) situates video games within Mosco’s (2004) framework of repeating historical cycles involving the introduction of new technologies (e.g. film, radio, television, etc.). The issue, Miller contends, is that as the popularity of the new technologies increase, concerns are raised about said technology’s influence on youth, only to have an even newer technology replace what was once considered a dire threat to society. In essence, these forms of popular culture threaten the established order, including “academic, religious, governmental, and familial iconophobia” (p. 7) and raise concerns that the masses will become uncontrollable (Miller, 2006).

Often referred to as moral panics (Hall, 1978), there is a well-established pattern of how new technologies, especially communication technologies, create strong public responses out of concern for the moral underpinnings of society. One of the earliest accounts comes from Victorian England in the mid-1850s when a judge, Lord Campbell, became deeply concerned over a court case involving the sale of obscene material. Six weeks later, he introduced a piece of legislation that provided police the right to enter private premises if sufficient cause could be shown that obscene publications were being kept on the premises with the intent to sell or exhibit. The response from legislators was primarily negative in nature due in part due to the bill’s failure to clearly
define the offense. However, the issue did receive a large response from the public that was later reinforced by the media. In the end, this response, a moral panic, was enough to get the bill passed with some modification. Interestingly, the resulting law remained England’s ruling legislation on public indecency for nearly a century (Roberts, 1985).

Since that time, there have been a number of moral panics; often, these raise concerns over the potential for youth to be influenced in a negative way – especially the youth from lower classes. Another early example involves penny theatres, or gaffs, where audiences made up mostly of young males would flock to see some type of theatrical production. For one (British) penny, a spectator could watch about 45 minutes worth of the production, at which time the establishment was cleared and another penny had to be paid in order to see the next part of the production. This cycle was repeated until the entire show was complete (Grant, 1838). These practices were looked down upon as evidenced by Grant’s recollection of the proliferation of penny theatres throughout London:

They [penny arcades] exist only…in poor neighbourhoods [sic]. There is not a single one of them met with in any respectable part of the town. It needs but little if any philosophy to account for this. Respectable parents would never allow their children to visit such places. Their great patrons are the children not only of poor parents, but of parents who pay no attention to the morals of their offspring. (p. 161)
Later, Grant explains that with the current growth of penny theatres, eventually the government would have to become involved since the theaters were bound to enact “…incalculable mischief to the morals of the youths who frequent them” (p. 191). Similar views on the degradation of society’s morals were held in regard to penny dreadfuls, a form of inexpensive popular fiction aimed at the working class in 19th-century Britain (James, 1974), and their counterparts in the United States known as dime novels (Stanford University, n.d.).

In addition, as new communication technologies and forms of popular entertainment became available, new cycles of moral panic have occurred including fears about comic books, film, television, and music, especially rock and rap (Mazzarella, 2003; Miller, 2006; Springhall, 1998). Similar to the penny dreadfuls and dime novels, motion pictures were expected to have a negative influence on youth including reducing parent’s control over their children and teaching depravity (DeFleur & Dennis, 1998; Martinson, 2004). More recently, video games have been the target, with fears of violent video games receiving a great deal of academic and media attention. Without recounting the literature related to violence covered earlier, it is important to note that there are attempts to regulate video games in the present day much like earlier forms of media drew regulatory attention. In general, these attempts to regulate video games are predicated on the belief that the industry cannot self-regulate. In turn, this belief appears based on two assumptions. The first is that video
games present a health risk to society comparable to smoking or air pollution for instance, and the second is that the government can do a better job of regulation than the industry can itself. Neither of these can be safely assumed based on the contested literature regarding video game violence and past attempts by the government to regulate any number of industries (Tocci, 2008). As can be seen, moral panics occur in cycles with new fears arising every few years, but ultimately, no long-term or widespread influence is found and concerns eventually diminish until a new, often technological, scapegoat arrives on the scene (Miller, 2006).

*Industry Overviews*

On the international front, two recent studies explore the political economy of the video game industry in China and Canada. In the first, Cao and Downing (2008) report on the state of the video game industry in China, concentrating on several aspects including a history of video games in China, the rapid growth of online games, the effects of local culture, globalization, and player predilections on the development of video game markets, and the strategies used by the government to manage the burgeoning field. The other study (Dyer-Witheford & Sharman, 2005) provides a broad overview of the video game industry in Canada. Through this study, the authors reveal Canada’s video game industry “ownership patterns, regional distribution, revenues, and markets and then examine the forces driving its development under…capital, the
state, and labour [sic]” (p. 188). Taken together, these two studies provide excellent overviews of the industry in countries outside the United States.

To date, perhaps the most thorough political economic review of the video game industry was conducted by Kerr (2006) who expands on the gaming industry including the relationship between video games and the broader economic, media, and cultural environments, the structure of the industry including its various market segments, the production cycle, and certain legal issues, as well as an extensive look at production processes at the global level. With some understanding of the literature to date, it is now important to examine the theoretical and methodological concerns of this study.
CHAPTER 3: THEORY AND METHOD – OPEN AND CLOSED WORLDS

Just as a theory is useful for understanding a given subject matter, game worlds provide clues to help the gamer understand what is expected. This is most evident in closed worlds where a linear path must be followed in order to complete a section of the game. The player is kept on track by boundaries set by the game designer just as theories offer boundaries for understanding our world. On the other hand, open worlds allow the gamer to roam freely and experience the game world in a variety of ways. The gamer may have an idea of what is expected and may test that theory in a methodical way. This chapter will examine the broader concept of political economy, including definitions of political economy, the historical roots of political economic theory, the central characteristics of political economy, and political economy’s strengths and weaknesses. Subsequently, and more specifically, the political economy of communication will be addressed including the development of the political economy of communication, current developments in the political economy of communication, and a conceptual framework for the political economy of communication with a specific focus on commodification, spatialization, and structuration. In addition, the research questions are provided, and finally, the methods section will detail how the research for this project was conducted. The subsequent discussion will expand on each of these areas.
Political Economy

Definitions of Political Economy

To begin, political economy has been defined in many ways and one can trace its roots to the Greeks where the term economy was associated with city and household management. In this context, political comes from the Greek *polis*, referencing the city as a political unit, and *oikonomia*, referencing management of the household (Eatwell, Milgate, & Newman, 1987; Mosco, 2009; Taylor, 1966). The French later combined the term *oeconomie* (management) with *politique* (political) and used the phrase to refer to the management of the affairs of state (Eatwell, et al., 1987). According to Eatwell, et al., by the 1770s, the term “almost exclusively referred to the production and distribution of wealth in the context of management of the nation’s resources” (p. 905). However, the term later became more directly associated with capitalism as evidenced by James Mill’s definition that delineates political economy as the “systematic inquiry into the laws regulating the production, consumption and exchange of commodities or the products of labor” (p. 905); it also became more positivistic in nature as demonstrated by MacLeod’s definition, who explains it as the “Science which treats of the Laws which govern the relations of Exchangeable Quantities [sic]” (1881, p. 43).

Currently, the terms political economy and economy have divergent, yet overlapping, meanings. These include the more positivistic, Neoclassical definition, which, today, is simply referred to as economics, and the political economy that is less
focused on quantitative data and more so on descriptive historical backgrounds of the institutional arrangements and how the market system interacts with governmental structures (Peterson, 1991). As Peterson explained:

A common set of criteria characterizes many professing political economy: A concern for the social, political, and economic connections between State and market, especially the historical development of organized power mechanisms and institutional arrangements that create and perpetuate class differences in income distribution and other relations needing policy intervention in order to restructure economic affairs. (1991, p. 16)

Others have incorporated these same elements including Graham (2007) who defines political economy as:

The study of how values of all kinds are produced, distributed, exchanged, and consumed (the economic); how power is produced, distributed, exchanged, and exercised (the political); and how these aspects of social life are organised [sic] and enacted at any given place and time in history. (p. 227)

As can be seen, the definitions of political economy have changed over time and become more holistic in nature. Using various elements from these notions of political economy, both Meehan, Mosco, and Wasko (1993) and Mosco (2009), describe political economy as including history, social totality, moral philosophy, and intervention or praxis. What has been added is the element of intervention. Moreover, these elements
became the central characteristics of political economy as identified by Mosco (2009) and which are discussed in a more in-depth manner later in this chapter.

For the purposes of this study with its focus on communication, I will utilize Mosco (2009) who more specifically defined political economy as “the study of the social relations, particularly the power relations, that mutually constitute the production, distribution, and consumption of resources” (p. 2). Also influencing this analysis is Wasko (1989), who explained that political economy is the study of capitalism as a means of social production, more generally emphasizing the allocation of resources. It is with these definitions in mind that this study will be approached, taking into consideration the social and power relations in regard to how resources are produced, distributed, and consumed.

*The History and Development of Political Economy as a Discipline*

Over time, several schools of thought have influenced political economy, and in order to fully grasp its scope, it is salient to investigate the development of the field. From its earliest formations, political economy was concerned with social change and especially the change that was occurring as society moved from feudalism to capitalism (Meehan, Mosco, & Wasko, 1993). Eventually, a divide took place. On one side was the classical political economy of Adam Smith. As it developed, this classical view underscored the importance of the individual as the primary unit of analysis and utilized the market as the primary structure. More importantly, this view gradually
came to ignore historical analysis, social totality, moral philosophy, and praxis. In the end, the classical view developed into the modern day science of economics which focuses on empirical analysis and is often referred to as Neoclassical economics (Milward, 2000; Mosco, 2009). At least one source (Murdock, 2002) places the divergence of the two paradigms at the point where Alfred Marshall’s *Principles of Economics* was published in 1890. In his publication, Marshall rejects the ties between moral philosophy and economic activity. Instead, analysis, Marshall asserted, should be restricted to the economic sphere only.

In contrast, the other, more liberal, side embraced historical analysis, social totality, moral philosophy, and praxis, and rejected the goal of a more positivistic approach. In fact, it may be a misnomer to refer to this part of the split as a “side” as it is essentially a variety of approaches as opposed to one in particular. Indeed, three distinct schools of thought emerged. As Mosco (2009) explained:

A first wave was led by a number of groups, including conservatives, who sought to replace marketplace individualism with the collective authority of tradition (Carlyle, 1984). It also included Utopian Socialists, who accepted the classical faith in social intervention but urged putting community ahead of the market (Owen, 1991). Finally, the first wave also included Marxian thinkers, who returned labor and the struggle between social classes to the center of political economy.
Subsequent formulations built on these perspectives, leaving us with a wide range of contemporary formulations. (p. 5)

What follows is an examination of both sides of the split and their various viewpoints including the classical, conservative, Utopian, and Marxian positions. Before beginning this overview, however, it is important to note that volumes of scholarly work have been conducted on the development of political economy, especially as it relates to the work of Marx. This brief synopsis is intended solely to provide an idea of how political economy has developed over the years and is not intended to be a comprehensive review of everything that is political economy.

Classical

As previously stated, the classical view of political economy is most often associated with Adam Smith. As well, the classical view has led to the modern-day formulation of economics that places individual decisions at the heart of the marketplace. In fact, the classical view was established on two of the pillars of the Enlightenment era – Cartesian rationality and Baconian empiricism. In general, political economy attempted to extend the principles of science to 18th- and 19th-century capitalism (Mosco, 2009). For Smith, as well as Ricardo, Malthus, and J. S. Mill, this entailed an examination of the “economic constants that constituted the stable, underlying reality for a world undergoing massive transformation” (Mosco, 2009, p. 38). Out of these constants, one of the most important concepts was that of labor as
opposed to the earlier focus on land as the source of wealth. Indeed, the focus on wealth was especially important to Mill and Smith. Using science as a basis, mathematical analysis was employed to examine price, cost, and value and how these variables were related. Indeed, while the classical view was not the first school of economic thought, it was the first system believed to apply to all forms of economic activity (Gilpin, 1997; Mosco, 2009; Smythe, 1984).

In addition, the classical view was influenced by the Lockean tradition of political philosophy, which contributed the ideas of self-interest, the labor theory of value, and private property. The Mercantilist notion of exchange value also became part of the mix, as did the French physiocratic concept of laissez-faire or free-market economics. Moreover, this classical paradigm also thought it necessary to watch governments and other institutions of power. In subsequent years, many variations of the classical view have been expounded; however, the dominant view has been associated with Smith including the notion that self-interest was superior to benevolent action. Interestingly, even though Smith is often associated with self-interest, his early writings actually rejected self-interest in a call for kindness and compassion as the road to perfecting human nature. It wasn’t until his later writings that Smith began promoting self-interest over benevolence (Meehan, Mosco, & Wasko, 1993; Mosco, 2009).
Conservative

In comparison, there are some similarities between the more liberal classical view and the conservative view. Those similarities include a belief in the protection of private property and hierarchy (Clark 1998). However, in direct opposition to the classical view, the conservative critique rejected the idea that economic development would take place when individuals made decisions based on rationality and self-interest (Mosco, 2009). Indeed, the early conservative viewpoint was in direct opposition to both laissez-faire capitalism and liberal democracy. Instead, conservative proponents asserted that this self-interest might instead lead to destructive conflict as one individual attempted to maximize his or her gain over another. Social order, it was thought, should rest in authority and tradition, and the marketplace, which emphasized individual pursuits and selfishness, would undermine both (Clark, 1998). “Rather,” Mosco explains, “wealth grows out of an organic order that produces respect for traditions offering people a clear sense of their social role and a moral grounding that motivates them to carry it out” (p. 44). Additionally, one extreme of the conservative view saw the hierarchy of difference as natural, no matter whether it was based on race, class, or gender. In other words, it was fine for the wealthy, white, male to continue dominance. At the other extreme were those who supported the working people. In the end, even though there were sympathizers with the working class within the
conservative paradigm, the attention the working class received was not like that paid by Utopians and Marxists (Mosco, 2009).

**Utopian**

Originally coined by early socialists including Marx and Engels, the term Utopian was often used in a disparaging manner to convey a lack of rigorous analysis and to indicate something that was more fantasy than potential reality (Newman, 2005). However, Utopians built a radical critique of the system and focused on such matters as worker exploitation. For example, separation of the worker from his/her work product was deemed unconscionable. Indeed, the market was seen as chaotic and unconcerned for the plight of the average worker. Later advocates would push for planned, communal societies (Mosco, 2009). As Newman stated, “The most obvious common feature in the utopian socialists’ transformative projects was the belief that society based on harmony, association, and cooperation could be established through communal living and working” (2005, p. 7). The most important Utopians included Robert Owen, Henri Saint-Simon, and Charles Fourier (Newman, 2005). Owen’s contributions included the assertion that both economic and social progress could be made through universally applicable principles that could be discovered through the use of reason. In addition, he proposed the use of enlightened ideas to address the growing social problems including issues with poverty, housing, and education. Furthermore, Owen believed in the employer’s social responsibility to the workers. This was in direct
contrast to the *laissez-faire* attitude, which, at the time, was associated with capitalism (Owen, 1991; Newman, 2005; The Open University, n.d.). Similarly, Saint-Simon proposed the use of objective principles to improve society. In his view, society could be divided into two categories: the unproductive, which included nobility – ‘idlers’ who did little to contribute to society – and the productive, which included the industrial and scientific worker who could work together in a spirit of peaceful competition and cooperation. Moreover, Fourier saw society as the main reason for human suffering; the individual was not to blame. In this regard, both Owen and Fourier agreed (Newman, 2005).

**Marxian**

Similar to the work of Utopians, Marx also saw equality and community as paramount (Mosco, 2009). However, Marx accepted labor as the primary source of value, and built upon it to develop his theory of exploitation. In essence, Marx believed that labor was being exploited because a person was required to work beyond what was required to meet subsistence needs. This labor was extra, or surplus, labor that the capitalist used in the accumulation of profit. In addition, capitalism was assailed for reorganizing social life along class lines with the wealthy capitalist at the top and the lowly worker below. This was all possible because the system appeared to be natural; in other words, it was considered normal for the capitalist to be in charge and the worker to be subordinate and exploited. This class system was made possible by the
capitalists’ ability to extract surplus labor by controlling the means of production. As a result, owners continue to use competition to divide available resources in an effort to accumulate profit, all at the expense of the worker who has sold his or her labor (Mosco, 2009; Pietrykowski, 2000). All of these notions tie to Marx’s labor theory of value, which, as Pietrykowski explained, “…stems from the principle that commodities have value only by virtue of the human labor expended in transferring materials from their natural state to the social realm of prices and commodities” (2000, p. 24). Another deviation from earlier economic theory was Marx’s assertion that people are neither rationale nor unchanging. Instead, the material environment of a specific time period within which people exist is thought to largely shape human motivations and orientations. This conceptualization is Marx’s premise of historical materialism (Crane & Amawi, 1997). Later Marxian work built on these concepts to include the use of mechanized labor, as well as a critique of how capital is eventually concentrated and periodic crises result from the tendency to overproduce (Mosco, 2009).

Central Characteristics of Political Economy

Drawing on earlier work in political economy, Mosco (2009) offers four central characteristics, or what he terms the four ideas at the cornerstone of political economy. These include social change, social totality, moral philosophy, and praxis.
Social Change

The first key component deals with social change and historical transformation. More specifically, the attention to social change grew out of the preoccupation with the capitalist revolution by classical theorists such as Adam Smith and J. S. Mill. This revolution was causing change on an unprecedented scale that moved people from a rural, agricultural base to the city, where manufacturing and industrial centers were forming. Later, critical political economists such as Marx sought to understand what was making capitalism grow and change including its cyclical patterns of expansion and contraction in the short-term as well as long-term patterns tied to change. In addition, the historical orientation asserted that social change was located in the historical relations of the cultural, economic, and political moments of social life and that no social change could truly be understood without examining its historical roots (Golding & Murdock, 1996; Meehan, Mosco, & Wasko, 1993; Mosco, 2009, Wasko, 1989).

Social Totality

The second idea, social totality, roots the discipline in the wider social milieu as opposed to the more narrow focus on specific aspects of society, such as sociology, political science, or economics found in the academy today. The interaction of all of these elements is a key to the political economy approach. The idea is that it is difficult at best to understand society by examining, for instance, economics by itself. Of significance are the relationships between the various systems. This concern with social
totality is also illustrated by the different approaches to political economy. On one side, there is the more conservative approach, which has focused on such areas as how markets work, including how individuals and institutions are connected. On the other side is the more liberal branch associated with Marx and socialism. The overriding concern from both is with the connections between the political and economic as well as the interplay between these two and the broader socio-cultural practices and institutions (Meehan, Mosco, & Wasko, 1993; Mosco, 2009). It is this branch of political economy that is most concerned with acquisition and the notion of conspicuous consumption that is directly a concern of this study as are the business models and associated externalities.

*Moral Philosophy*

The third component, moral philosophy, refers to social values – what is considered socially appropriate. More to the point, moral philosophy maintains that the public good is paramount and that questions of justice and equity, in relation to the wider economic and political contexts, need addressed. Adam Smith’s early writings reflected this view by addressing the importance of concern for others as opposed to self. In addition, Marx saw the need for society to be based, not on a class system, but instead on a system designed to satisfy human needs. Moral philosophy was thus tied to the changing societal values, which, at the time, were undergoing tremendous transformation due to the advent of commercialization and industrialization. For
many, it is moral philosophy that distinguishes political economy from the modern notion of economy, because political economy’s attention to the moral connects to the concept of reason as opposed to mere rationality, which is more commonly associated with economics. However, it is important to grasp that a focus on the factors of production for the purposes of analysis is itself a moral vision of what is acceptable and right (Meehan, Mosco, & Wasko, 1993; Mosco, 2009).

Praxis

Fourth, and finally, Mosco (2009) asserts that political economy should have a direct effect on the everyday practices of life. It is not enough to simply discuss the ideas associated with political economy; these ideas and their implications must also lead to praxis. As with moral philosophy, the connection between political economy and praxis can be traced back to Marx including writings as early as his dissertation on Greek philosophy which “insisted that philosophy be made practical” and that “the revolutionary goal was to transform alienated labor into praxis or free, universal, self-activity” (p. 37). Meehan, Mosco, & Wasko (1993) added that since research within political economy paradigm is immersed in the social totality, the goal of the approach is self-reflexive and includes both questioning and acting on the object that is being analyzed.

As well, Habermas (1973) marked the difference between a focus on labor and interactive or communicative action. While Marx was preoccupied with labor,
Habermas saw social praxis as a combination of labor and communication. Perhaps most salient, praxis is essential to the epistemological principles of political economy in that political economy rejects that truth can result from mere contemplation of a subject; instead, truth will result from the examination of both conception and execution. In essence, we learn from how theories play out in the real world (Mosco, 2009).

Furthermore, Golding and Murdock (1996) echo these thoughts by asserting that political economy assumes a realist conception. Its theoretical constructs exist in a real world and therefore must have an impact.

As has been shown, there are a variety of conceptions as to what exactly political economy is. Certainly, the development of the discipline over time sheds some light on this important framework as well as its applicability to society today. As such, Mosco’s views on political economy, certainly as they apply to communication, are the primary basis for this study. Specifically, the differences between mainstream economics and political economy are salient. These include the more holistic approach of political economy, its roots in historical analysis including the growth of industry, corporate domination, and the commoditization of cultural life, the concern for public life, especially the inequalities created by the capitalist system, and finally political economy’s inclusion of moral justice (Golding & Murdock, 1996; Mosco, 2009).
Conceptual Framework for a Political Economy of Communication

To this point, the discussion has centered on the central characteristics of political economy, a lens through which numerous industries have been examined. In this section, the conceptual framework for a political economy of communication will be considered including commodification, spatialization, and structuration.

**Commodification**

Early in the development of political economic thought, a distinction was made between use value – value based on a product’s ability to satisfy a need or want, and exchange value – value based on what a product could bring in exchange (Mosco, 2009). Commodification is tied to the latter and can be considered the “process of transforming use values into exchange values” (Mosco, 2009, p. 129). Capitalism, then, is essentially a collection of commodities, and for Marx (1976), the commodity was a “social formation in which the process of production has mastery over man, instead of the opposite (p. 175). Specifically addressing the relationship between the commodification of communication and capitalism, one can see that there are two dimensions at work. The first is that, in general, communication processes and technologies contribute to the commodification process in a capitalist economy. For instance, communication technologies such as email and wireless communication devices are used in businesses and help streamline communication processes, decision-making, and inventory control (Mosco, 2009). Secondly, “Commodification practices at
work in the society as a whole penetrate communication practices and institutions, so that improvements and contradictions in the societal commodification process influence communication as a social practice” (Mosco, 2009, p. 130). Mosco explicated by using the example of the international trend toward privatization of state-run media enterprises during the 1980s and 1990s. What were previously institutions with a commitment to public service with wide-ranging content and universal access became commercial enterprises that catered to customers who could afford to pay for content. These enterprises also delivered ever-narrower audiences to advertisers for more effective targeting (Mosco, 2009).

Moreover, it is salient to examine the general process of commodification and its relationship to communication. First, the production process begins when the capitalist purchases the commodity’s labor power and means of production. The product that results is then sold at a price higher than originally invested. The difference is known as surplus value, and the capitalist has the option of reinvesting this surplus value in order to expand the accumulation of capital. As a result, one can consider capital to be the value that grows through two processes – production and exchange. According to Marx, however, these processes are exploitative because they exclude other systems of production and place labor into a social relationship where, it too, becomes a commodity. In essence, labor turns into just another factor of production, and it is forced into a situation where it gives up control of the means of production. As a result,
the worker is not fully compensated for his or her labor because the capitalist pays a lower rate in order to make a profit. In addition, exploitation can be deepened either absolutely – by requiring longer hours, or relatively – by increasing the intensity of the labor required. Of primary concern is that the commodity naturalizes the exploitation process (Mosco, 2009).

Looking more specifically at the commodification of communication content, one finds that commodification involves transforming messages into products that can be marketed for surplus value. It is important to note that communication is different from other commodities however. Earlier, the fact that communication is not diminished during the consumption process was mentioned, but communication is different in alternative ways as well. For one, the meaning derived through communication helps shape consciousness. People come to understand the world around them through communicative processes. Additionally, the messages produced by mass media reflect the general interests of capital. There are biases in place because of capitalistic practices (Mosco, 2009). Digitization expands this potential by providing further ways to “measure and monitor, package and repackage” (Mosco, 2009, p. 135) both information and entertainment (Mosco, 2004, 2009).

Audience as commodity.

Other types of commodification exist as well. The first is the audience commodity; media companies create these commodities in order to deliver them to
advertisers. This type of commodification produces a triad made up of a media company, audience, and advertiser that act within a reciprocal relationship. During this process, audiences also construct themselves by making choices within the set of choices offered by capital. This construction is performed by attending to specific media choices, interpreting the chosen communication – potentially in opposite or alternative ways than intended by the creator of the communication, and by making those choices within the limits set by capital (Mosco, 2009).

Commodification of labor.

While the commodification of labor has been mentioned previously, this section will expand on the topic. This specific commodification process occurs at the point of production as opposed to the point of reception, which happens with the commodification of audiences (Mosco, 2009). Mosco summarizes Braverman (1974) by explaining the following:

According to him [Braverman], labor is constituted out of the unity of conception, or the power to envision, imagine, or design work, and execution, or the power to carry it out. In the process of commodification, capital acts to separate conception from execution, skill from the raw ability to carry out the task. It also concentrates conceptual power on a managerial class that is either a part of capital or represents its interests. Finally, capital reconstitutes the labor process to
correspond to this new distribution of skills and power at the point of production. (p. 139)

Fundamentally, a dichotomy of opposing forces – capital/management and labor – is created that effectively diminishes labor’s power (Mosco, 2009).

*Immanent commodification.*

A third type of commodification is immanent commodification, which can be defined as a process where one commodity produces another commodity. For example, television shows are produced to create an audience for advertisers. The commodity in this case is the audience. However, a second commodity, audience ratings, is also created.

*Externalizing commodification.*

Finally, a fourth type of commodification called externalizing commodification also exists. Externalizing commodification occurs when commodification is spread to areas previously untouched by the process. Take, for example, the change from free broadcast television to fee-based cable and satellite television. What was once a product available to all at no charge other than the purchase of the hardware has now become a commodity that requires payment in order to consume (Mosco, 2009). There has been a definite shift in social logic from one based on “universality, equality, social participation, and citizenship” to one based on “market logic that equates rights with market power” (p. 144).
Spatialization

The second part of the conceptual framework for the political economy of communication is spatialization. Spatialization can be thought of as a process that overcomes both time and space, and, in effect, time and space become flexible resources. More salient to this discussion, however, is how communication contributes to this process since information and communication technologies (ICTs) are the resources that make spatialization possible. One result of spatialization has been a concentration of power and control within the communication industry, which essentially limits competition and diversity. At its most basic level, concentration has been made possible through the use of these ICTs by allowing capitalists and managers to communicate with subordinates at almost any time or place, which further allows them to assert their influence over production, exchange, and distribution of communication (Mosco, 2009).

Horizontal and vertical integration.

Moreover, within the communication industry, concentration can take several forms. The first is horizontal integration, which involves one media company buying a stake in another business that is in a different media line or purchasing a stake in a company outside of the media business. For example, a film studio could purchase a television studio or radio station and use content from one media in another thus gaining synergies that did not exist previously. The outcome is conglomerate
ownership – companies in different lines of business organized under one owner. On the other hand, integration may also be arranged vertically. With vertical integration, one company owns all of, or a large stake in, another company that is a part of the same supply chain. This level of control pays off in quality control as well as cost savings that can be passed up the supply chain. For instance, the company that makes the A4 processor for Apple’s iPad is owned by Apple. Apple also controls its distribution of media products through Apple’s online store (Lyons, 2010; Mosco, 2009; Thorburn & Jenkins, 2003).

*Multinational corporations.*

Furthermore, concentration may occur in other ways. In recent years, there has been a trend toward massive global operations known as multinational corporations (MNCs). One advantage to these operations is that they are in position to take advantage of the international division of labor, and they often seek out areas with little government control. Other benefits accrued to MNCs involve the use of satellites, which provide low-cost means of transferring content over large distances. Media industries are essential to this process as they help draw attention to products through advertising as well as their own media products. In addition, MNCs often keep their base of operations situated in one nation. On the down side, MNCs typically have a tendency toward bureaucracy and high debt. Regardless, the end result of this trend is highly concentrated economic power (Kasper, Lehrer, Mühlbacher, & Müller 2009;
Mosco, 2009; Smith, 1991; Tunstall, 1977; Winseck & Pike, 2007). Other forms of concentration occur through direct and indirect ties on corporate boards of directors, strategic alliances for specific projects, and merchandise arrangements that connect marketing and merchandising firms with media companies (Mosco, 2009).

Reasons for addressing spatialization.

In addition to the concerns regarding concentration, spatialization deserves attention for other reasons as well. One of those reasons has to do with the connection between transportation and geography. In effect, improvements to transportation now allow us to move greater distances in a shorter time resulting in a convergence of time and space. Communication products have a connection as well. Historically, communication was directly tied to transportation until the advent of the telegraph, but even though communication is no longer tethered to physical transportation, there are still costs involved with moving communication products over a distance, whether those products are a physical form, such as a print magazine, or in digital form. Of particular interest to political economists are the three orders of cost-space convergence. The first involves substituting technology for human skill, an area that has accelerated in recent years due to the use of digital technologies. The second, also tied to technology, is an increase in the extent of using communication to manage an organization’s activities. The third order is denoted by the growth of new transportation-intensive social patterns such as suburbanization. Several conclusions
can be drawn regarding these shifts. First, the decline in the price-performance ratio for communication technology and transportation has played a part in spatial convergence. Second, convergence is most certainly widespread, but factors such as culture, social status, and politics affect the level of convergence. Third, the nature of convergence is affected by political economic decisions about communication and transportation. One additional conclusion is that technology has multiplied the number of locational opportunities because said technology reduces the need to for business to be physically close (Malone & Rockart, 1991; Mosco, 2009).

Role of government.

Beyond convergence in these various forms, Mosco (2009) also examines the role of government in relation to spatialization. The political economy method considers the “entire social field...as a form of regulation” (p. 176), and this social field includes industry activity patterns. As a result, both government and market regulation are important to consider. What is more, four processes of concern to political economists have been identified. Commercialization is the first process whereby market standards replace public interest regulation by the state. Liberalization is the second process, and it is constituted by the state’s attempts to promote competition by increasing the number of participants. The third process, privatization, occurs when the state sells off public enterprises, which subsequently become owned by capital. The fourth process is internationalization, which involves the government’s creation of regional and global
organizations through such alliances like the North American Free Trade Agreement (NAFTA). With these processes in mind, we find that “historical practice leads a political economy analysis to conclude that the industry and the state are primary forces in the development of communications, [and] that their relationship is mutually constitutive and variable” (p. 178).

*Globalization.*

Finally, political economic research in communication addresses globalization, which “refers to the spatial agglomeration of capital, led by transnational business and the state, that transforms the spaces through which flow resources and commodities, including communication and information” (Mosco, 2009, p. 179). The problem lies with how globalization is perceived. Unfortunately, globalization has been touted as the panacea for several ills that affect the larger global community (Mosco, 2009). For example, communication through the Internet has been viewed as a conduit through which education can be provided to the world’s underprivileged population thus lifting them out of their poverty. Mosco (2004) terms this view the “end of geography” (p. 179) since distance is overcome by the use of these communication technologies. Accordingly, he labels such claims as mere myths and points out that while these technologies can help promote such goals, the same tools can be used to keep the world divided through terrorism, nationalism, and religious fundamentalism. In the end, a
sort of hegemonic state persists where gains are won and lost in a continuous struggle for power (Mosco, 2004, 2009).

**Structuration**

Structuration, a concept that connects political economy with sociology, is defined as a “process by which structures are constituted out of human agency, even as they provide the very ‘medium’ of that constitution” (Mosco, 2009, p. 185). In an expanded definition, Indeje and Zheng (2010) state that:

[T]he theory of structuration holds that all human action is performed within the context of a pre-existing social structure which is governed by a set of norms and/or laws which are distinct from those of other social structures. Therefore, all human action is at least partly predetermined based on the varying contextual rules under which it occurs. However, the structure and rules are not permanent and external, but sustained and modified by human action. (p. 10)

More simply put, structuration holds that both the individual and society create one another (Mosco, 2009). Originally developed by Giddens (1984), structure contains both enabling resources and constraining rules. It “constitutes action and is reproduced by it” (Mosco, 2009, p. 186). In addition, within political economy, it is important to place power at the center of the relationship between structure and agency. In order to more fully understand structuration, five concepts are examined through the lens of political economy including class, race, gender, social movements, and hegemony (Mosco, 2009).
Communication and social class.

When considering past research, there has been some dispute over how social class should be defined. Part of the debate has revolved around differences between the categorical, relational, and formational dimensions. Mosco (2009) explains that social class is considered categorical because it has been used to group individuals together who share a certain economic status as measured by wealth or income. In comparison, social class is considered relational since it connects individuals based on social production and reproduction. It can also be thought of in terms of a relationship connecting the working class to capital. In this view, the working class and capital could not exist without the other; they are mutually constituted (Mosco, 2009). In addition, social class is also formational in that class only exists if people are aware of it and act in accordance with their class position. In this view, social class is also a set of values, such as a strong work ethic, which contributes to the formation of identity within a given social class. The formational view of social class is also more fluid in nature in that the social relationships change as an act of agency whereby people constitute themselves (Mosco, 2009; Williams, 1976).

Communication and gender.

When looking at how political economy has treated gender in the past, it is evident that, while gender has not been ignored, it has generally been examined as a part of social class. As a result, it is the task of political economy to figure out how to
best theorize gender in a political economy analysis. Given the range of gender approaches, it is possible to fit each on a social viewpoint spectrum. First are gender approaches that already begin with class. In these cases, production is brought to the foreground and gender is placed within it. Additionally, there are gender approaches that focus on social reproduction. In this case, political economic analysis works to examine the reproduction of capitalism and class structure as well as the reproduction of social relations in the home. There are also gender approaches that look at the duality of gender and class where each is an independent category (Mosco, 2009). Accordingly, society is “both patriarchy (gender-divided) and capitalist (class divided)” (Mosco, 2009, p. 199). Lastly, a formational approach may be taken, where gender identity is created through the “mutual formation of social structures, the means of communication, the product of communication, and the agency of individuals” (p. 199) involved.

*Communication and race.*

Another important consideration in the discussion of structuration and political economy is the element of race. On a basic level, racial divisions bring about a disparity in the level of access to communication, as well as a disparity in the amount of ownership and control attained by specific racial groups. An additional consideration is the representation of race found in the media. Looking at race on a global scale, one finds that race contributes to the international division of labor. Given the nature of
capitalism, it seems quite contradictory that businesses continue current practices while seemingly missing chances to expand and deepen their markets (Mosco, 2009).

*Communication and social movements.*

Social movements are movements that focus on social action and social agency. Given that these movements often join together individuals from a variety of backgrounds and experiences – including social class, gender, race, age, and nationality – the importance of communication to social movements cannot be overstated. Indeed, success may require the ability to move beyond these categories. In addition, social movements in the past have often united people within these categories to fight for a cause related to the same category. For example, labor movements were organized around social class and had the goal of improving standard of living and working environments for the working class. More recently, however, social movements have been focused on specific interests not directly tied to the categories of the past. These interests include, but are not limited to, the environment, globalization, health, and sexual orientation to name just a few (Mosco, 2009).

From a political economic standpoint, social movements are of great interest since they have “influenced the development of the means and content of communication” (p. 204). In actuality, these movements have had to develop communication strategies in order to effectively organize and promote their causes (Gitlin, 1980). As well, alternative media movements such as “literacy campaigns, street
theater, alternative newspapers, video, and film production, cartooning, public access cable programming, alternative computer networks, video piracy, computer hacking, and other forms of Internet activism” (Mosco, 2009, p. 205) have contributed to the struggle for power (Mosco, 2009; see also Dyer-Witheford, 1999; Ganesh, Zoller, & Cheney, 2005; Hackett & Carroll, 2006; Hanke, 2005; Howley, 2003; Kahn & Kellner, 2004; Matteurt, 1986; Stengrim, 2005; Switzer & Adhikari, 2000; Waltz, 2005).

Moreover, social movements have been important to the political economy of communication in other ways. More specifically, social movements have impacted the communication industry and state regulation by challenging local policy, station licensing, spectrum allocation, industry structure, and media content (Mosco, 2009; see also Duboff, 1984; Fones-Wolf, 2006; Jamieson & Cappella, 2008; McChesney, 1993; McKercher & Mosco, 2007; Sosale, 2003; Stone, 1991; Traber & Nordenstreng, 1992).

Communication and hegemony.

An important concept in the political economy of communication is hegemony, which “describes how our common sense view of society is constituted” (Mosco, 2009, p. 206). Gramsci promoted the concept of hegemony in capitalist societies by pointing out that control was less likely to occur through direct force, but instead was achieved through consent. According to Mosco (2009), hegemony is situated somewhere in between ideology and values. Ideology, Mosco maintains, is a purposeful misrepresentation of social reality in order to preserve existent social hierarchies and
promote specific interests. In comparison, values are regarded as social norms shared by a variety of people at various levels of society. Hegemony, then, is thought to be an “ongoing formation of both image and information to produce a map of common sense which is sufficiently persuasive to most people” (p. 206). Moreover, the concept of tradition plays a significant part in how hegemony is constructed. Tradition, in this context, is made up of a set of rules that we implicitly accept, largely because traditions are fixed in the past and are assumed to be unchanging and necessary. As such, traditions impart values and norms through the act of repetition. One part of tradition is individuation – the capitalistic tendency to change collective categories to individual ones. In this way, social power is diminished for collectives such as class, race, and gender. These categories are reconstructed as individual subjects (Hobsbawn, 1992; Mosco, 2009; Poulantzas, 1978).

It is also important to note that while hegemony is built on consent, that consent can be revoked. Hegemony, as a result, is a process of give and take between the dominant ideology and those who fight against it through alternative forms of common sense. Additionally, hegemony needs constant reinforcement by those in power (such as through tradition) in order to keep those who would resist in check. For political economists, the goal is to help identify the points of resistance as well as the variety of forms taken by alternative and oppositional hegemonies. It is likewise important to combat capitalist’s claims – claims that are transformed into powerful myths – that are
used to manufacture consent. These myths include the culture of poverty argument, which purports that the poor are responsible for their own situation because their work habits, sexual practices, values, etc. are misplaced. A second capitalistic myth is the trickle down argument for the spread of wealth. Supporters of this claim/myth argue that when government policies, such as taxation, favor the rich, then wealth will be dispersed across the various social classes. Alternatively, those in power can also defend themselves without overtly acknowledging that there are most certainly holes in the logic promoted as common sense. Even though those gaps become evident when comparing actual lived experience to what is supposedly common sense, subordinate groups often actively consent to the common sense argument by maintaining that they cannot be fooled. Another way that the dominant hegemony is maintained is through mere distraction, primarily through forms of entertainment that imply that it is better to think about something else other than one’s own struggles in life, or even to think about nothing at all (Glynn, 2000; Miller, 1988; Mosco, 2009). Before looking at the method for this study, a brief overview of political economy’s strengths and weaknesses will be provided.

**Strengths and Weaknesses**

While political economy has a long-respected tradition, there are certainly critics who find fault with the approach. The following summary details both the strengths
and weaknesses of political economy in an effort to provide a balanced view of its nature.

**Strengths**

Probably one of the most important features of current political economy is its concern with people’s needs and rights. Political economy directly addresses these issues by examining how the division of labor is tied to the creation of wealth. This tie between the broader economic problems and their relation to social concerns is key (Mosco, 2009). Moreover, through the analysis of power relations, political economists are able to examine class systems and their structural inequalities. These inequalities include identifying who controls ideological production as well as why and how it is produced (Murdock, 1982; Wasko, 1989). In addition, current political economy has acted as a critique of the more narrowly focused neoclassical paradigm, which tends to be more concerned with numerical analysis and objectivity and is less concerned with social relations. As such, it is political economy’s more holistic focus that makes it stronger (Mosco, 2009). However, it is important to note that while current political economy acts as a critique of the more positivistic neoclassical paradigm, it certainly does not exclude empirical research. Instead, political economy can use a variety of methods, both quantitative and qualitative, as is merited by the research. It just isn’t positivistic in nature. Moreover, political economy challenges notions of freedom, including freedom of speech, trade, competition, and information, by examining the
structural forces behind the production of commodities including communication. These are issues not thoroughly addressed in other paradigms. Finally, political economy looks at class as only one site of inequality among many other possible sites (Wasko, 1989).

Moreover, Pereira (2009) draws on Garnham (1986), Mansell (2004), Meehan, Mosco, and Wasko (1993), and Mosco (1999) to identify additional strengths of the political economy approach. According to Pereira, there are four factors on which the approach relies. These include:

1. it is an essential first step to analyse [sic] the structural circumstances of the production and consumption of symbolic content and their material means of distribution;
2. it goes beyond the economic issue of efficiency to cope with the relativism inherent in questions of value and power;
3. it reveals a commitment towards the practice of coming out with historically situated understanding of the broader context; and
4. it insists on revealing political and economic dynamics beyond the public and private domains. (pp. 326-327)

It is through these four factors, Pereira maintains, that political economy is able to examine both how and why the ability to access media content and apparatus is still a challenge. In addition, the approach can seek to discover the consequences “for the reproduction of relations of value and power previously legitimized” (p. 327).
Weaknesses

At times, this holistic nature has come under fire from some critics, notably those entrenched in the cultural studies paradigm including Grossberg and Carey.

Weaknesses of political economy, it is claimed, include this holistic approach, which tries to do too much. Essentially, critics claim that the focus is too broad, and at the same time, too narrowly defined by its fascination with the practices of labor as well as narrow economic analysis (Carey, 1995; Graham, 2007; Grossberg, 1995). Recently, Graham (2007) has commented that current, mainstream political economic research “takes as its definition of ‘value’ the purely monetary dimension, and a seeming monolith, ‘The Media’, as its primary object of study” (p. 236). Graham’s criticism purports that the political economy of communication needs a “comprehensive theory of value at its foundation” (p. 237), and suggests that other types of value need included. For example, through the exercise of power, other values are accumulated such as prestige and beauty. Graham also asserts that the political economy of communication should uncover less quantifiable aspects of value such as “moral, cognitive, aesthetic, ethic, cultural, and technical values” (p. 238).

Graham (2007) has an additional concern with the current state of the political economy of communication. Specifically, he points to a seeming fascination of current political economic research with capitalism. Capitalism, Graham explains, involves “relatively free markets, relatively free trade, relatively diverse ownership, and steadily
lower costs over time” (p. 239). He continues to explicate by stressing that, for communication in particular, this view of capitalism is not representative of what has happened over the last century. Instead, he alleges that corporatism is a better term to describe economic development during this time period. He also contends that political economy has (in the past) and should (in the future) be used for studying other types of economic paradigms such as fascism, Sovietism, monopolies, etc. Most directly, Graham declares that

...widespread confusion between business, industry, and political formation gives the impression that capitalism still dominates – that buying and selling is essentially capitalist, that only capitalism creates people-as-commodities, that only capitalism creates massified [sic] systems of national and international inequality. (p. 239)

Instead, he argues that these issues exist in other systems as well (Graham, 2007).

Finally, several authors have identified what are perceived to be additional shortcomings. These include how the political economy approach conceptualizes the relationship between power and value as well as how the conceptualization is situated within a dominant ideology, “which leads to social subordination and cultural influence over audience’s beliefs” (p. 327). These critics assert that the preceding conception is limited in three ways. The first limitation is that within political economy, ideology is set in a “process of rationalization and control over production, distribution and
consumption” (p. 327). Second, political economy focuses on “centralized nodes of authority held through historical processes of enforcement and acceptance” (p. 327). Third, “culture is reduced to economic accounts of reality” (p. 327). These limitations, it is claimed, do not account for multiple ideologies, which overlap and blend with one another as both consumers and producers exchange roles over time (Couldry, 2000; Garnham, 1086; Hall, 1997, & Thompson, 1990).

Research Questions

As the literature review showed, there is still a substantive amount of research to be conducted in regard to the political economy of video games. The negative externalities that have been addressed, including issues of violence, military connections, gender, and race, are all seminal contributions. However, it is time to go further. With the preceding discussion in mind, three research questions have been identified. The first is designed to establish the framework for the second and third questions. In essence, there is a need to historically trace the business models used by the video game industry. As such, the following question is posed.

RQ1: How have business models evolved in the video game industry for console and handheld video game systems and software?

In addition, and equally important to this study, is the connection between the business models used by the industry and the practice of planned obsolescence. Therefore, the second question is as follows.
RQ2: To what extent are business models in the video game industry for console and handheld video game systems and software dependent on planned forms of obsolescence?

Finally, once the connection between business models and forms of planned obsolescence is established, it is necessary to examine the externalities associated with these business models and practices. The third and final question is thus:

RQ3: What externalities are associated with business models in use by the video game industry for console and handheld video game systems and software?

In the end, this study will provide a solid addition to the developing literature on video games and the video game industry. In the next section, the method for completing the research will be explained.

Method

While many political economists treat their methods implicitly – they follow criteria inherent to the political economy approach without explicitly detailing them in a separate methods section (Meehan, Mosco, & Wasko, 1993) – this study endeavors to make its method clear. In addition, political economy strives to uncover how economics influences culture and society. Since this study aims to examine how business models used by the video game industry have influenced society through planned forms of obsolescence and/or associated externalities, political economy makes a logical choice for the theory and method. As a general rule, political economy uses
two main approaches to studying a variety of phenomena. The first is institutional analysis, which examines the structures of industry as well as the effects of these structures. A second common approach in political economy is instrumental analysis, which outlines both business and personal networks within institutions (Meehan, Mosco, & Wasko, 1993). Out of the two, the former works well for this study since the relationship between the video game industry’s business models and the societal effects is essentially a question of structure.

Furthermore, institutional analysis relies on a number of sources. These include, among others, government documents, corporate disclosures, promotional materials, trade journals, employee statements, and information garnered from academics and journalists (Meehan, Mosco, & Wasko, 1993). These sources are potentially problematic, however, so it is salient to include criteria for evaluating the sources used. In the end, these criteria will be used to ensure that the data used, as well as the subsequent analysis, are as rigorous as possible. Scott (1990) provides a useful framework for evaluating the sources and associated data. These include authenticity, credibility, representativeness, and meaning. As well, the best information possible should be used, which according to Scott, involves using primary sources such as personal interviews or other primary documentation. In an effort to be as clear as possible, these four criteria will be examined more closely.
The first criterion, authenticity, is essentially a question as to the genuineness and origin of the data. This can be accomplished by verifying the identity of individuals who provide information through publications and interviews. When relying on secondary sources, authenticity is equally important. As such, it is essential that the researcher must check for editing or copying changes (Scott, 1990). In addition, credibility, as the second criterion, “refers to the extent to which the evidence is undistorted and sincere, free from error and evasion” (p. 7). Suggestions for checking for credibility include making sure an interviewee takes the interview seriously as opposed to lying or distorting the truth and for ethnographers, working to ensure that events are not being staged. It is likewise important to remove potential sources of influence that might otherwise cause an individual to equivocate in order to save face or embarrassment. Third, representativeness is a matter of determining whether or not the evidence is “typical” of the object under study. That does not mean the researcher is only interested in what is typical, but rather, that the researcher needs to know what “typical” is in order to ascertain the limits of conclusions that are drawn. Last, the researcher must also examine meaning. In this sense, one must have a firm grasp on whether or not the evidence is clear and comprehensible (Scott, 1990).

Subjects

In this study, the bounded setting includes companies within the video game industry. More specifically, the companies to be examined include Nintendo, Sony, and
Microsoft. There are numerous reasons for the choice of these corporations. Currently, these three companies dominate the home console and portable system markets. To date, Nintendo, Sony, and Microsoft lead console and handheld sales (U.S. market) with Nintendo selling over 42 million units of the Wii console, Microsoft selling over 32 million units of the Xbox 360 console, and Sony selling close to 56 million units of the PlayStation 3. Handheld units showed similar sales with the Nintendo DS selling close to 56 million units, the Nintendo Gameboy 44 million, and the Nintendo Gameboy Advance at close to 42 million units. The Sony PlayStation Portable (PSP) lagged behind, but has still sold over 22 million units in the United States (VGCartz, 2011). An additional reason is that these companies are all publicly-traded, and therefore, financial information, including annual reports, is readily available. A third reason is that their inherent business structures are essentially different, which should make for some interesting points of comparison. Nintendo has a primary focus on selling video game hardware and software, while Microsoft is a corporation with several divisions that are devoted to sales of products other than video games. Out of Nintendo and Microsoft, Sony’s structure is more similar to Microsoft, but with a heavier concentration in consumer electronics merchandise.

Moreover, the focus is on console units such as the Wii and Xbox 360 and on mobile platforms such as the Nintendo DS. The primary reason for this focus is to reduce the scope of the study in an effort to gain specific knowledge regarding the
business models used. On one side, games for console and portable game systems are designed to work on those specific platforms. On the other hand, personal computer (PC) games often use a different approach for generating sales. In essence, sales of PC games are not tied to the sale of specific system units in the same way that console and handheld units are. Instead, PC games are matched to system specifications on a computer and are expressed in terms of the minimum and recommended requirements. With the plethora of PC configurations available, it is extremely difficult to track sales to any specific design. Finally, games designed for web applications or cell phones will also not be tracked – also for reasons of scope.

Data Collection

A mixture of primary and secondary sources were used, and fortunately, several sites were accessible for collecting data. Chief among these sources were the websites for all three corporations. On these sites, annual reports and other associated data can be freely downloaded. Additional corporate and financial information was obtained from Hoover’s, a business information clearinghouse. As well, each company provided information regarding their environmental initiatives through self-published green initiatives and corporate social responsibility reports. Another primary site for environmental data is the website for the Environmental Protection Agency (EPA). As a government body, volumes of data and reports were accessible from their websites including information on the disposal of consumer electronic devices. Environmental
public interest groups such as Greenpeace also maintain report cards on several media companies including Microsoft, Sony, and Nintendo.

Furthermore, there were several video game industry and consumer electronic websites that collect and report information on the industry. These included, but were not limited to, Video Game Chartz (VGChartz), Edge, GameSpot, CVG, IGN, CNET, Wired magazine, and the Entertainment Software Association (ESA). Each of these websites allows free access to their information, much of which comes from industry insiders. Media watchdog groups such as the National Institute on Family and the Family were also alternatives as were media research groups such as the Kaiser Family Foundation, the Pew Research Center, and Nielsen Reports. Finally, additional data was gathered by conducting interviews with several individuals who have insights into the industry including journalists, corporate representatives, advocacy group representatives, and academics.

In an effort to garner information through these interviews, a letter and corresponding questionnaire (see Appendix A) was sent by email to several potential candidates. Bowling Green State University’s Human Subjects Review Board (HSRB) approved all forms and correspondence (see Appendix C). In an effort to maintain confidentiality, all respondents were assigned a code consisting of a letter and number. For example, all academics who responded were assigned a code starting with the letter “A,” corporate representatives a “C,” journalists a “J,” and media watchdog groups an
“M.” Moreover, a number was assigned starting with “1” and proceeding sequentially as needed. For instance, the first journalist to respond was coded “J1.” The first round of questionnaires was sent on October 16, 2009. Approximately two weeks later, on October 29, 2009, a reminder was sent to those individuals who had not yet responded. In the original mailing, a total of 27 questionnaires were sent. In the end, six individuals responded representing a 22% response rate. Actual responses are available in Appendix B.

Data Analysis

Given that this is a qualitative study, no statistical analysis was conducted. However, financial information is presented. More importantly, the data gathered is presented in a holistic approach and consistency across multiple sources was the goal in order to present reliable and accurate findings. The criteria outlined by Scott (1990) were also used to evaluate the accuracy and reliability of the data and related sources.
CHAPTER 4: DATA ANALYSIS AND FINDINGS – PLAYING THE GAME

While theory delineates the world in specific ways and the method outlines how the world will be explored, analysis involves actively engaging the world. Similarly, the game player actively engages the game world in an effort to understand it. This chapter’s purpose is to answer the three research questions posed earlier. As a reminder, the first question seeks to historically trace the business models used by the video game industry. The second question focuses on the connection between the business models used by the industry and the practice of planned obsolescence. The third question examines the negative externalities associated with these business models and practices. More specifically:

RQ1: How have business models evolved in the video game industry for console and handheld video game systems and software?

RQ2: To what extent are business models in the video game industry for console and handheld video game systems and software dependent on planned forms of obsolescence?

RQ3: What externalities are associated with business models in use by the video game industry for console and handheld video game systems and software?

Before proceeding with the formal analysis, however, company overviews will be provided.
Company Overviews

When examining video game systems manufacturers, the Big Three – Nintendo, Sony, and Microsoft – all stand out. In the United States alone, combined revenues for electronic gaming products totaled approximately $8 billion in recent years and these three companies account for the largest portion of those revenues. In addition, at any given time the Big Three all have a mixture of home console and portable gaming systems on the market as well as a range of peripheral devices (Hoover’s, 2011a). Moreover, the past decade has shown a shift in market share as these three companies have battled for market dominance. In the early part of the 2000s, Sony was the dominant player with a majority of the market share, but with the release of the Wii in 2006, Nintendo surged in sales. Most recent hardware market share findings show the Nintendo Wii in the lead with 45% of the market, and Microsoft and Sony trailing with the Xbox 360 (34%) and PlayStation 3 (20%) (Gamer Investments, 2011). Because of the large concentration within the industry, each company will be examined individually. These overviews are intended to show how video games are situated within each company as well as provide a means of comparing each of the companies to one another.

Nintendo

Although Nintendo is synonymous with video games today, the company’s history predates anything electronic. Founded in 1889, Nintendo was originally a
company that made Japanese playing cards called Hanafuda. The company also produced Western-style playing cards starting in the early 1900s. In 1947, the Marufuku Company was formally established, but the name was later changed to the Nintendo Playing Card Company in 1951. A little over a decade later (1963), the company officially changed its name to Nintendo Co., Ltd. In fact, Nintendo didn’t make electronic games until the 1960s and 1970s, over 70 years after the company’s inception, and its first home video game system was not created until 1977. Approximately three years later, Nintendo opened offices in the United States, and in 1981, a coin-operated video game, *Donkey Kong*, was created with a short little hero who later became the now famous Mario (Nintendo, 2010). This character remains as the headliner for what is now one of Nintendo’s most profitable video game franchises. Moreover, in 1985, Nintendo released the Nintendo Entertainment System (NES), which helped revitalize the video game industry after the market collapsed in the early eighties. Today, Nintendo is one the largest producers of video game consoles and games (Kent, 2001).

Currently, Nintendo has offices spread throughout the world including Asia, Australia, Europe, and North America (Nintendo, n.d.). Additionally, worldwide, Nintendo reported assets totaling close to $20 billion for 2010 as well as total net sales of over $15 billion for the same time period (Nintendo, 2010). Unlike Microsoft and Sony, whose core businesses are spread over different types of electronic goods/services and
whose gaming consoles are marketed as more comprehensive entertainment systems, Nintendo’s focus is concentrated on games. According to Hoover’s (2011e) “Unlike those two offerings [Microsoft’s Xbox 360 and Sony’s PlayStation 3], Wii is a game console first and foremost and not a digital entertainment hub” (para. 3). As mentioned previously, each of the Big Three have a mix of video game/entertainment products on the market. For Nintendo, that mix includes the Nintendo Wii, released in 2006, and the more recently released Nintendo 3DS. Other systems can still be found on the market, including the GameCube, the DS and DS Lite, as well as the Game Boy and its various incarnations (Hoover’s, 2011f).

**Sony**

Founded as Tokyo Telecommunications Engineering in 1946, the Sony Corporation has had a number of industry-defining products as well as a couple of missteps. One of its earliest achievements involved the purchase of transistor technology licenses from Western Electric. Since that time, Sony has produced a number of consumer electronic products including one of the first transistor radios in Japan, transistor televisions, and videotape recorders. One of the company’s greatest successes was the Walkman line of audio cassette players that became popular in the late 1970s and early 1980s. On the other hand, Sony’s most famous misstep involved the company’s push for the Betamax standard for home video recorders in 1976. Unfortunately for Sony, Panasonic’s (formerly Matsushita) VHS became the standard.
Of specific interest to this study, Sony teamed with Nintendo in the early 1990s to create a new game console. Nintendo eventually pulled out while Sony continued with the project. The end result was the Sony PlayStation (PS), a console unit that eliminated the traditional cartridge system in lieu of a CD-ROM drive, which was produced, of course, by Sony (Hoover’s, 2011h).

Today, Sony is a true media conglomerate with diverse product lines including gaming systems, televisions, semiconductors, personal computers, financial services, music, television, and motion pictures (Hoover’s, 2011j). Within the entertainment portion of their business, Sony has been able to capitalize on their ability to release titles across a variety of media. Examples include the Silent Hill series, Ghostbusters, and the James Bond franchise (Sony Pictures International, 2010). Sony is also spread across the globe with operations in the Japan, the United States, the United Kingdom, Brazil, Mexico, Europe, China, and Australia among others. Financial performance for the corporation in 2011 included operating revenue of over $86 billion and total assets of over $155 billion (Hoover’s, 2011g; Hoover’s 2011i; Sony Corporation, 2011a). In direct contrast to Nintendo, Sony’s current console, the PlayStation 3 (PS3), is more of an entertainment system as opposed to just a gaming system. Drawing on its assets, Sony made the PS3 so that it not only plays games, but also provides the means to communicate with friends via text or headset through a Wi-Fi connection, play music and hi-definition Blu-ray video, and view pictures. In addition, the PS3 also has the
capability to stream movies and television series through a Netflix subscription (Sony Computer Entertainment America, 2011c). While some of the features, such as communicating with friends and streaming through Netflix, are available on the Nintendo Wii, the Wii does not offer the full range of features found on the PS3 (Nintendo, 2011e). Other video gaming products in the current Sony mix include the PlayStation Portable (PSP), and PlayStation Vita (PS Vita), as well as their second-generation console, PlayStation 2 (PS2) (Sony Computer Entertainment America, 2011b).

**Microsoft**

Founded in 1975 by Bill Gates and Paul Allen, Microsoft is the world’s number one software company. Most famous for its Windows operating system and Office software suite, Microsoft started off by selling a programming language called BASIC. One of the company’s big breaks came in 1980 when IBM chose Microsoft to create an operating system for its new computers. Gates decided to buy an operating system known as QDOS (quick and dirty operating system), which was renamed to MS-DOS (Microsoft Disk Operating System) and used on the IBM machines. Within a few years, Microsoft developed a graphic-based system that used MS-DOS as its underlying base, and thus, Windows was born. However, it wasn’t until Windows 95 that the operating system came into its own. The system’s relative ease of use helped drive burgeoning home computer sales. Since then, Microsoft has released several incarnations of
Windows and its Office suite, but has also diversified into other areas (Hoover’s, 2011b; Hoover’s 2011c; Microsoft Corporation, 2011a).

Unlike Sony, Microsoft’s diversification is more closely tied to the computer industry. Currently, Microsoft does business in several areas including its business products, Windows and Windows Live, server solutions and tools, entertainment and associated devices, and online services (Hoover’s, 2011d). Furthermore, Microsoft, as with Sony and Nintendo, has offices spread around the globe including Asia, Europe, the Middle East and North Africa, North and Central America, South America, and the South Pacific. The company is headquartered in Redmond, Washington (Hoover’s, 2011c; Microsoft Corporation, 2011e).

Moreover, Microsoft is different from Nintendo but similar to Sony in that Microsoft was a relatively late entry into the video game market. Launched at the end of 2001, Microsoft sold 1.5 million units between November 15 and the end of that year (Microsoft Corporation, 2010b). Almost exactly four years later, Microsoft released the Xbox 360, which is its most recent entry into the video game console market (Microsoft Corporation, 2011a). Other than the console units, Microsoft does not have any other video game systems on the market.

Evolution of Video Game Industry Business Models

The first research question asks how business models evolved in the video game industry for console and handheld video game systems and software. The answer to
that question antedates the entry of Nintendo, Sony, or Microsoft into the video game industry. Widely recognized as the first home console unit, the Magnavox Odyssey was introduced in 1972. It was a battery-powered system with no sound available until approximately one year later. Included with the system were the console unit, two controllers, the RF cable, a switch box, and additional cartridges. Other items included plastic overlays that could be placed on the TV screen to enhance game play, as well as a variety of cards, paper money, dice, and scoreboards. In fact, some of these items could be used as if a board game was being played. A light gun was also available as a peripheral device (Baer, 2005; Herman, Horwitz, Kent, & Miller, 2002; Kent, 2001).

The Magnavox Odyssey, however, was not considered a success only selling 100,000 units during its two-year life. The real success in home video gaming came from Nolan Bushnell and Atari when, in 1975, the first Home Pong unit was introduced. Unlike the Odyssey, Home Pong only played one game – Ping-Pong. In contrast, the Magnavox system came with twelve games and more could be purchased by mail. However, Atari’s console was much more successful in sales than the Odyssey, selling 150,000 units its first season. The Home Pong console also had a strong following because of Atari’s arcade version of the game, but unfortunately for Atari, several manufacturers copied the game and made their own arcade versions. Companies such as Ramtek, Meadows Games, Nutting Associates, Midway, and National Semiconductor were all attempting to get their own share of the new market (Kent,
These imitators are important because while Atari’s console was closely mimicked, later versions from a few companies extended the console’s capabilities. Soon to follow were the Coleco Telstar, General Home Products Wonder Wizard (manufactured by Magnavox), several models from First Dimension Systems and Heathkit, and Interfab Pong IV. Some of these models, such as Interfab’s, only played one game. Others were designed to play several games such as Coleco’s Telstar, which had three games and three difficulty settings printed into the circuit board (Winter, 2010). Most importantly to the future of home console units and setting the foundation for one of the primary business models used by the industry was the development of the Fairchild Channel F video game console in 1976. There were several differences with the Channel F. Chief among these differences was the choice to store games on interchangeable cartridges, called videocarts, which could be plugged directly into the console. Each of these videocarts included a different game programmed into a circuit. Like the Telstar, the Channel F, had games imprinted into the console’s circuit, but the decision to offer additional games on Videocarts changed the industry. Soon after, companies such as RCA, Magnavox, and Atari were developing new systems of their own (Kent, 2001).

Razors and Blades

Although Fairchild was not successful in marketing the Channel F, the use of interchangeable cartridges became an industry standard that is still in use today. The
method is simple. Produce a primary product – such as a console – whose function is completed by requiring a separate component – a cartridge or more recently a disc. The functionality can be extended as long as new or different versions of the second component are produced. This business model is nothing new however. Indeed, it has been around for more than a century. The story, and the reason for being named the razors and blades model, can be traced back to King Gillette, a salesman who, in 1895, was struggling to come up with ways to make money. One day, while shaving with a straight razor, a thought occurred to him. Why not make a blade from a thin metal strip that could be discarded once it became dull? The main component – the razor’s handle – could be sold once, and the second component - replacement blades – could be purchased as needed. The razor handles were sold at a discount with the intent on making money on the purchase of replacement blades. In essence, Gillette had come up with a way to create demand (Anderson, 2008). Today, this business model is used for literally thousands of products including the original razor/blade combination to cell phones, copier machines, gourmet coffee makers, and, of course, video games.

When examining the Big Three video game companies, one finds the razor and blades model in use for over 35 years now. In all actuality, cartridge-based console systems sold well through the late seventies and into the early eighties although the number of games was extremely limited. Included in this group are the Colecovision and Atari 2600 and 5200 systems. The Colecovision is of note because it featured games
like Donkey Kong and Donkey Kong Junior, which were licensed from Nintendo who, up until this point, was primarily engaged in game design. It wasn't until 1985, after the market for video games crashed, that Nintendo would test its new home video game system in the United States (Herman, Horwitz, Kent, & Miller, 2002; Kent, 2001).

Originally introduced in Japan in 1983, the Nintendo Famicom (Family Computer) was first sold nationwide in 1985 as the Nintendo Entertainment System (NES) in New York. Great skepticism about the system’s market potential prevailed as retailers just could not believe that video games would ever do well again given the market crash only two years previous. In fact, it is documented that Nintendo had to agree to buy back any unpurchased units in order to get the systems on shelves. Nintendo came prepared. The NES console, including the game Super Mario Brothers, was an instantaneous hit. Other games were available as well, primarily consisting of games from Nintendo’s existing lineup that largely drew on older arcade versions (Herman, Horwitz, Kent, & Miller, 2002; Kent, 2001). The model was clearly razors and blades; sell the console unit at a discount with a game included so that the unit was functional upon opening the box, and then sell a range of titles that worked on the system in order to create a revenue stream over time.

In essence, Nintendo enacted the blades portion of the business model in two ways. First, Nintendo published its own titles including Donkey Kong, Donkey Kong Junior, Golf, and Super Mario Brothers. This is a straightforward application of the
razors and blades model with Nintendo producing both the console and games. What Nintendo did differently was to establish partnerships with other companies in an effort to license games from these companies. This is where Atari’s experience with the Home Pong unit was pivotal. As discussed, several manufacturers merely made copies or variations of Atari’s console (and previously the arcade version). This was made possible through Atari’s failure to adequately protect its products. As a result, Nintendo learned from Atari’s mistakes and went to great lengths to protect the new system and the games that would be developed for it (Kent, 2001).

This protection worked in two ways. First, for cartridges to work with the NES console, they had to contain a security circuit that sent a code to the console unit. This code verified that the game cartridge was licensed to work with the NES console (Kerr, 2006; Wong, Atherton, & Lui, 1991). Second, Nintendo imposed a licensing fee on all companies wishing to produce titles for the NES system. In this way, Nintendo was able to expand its library of titles, and even though it was not creating these titles, the company was still making a profit from the sale of each game. This practice not only provided cash flow for the company, but also gave it stricter control over who could or could not make games insuring greater quality control for any products associated with the Nintendo brand. To this day, the practice is the standard in the industry, and with certain titles, companies maintain exclusive rights to a title so that it can only be sold for their specific console (Kerr, 2006). This is true of Nintendo who, for instance, keeps
control over the Super Mario and Legend of Zelda games – two very lucrative series for the company. Interestingly, this strategy did not work initially, and at first, Nintendo was not very successful in the United States due to the very strict licensing requirements. Nevertheless, Nintendo eventually made inroads into the U.S. market by setting up an agreement with Acclaim Entertainment that eventually paved the way for future agreements with a number of developers (Kent, 2001).

Since that time, Nintendo, Sony, and Microsoft have all followed a similar pattern. Every four to five years, a new console is released as a loss leader, and new games can be sold for each console system within the limits of the licensing agreements. For Nintendo, the cycle started in 1985 with the NES and continued with the Super NES (1991), the Nintendo 64 or N64 (1996), the GameCube (2001), and finally the Wii (2006) (IGN, 2006a; Time, 2011). Additionally, Nintendo has announced the future release of its next console, the Wii U for some time in 2012 (Ewalt, 2011). Furthermore, Nintendo followed a similar, although not quite so regular, pattern for its handheld units starting with the Game Boy (1989), the Gameboy Advance (2002), Nintendo DS (2004), and the 3DS (2011) (Schramm, 2010; Time, 2011).

Moreover, both Sony and Microsoft have used the same business model. Sony’s timeline is as follows: PlayStation (1995), PlayStation 2 (2000), and the PlayStation 3 (2006). Sony’s only portable unit so far is the PlayStation Portable (PSP), which was released in 2005, but a new handheld, the PS Vita, is expected to launch by the end of
the calendar year 2011 (Steinberg, 2011; Time, 2011; USA Today, 2006). For Microsoft, the launch dates were 2001 for the original Xbox and 2005 for the Xbox 360. So far, Microsoft has not released a handheld unit to accompany the Xbox series of consoles. No matter the company, the same business model has been followed for both console and handheld units. While the media has changed, for example from cartridges to discs, the idea is still the same: Sell a primary unit that contains an operating system and allows the games to be played, and then sell an expanding line of titles to maximize the life cycle of the original unit. Eventually, a new system is released and marketed based on better graphics than the previous generation. The one exception to the rule of developing better graphics is the Nintendo Wii, which did not focus on graphics, but instead, on gameplay mechanics through the new motion-directed controllers (Microsoft Corporation, 2010a, 2011f; Nintendo, 2011e; Sony Corporation, 2011a).

Interestingly, the Big Three often release their new consoles at or near the same time as one another resulting in direct competition for market share. Table 1 clearly shows the closeness of the release dates with the Sony PlayStation 2 coming out in 2000 and Nintendo’s GameCube and Microsoft’s original Xbox in 2001. For the next generation, Microsoft tried to beat the competition by releasing the Xbox 360 in 2005 while the Wii and PlayStation 3 both debuted in 2006 (Time, 2011). As well, it is important to note that the most recent generation of consoles are Internet-capable devices that allow the user to download games directly to the console’s hard drive. The available games
include new releases as well as re-releases of old games from earlier systems. This capability will be expanded on further in the next section, which details both subscription and online services. Moreover, games are often followed by what are known as add-on packs, which are games that usually require the original game in order to be played (Microsoft Corporation, 2011f; Nintendo, 2011e; Sony Corporation, 2011a).

Finally, another business strategy directly tied to the razors and blades business model is the practice of selling peripheral devices to improve or extend the original device’s capabilities. Peripheral devices, by definition, are “any input, output or storage device connected externally or internally to the computer’s CPU, such as a monitor, keyboard, mouse, printer, hard disk, graphics tablet, scanner, joystick or paddle” (PC Magazine, 2011). While commonly associated with personal computers, peripheral devices are used extensively with video game systems as well. Among the choices available are additional or enhanced controllers, batteries and chargers, headsets, cables, hard drives, video cameras, etc. More recently, both Microsoft (Kinect) and Sony (PlayStation Move) have released motion-controlled peripheral devices that enable the Xbox 360 and PlayStation 3 to operate in a manner similar to the Wii. One difference is that the Kinect does not require a new type of controller. All operation is conducted through hand and body movements. This move by the two companies allows them to develop a new line of titles that take advantage of the current
technology and increase profits directly associated with the original console systems (Kata, 2011; Microsoft Corporation, 2011f; Nintendo, 2011e; Sony Computer Entertainment America, 2011b). As the last part of the discussion related to the razors and blades business model, it is salient to point out that some industry executives are predicting its demise. One proponent of this view is John Riccitiello, CEO of Electronic Arts, who in an address to investors and industry analysts stated that “…the industry has radically changed and the pace of change has accelerated dramatically. Gone forever is the four-to-five-year console cadence that gave developers ample time to invest and retool for the next big wave” (CVG, 2011, para. 1). As evidence of his claim, he points to the rapid advancement in gaming and computer technology including the ability to download games to several types of devices including consoles, smartphones, and handheld gaming devices. As a result, he believes that direct-to-consumer digital services are the future (CVG, 2011). Even though Riccitiello boldly makes this statement, it is interesting to consider that all three console companies have the next generation of consoles already in development, as with the Wii U, or at least rumored among industry insiders such as with the PlayStation 4 and Xbox 720. However, current information is that Sony and Microsoft do not plan on an official launch until 2012 or possibly even 2013 or 2014. Such a move would effectively lengthen the traditional life cycle of the consoles (Reisinger, 2011). Whether or not his predictions
come true is yet to be seen, but it certainly has implications for the first research question in this study.

**Subscriptions and Online Services**

As noted in the preceding section, each of the Big Three has utilized the razors and blades business model as their fundamental revenue stream for both consoles and handheld devices. Based on launch dates that typically occur every four to five years, the sale of consoles and handheld units provide an occasional and inconsistent source of revenue in order to attract new customers, and that assumes that the consoles are not sold at a loss. The blades portion of the model, video games cartridges and discs, provides the primary source of income in between console launch dates. This is a more frequent source of income, but it is still inconsistent in that whether or not a profit is made and how much that profit amounts to is totally dependent on the success of each video game title. In fact, video games are largely a hit-or-miss industry with very few titles doing extremely well and many others breaking even or losing money (Helm, 2006). With relatively recent developments in technology, however, Nintendo, Sony, and Microsoft have the ability to develop a secondary revenue stream that provides a more consistent source of cash flow and expands the ways that regular game titles can be accessed.

Available in 2006, the Nintendo Wii revolutionized the way games were played with its motion-directed controllers. In addition, Nintendo added online functionality
for the first time to one of its console units through WiiConnect24 (Nintendo, 2011e, 2011f). The rather late offering of this feature was a serious lag considering that the original Xbox had Internet capability in 2002 (Microsoft Corporation, 2002), and Sony was similarly late in offering online access waiting until 2006 to debut the PlayStation Network (PSN) (Edge, 2006). What stands out with the Wii is that Nintendo does not charge any subscription fee; access is free with the purchase of a Wii console although a broadband connection is required (Kata, 2011). However, that does not mean that Nintendo is unable to profit from the Wii’s online capability. When starting the Wii, access to its features is handled through the Wii Menu. From this menu, several channels are available to the user including free and paid services (Nintendo, 2011g). Please note that the paid services referred to here are not a subscription to Wii’s online service, but to services from other companies who have partnered with Nintendo. One of these companies is Netflix, which saw its Netflix Channel launched on Wii in 2010 (Netflix, 2010). For a monthly subscription rate of $7.99 per month, users can stream television shows and movies through their Wii console. A broadband Internet connection, mentioned earlier, is also required, and the cost of that connection is not included as part of the Netflix subscription service or as part of the purchase price for the Wii (Nintendo, 2011a). At this time, no specific information is available that details the type of agreement between Nintendo and Netflix, but some type of revenue sharing and/or licensing agreement is probably in effect (Guajardo, 2009). According to Netflix
2010 Annual Report, “Our agreements with our consumer electronics partners are typically between one and three years in duration” (Netflix, 2011, p. 7) so it is at least evident that some type of agreement is in place. Moreover, Netflix directly reports that they use third-party networks to deliver content and that their “content delivery expenses increased [in 2010] due to higher costs associated with our use of third-party delivery networks resulting from an increase in the total number of hours of streaming content viewed by our subscribers” (p. 25). Given the recent addition of Netflix streaming through Xbox, PS3, and the Wii, the Big Three most likely have contributed to this growth.

Other channels also available from the Wii Menu include the Nintendo Channel, which allows the user to watch a variety of videos related to new games, miniature documentaries, and information about Nintendo products. In addition, the Wii makes available a photo channel, a weather forecast channel, a news channel, and an Internet channel among others, and all of these features are part of the basic service (Nintendo, 2011f, 2011g). More importantly, the Wii Menu has a Wii Shop Channel that allows the user to purchase games from Nintendo’s large library that is comprised of games from all of Nintendo’s earlier platforms (NES, SNES, N64,) as well as games from the Sega Genesis and NEC TurboGrafx16 platforms (Nintendo, 2011g, 2011h). Furthermore, Nintendo’s handheld units, the DS and 3DS have the ability to connect through a wireless network and likewise have the capability of downloading games. The 3DS can
also stream Netflix just as the Wii can (Nintendo, 2011c, 2011d). That means that
Nintendo can continue making profit from games that have long since entered the
decline phase of their respective life cycles, or that have not been produced in a number
of years. As a result, even though Nintendo does not charge a subscription fee, the
company is still making a profit by offering this large collection of video game titles for
download. In a sense, this is simply a variation of the razors and blades model since the
consumer must first own the console or handheld before having the capability to access
the games for which, of course, they must pay. This ability, though, is totally made
possible through the online service. The only difference is that the games are
downloaded digitally instead of purchased on a cartridge or disc from a retail outlet.

Sony, as well, has online capability through its PlayStation Network (PSN),
which became available in 2006 – the same year the PS3 was released. Similar to the
Wii, PSN is a free network that provides access to a number of media such as free
demos, downloadable games, and add-on packs. The business model is very similar to
Nintendo’s in that all of these features can be accessed free of charge with the exception
of streaming content through Netflix, which charges the same rate across all platforms
($7.99 per month). Sony also adds access to television shows and movies through Hulu
Plus. The same monthly subscription rate is charged as with Netflix (Hulu, 2011). As
well, Sony makes games available for download through its PlayStation Store so it also
continues the razors and blades model online just as Nintendo has (Sony Computer Entertainment America, 2011d).

What is decidedly different about PSN is that it also makes television shows and movies available for rent or purchase. For $1.99 per television show or $2.99 per movie, a PS3 owner can rent the specific title for a two-week period. Once the user starts the show/movie, he or she has 24 hours within which to watch. As an option, the PS3 user can purchase — instead of rent — the title for $9.99-$14.99 per title. Purchased items can also be backed up to an external hard drive, a feature unique to the PS3 (Sony Computer Entertainment America, 2011d). An additional difference between Nintendo and Sony is that Sony has a second level of online access known as PlayStation Plus that was launched in 2010. Unlike PSN, access to PlayStation Plus requires a subscription fee. For three months of access the cost is $17.99, and for a full year the subscription is $49.99. By paying the subscription fee, users gain access to free games not available on PSN as well as additional discounts on PlayStation Store purchases. Other benefits include online storage for games, early access to demos, and full game trials that can be played for one hour (Sony Computer Entertainment America, 2011d, 2011e). Because of the nature of a subscription, the revenue stream is certainly more consistent over time than the revenue stream tied to console and game title releases. Lastly, the PSN can also be accessed by the PSP and PS Vita, both handheld devices that feature online connectivity through Wi-Fi. The PS Vita goes a step further by adding 3G capability
(through AT&T) and also adds the ability to work closely with the PS3 for gameplay and television show/movie viewing. For instance, if an individual is watching a movie through a PS3, he or she can continue watching the movie while away from home on a PS Vita (Sony Computer Entertainment America, 2011f).

Announced and launched in 2002, Microsoft’s Xbox Live has been around longer than any other online system for consoles. The features are again similar to Nintendo and Sony. With Xbox Live, users can chat with friends during gameplay, download additional games, preview games, play free demos, and access the Internet. Also like Nintendo and Sony, Microsoft charges a regular price for games that are downloaded directly to the Xbox hard drive from Xbox Live and manages to earn additional profit in this manner (Microsoft, 2011d). In addition, Microsoft has set a completely different price structure for Xbox Live than that used by Sony or Nintendo. Once connected to Xbox Live, the user has three choices. First, a free membership, sometimes referred to as Xbox Live Silver, may be selected that includes all of the previously mentioned features. Moreover, Microsoft offers a second and third choice including two paid subscription choices known as Xbox Live Gold and its related option the Xbox Live Gold Family Pack. The standard Xbox Live Gold membership includes all of the features included in the Silver membership, but adds several additional features. Most noticeably, Microsoft requires the Xbox Gold membership in order to play games online (Microsoft Corporation, 2011h). Conversely, no subscription is required for online
game play on Wii or PSN (Kata, 2011; Sony Computer Entertainment America, 2011e). Other additional features include the ability to access Netflix, Hulu Plus, live sports from ESPN, access to Facebook and Twitter and personalized music from Microsoft’s Zune media player and Last.fm. The Xbox Live network can also be used to rent movies and download television shows using the Point system (Block, 2006; Kalning, 2008; Microsoft Corporation, 2011h).

As indicated, Microsoft offers Netflix through the Xbox console and was actually the earliest of the Big Three to do so. In fact, until 2010, Xbox had an exclusive agreement with Netflix that limited Netflix’s ability to form contracts with Nintendo or Sony (IGN, 2008; Kalning, 2008; Netflix, 2010; Reuters, 2009). Again, while details are not available, it is probable that Microsoft has some sort of revenue sharing or licensing agreement in place with Netflix in order to capitalize on the partnership. As with Nintendo and Sony, a $7.99 per month subscription fee must be paid to Netflix. Likewise, additional costs may be incurred to the user for accessing ESPN, which requires an ESPN3.com broadband provider, and streaming capabilities through Zune requires a Zune Pass subscription. Details on any agreements for licensing or revenue sharing are also not available for these companies, but it is highly likely that Microsoft is earning some sort of revenue for the privilege of using their console for streaming services. The second paid subscription option, the Family Pack, adds a few features, but essentially spreads the ability to access the Xbox Live Gold features across four
accounts, whereas the standard Xbox Live Gold membership only allows access by one account on the system. Additional elements in the Family Pack include the ability to manage the family members’ memberships in the Xbox Live Family Center, the capability to view reports on family member usage, avenues for distributing Microsoft Point Allowances to family members (see discussion below on Microsoft Points under Microtransactions), and special discounts on games considered family-friendly (Microsoft, 2011h). Current subscription fees for Xbox Live Gold are $9.99 per month, $24.99 for three months, and $59.99 for a full year, and the family pack runs $99.99 per year (Microsoft Corporation, 2011g; Quails, 2011). On a final note regarding Microsoft and Xbox Live, while Microsoft does not have any handheld devices similar to the Nintendo 3DS or Sony PSP/Vita, the company has recently extended its access to Xbox Live through smartphones using the Windows Mobile 7.0 operating system (Wilson, 2010). However, this study is limited to standard handheld gaming devices already addressed.

In conclusion, the significance of online gaming through the various consoles cannot be understated. Many within the industry, including Electronic Arts CEO John Riccitiello, believe that this technology will change the industry (CVG, 2011). In fact, in a research report from Parks Associates regarding online content and services, several forecasts were made. First, based on recent growth in the industry and the aforementioned technological changes, it is expected that in 2013, online content and
services for Nintendo, Sony, and Microsoft will generate close to $9 billion worldwide (Parks Associates, 2008). The revenue streams in this forecast include “digital video distribution, downloadable games and content, virtual worlds and avatar-based microtransactions, multiplayer gaming services, and dynamic in-game advertising” (para. 2). Moreover, additional media outlets, such as HBO, are starting to make programming available through game consoles. Announced in August 2011, HBO has made clear its plans to make HBO Go available through Internet-connected televisions and video game consoles (Lawler, 2011). This move signals an expanding source of income for all three companies. Clearly, online content and services is a growing portion of revenue for console makers.

**Microtransactions**

Related to online gaming, but a business model that deserves its own attention, is the idea of earning revenue through microtransactions. Depending on where you look, definitions for microtransactions take a few different forms. One of the earliest ties to online gaming in massively multiplayer online role-playing games (MMORPGs) such *World of WarCraft*. The concept was simple – offer the game player the option to purchase additional items for the game at a nominal fee that is separate from the price already paid for the game. This practice was also commonly used in online games that were initially free. In *World of WarCraft*, players were first able to purchase virtual pets for ten dollars apiece. The offering met with some resistance at first since players had
already paid for the game and were also paying a monthly subscription fee to continue playing. Second Life did something similar by allowing the sale of several types of in-game items such as clothing (Edge, 2008; Mastrapa, 2009). Other definitions center around selling casual games at a price point lower than that of regular titles, usually ten dollars or under. Many of the games sold for mobile devices fit this definition. It is essentially the iTunes model of selling individual titles for a relatively small cost (Edge, 2005). This type of microtransaction is also evident for add-on packs for games already owned. For a smaller cost, gamers can purchase an add-on pack that extends the current game in some way. As shown through these examples, microtransactions are essentially revenue that is earned in smaller portions over time.

Until recently, the Big Three have been rather slow to adopt the business model. In fact, Nintendo has been fairly resistant to the idea, but appears to be considering the model’s potential. In a recent interview, Nintendo’s president, Satoru Iwata explained that given the right situation, Nintendo might consider extending the life span of a game by distributing additional stages (add-ons) for the game for a nominal charge (Orland, 2011). Additionally, Iwata stated that because Nintendo was concerned with maintaining relationships with its customers, the company would not consider using microtransactions to “unlock something or some large advantage” (para. 10). His reference is to items within a game that give a player a strong advantage over other players. However, the only way to acquire such an item is to pay for it. The more
powerful the item, the higher the cost. Such a system has direct implications for political economy within the virtual world where the ability to pay would give a distinct advantage to those who could afford it. In contrast, Sony has already tested the marketplace by releasing the first free-to-play MMORPG on PSN this year (2011). While the download is free, game players can buy in-game items using Sony’s network. As a result, *Free Realms* is the first free-to-play MMORPG on any console. Items available for purchase include pets, clothing, and special items (Maxwell, 2011a; Zenke, 2008).

Furthermore, Microsoft has been using a variant of the microtransaction model through its Microsoft Point system on Xbox Live. Instead of directly accepting financial payment for any transactions, Microsoft has users purchase or earn points that can be later used to acquire items. The advantage to the Point system is that it works well across international boundaries since no currency conversion is necessary. Using Xbox Live Marketplace or Xbox.com, Xbox users can buy points that are then added to their accounts. Points may also be awarded through special promotions or purchased in the form of gift cards from local retailers. Once points are obtained, users can redeem them for maps, pieces of equipment, weapons, and other items that can be used in multiplayer online games and single-player offline games. Microsoft also allows customers to use points for renting television games and shows through the Marketplace as well as for purchasing new levels and demos for games (Microsoft
Corporation, 2011d). With the Point system as its base, Microsoft will reportedly offer free-to-play games on Xbox Live very soon. According to Peckham (2011):

Microsoft’s reportedly looking at two common free-to-play models: in-game items and premium upgrade tiers. Games based on the former model usually allow players access to most features, but charge small amounts for special items or the option to "shortcut" game processes by paying for fast-track upgrades. The latter makes everything below a certain threshold free, then charges if players want access to higher-placed premium content. (para. 2)

This move, and likely Sony’s, is probably driven by recent demands from developers to start using the microtransaction model on console systems who are looking to offset the large development costs associated with creating a new game (Brown, 2011; Maxwell, 2011b; Peckham, 2011).

Advertising

Advertising in video games is another growing business model in recent years. In all actuality, media consultants are actively encouraging advertisers to consider the use of advertising in video games as a legitimate outlet for promoting their products. In the past, advertisers have partially dismissed video games as a serious conduit for promotion because of the public’s association of video games with violence and the stereotype of gamers as teenage boys who advertisers saw as a limited market. However, recent research is showing a different picture including an expanding
demographic for gender and age as well as a wider variety of games being created by developers. These changes are making video games a much more attractive alternative to other forms of media. Strong sales nationally and worldwide have added to the appeal. What’s more, the continued growth of casual games, which target a larger, more mass-market type of audience, also garners the attention of advertisers. Indeed, when comparing casual gaming to console, or core, gaming, reports show that casual gamers are 60% female as opposed to the 80% male population for core (console) gaming. Age tends to be higher for casual gaming as well (Entertainment Software Association, 2011; Sadler, Kelly, & Rhind, 2008).

Furthermore, advertising in video games can be broken down into two types: in-game advertising and advergaming. The first type, in-game advertising, involves brand placement within a video game. The player then sees the brand while playing the game since the brand is now part of the narrative. For example, Unilever’s AXE brand appeared as a neon sign in the 2005 Ubisoft game Splinter Cell: Chaos Theory. Additional examples include a Shell gas station appearing in Test Drive Unlimited for Xbox 360 and both McDonald’s and Coca-Cola signs within the Doom 3 game. These are examples of static ads that are hard-coded into the game – they do not change. In addition, another type, called dynamic in-game advertising, is currently available on consoles that are connected to the Internet. Essentially, dynamic in-game ads can be revised each time a person plays the game. To accomplish this task, an ad-serving agency considers a
user’s geographic location, time of day, day of week, etc. to customize the ad that appears. This method allows more specific targeting of the advertisements helping to insure the best exposure to a brand (Entertainment Software Association, 2011; Sadler, et al., 2008).

Advergames, the second type of video game advertising, are either sponsored or commissioned by a marketer. The game is designed around a brand from the beginning, and then made available to the public to play free of charge or for a small fee. While playing the game, brand awareness is built and customized messages are sent. The central idea is to wrap the brand in an entertaining package. The most well-known example of console games to utilize advergaming involved Burger King and a series of games produced for the Xbox 360. These games featured the King character who had already been established with audiences through a series of television advertisements. Packaged with a Value Meal, the games cost four dollars each and over two million games were sold. As a result, Burger King was able to generate $8 billion in additional revenue. Policies for advertising in video games varies among console manufacturer with Microsoft and Sony actively embracing the business model for the Xbox 360 and PS3 while Nintendo maintains a no advertising policy (Entertainment Software Association, 2011; Sadler, et al., 2008). The Entertainment Software Association adds that by 2014, in-game advertising is expected to reach $1 billion, although it is not specified as to whether this figure is for the U.S. market or if it is
global (Entertainment Software Association, 2011). Interestingly, Microsoft purchased its own advertising company, Massive Incorporated, in 2006 to specifically handle in-game advertising and advergaming for the Xbox 360 in a move to integrate horizontally. The results were not good, however, and Microsoft closed the advertising unit in 2010 (Richtel, 2006; Shields, 2010). Each of the preceding business models has been successful to some degree, and certainly new business models will be developed as technological changes provide new opportunities. As such, it is important from a political economic perspective to continue tracing these new opportunities. With the preceding business models in mind, the second research question will be addressed regarding business models and planned obsolescence.

**Video Game Business Models and Planned Obsolescence**

As a reminder, remember that planned obsolescence has been defined as “a method of stimulating consumer demand by designing products that wear out or become outmoded after limited use” (Planned Obsolescence, n.d.). With that definition and the earlier discussion on video game business models in mind, the second research question needs addressed:

**RQ2:** To what extent are business models in the video game industry for console and handheld video game systems and software dependent on planned forms of obsolescence?
To answer that question, each of the business models just discussed will be examined individually.

*Razors and Blades*

Out of the four business models, the razors and blades model is most directly tied to planned obsolescence. Considering that console systems have historically run on four to five year cycles, their longevity is certainly partially predetermined. Handheld units have followed a similar path, but without the regular intervals seen with consoles (Time, 2011). One related issue is backward compatibility, which is defined as being congruent with earlier versions of the same system (Backward Compatibility, 2006). A related question, then, is how have the Big Three integrated, or not integrated, backward compatibility into their console units. For most of Nintendo’s history with video games, backward compatibility was not included. In fact, it was approximately twenty years after the original NES was released before the practice changed with the release of the Wii. The Wii was backward compatible with the GameCube, and through its online access, older games from different systems could be played (Sinclair & Torres, 2005). Newer to the gaming market, Microsoft provided partial backward compatibility between the original Xbox and the Xbox 360 that was considered superficial at best (Respondent J1, personal communication, March 2, 2010), while Sony did likewise for the PS1 and PS2 with the PS3. In addition, Sony made backward compatibility
available on certain higher-priced models of the PS3, but not on others (Cnet Reviews, 2011; IGN, 2006b; Sony Computer Entertainment America, 2011a).

Backward compatibility is an issue primarily because lack of it forces users to purchase new consoles if they wished to continue playing games. As shown, this was especially true for Nintendo who, until recently, did not make backward-compatible consoles. As a result, once a console was replaced, users could only obtain games for a short period of time on the older system because production would eventually stop. At this point, gamers could either continue playing the existing games or buy the new system so that new games could be purchased.

In this sense, planned obsolescence was tied to the razors and blades business model to a high degree. While some products, such as actual razor blade handles, do not undergo any great degree of transformation over time, video game consoles change at a more rapid pace due to technological changes that make new functionality available such as better graphics or new gameplay mechanics that came about with the motion-directed controllers. Thus, if the business model is to continue, new consoles must be released and with them, new game titles. The use of planned obsolescence in the video game has been well documented by Ding, Hicks, and Ju (2011) who directly examine the practice of planned obsolescence from a different point of view. According to the authors, “The video game industry is ideal to examine planned obsolescence because...video game producers often release new generations of their products at set
intervals, especially for popular and successful games, suggesting that for specific product lines, the timing of the new generation release is plausibly exogenous” (p. 3). The exogeny referenced above is to the practice of releasing video games at intervals tied to certain regular occurrences outside of the video game industry. This practice is best exemplified by the sports titles released every year. As a result, when the new baseball season approaches, new titles will be released to correspond to the growing consumer interest in both baseball and playing the game on a console. As an example, the video game *Major League Baseball 2K11* was released on March 8 of 2011 approximately one month prior to the start of the real major league season, which began on March 31 of the same year (IGN, 2011; Major League Baseball, 2011). The same is true for other sports such as football, basketball, golf, and hockey. The primary attraction for potential buyers of these games includes improved gameplay and overall gaming experience as well as the opportunity to play with updated rosters. Games tied to the film industry follow a similar pattern of release except the pattern is not as regular as an annual sports season. The games based on the *Harry Potter* series of films/books are a good example in that video games were released after the film’s opening.

However, the Big Three do not produce the sports franchises such as *Major League Baseball 2K11* or the *Harry Potter* games. Instead, each of the Big Three have their own franchises including the *Mario* and *Zelda* series of games for Nintendo consoles
(Nintendo, 2011j), the *Halo* series for Microsoft (Microsoft Corporation, 2011b), and the *Ratchet & Clank* series for Sony (GameSpot, 2011). As shown in Table 2, except for the sporadic release dates near the beginning of the franchise, the *Legend of Zelda* series has seen a new release every one to two years since 1998. Likewise, one can see in Table 3 that the *Halo* series of games saw irregular release patterns early in the franchise’s life, but once the Xbox 360 console system was released, five different *Halo* titles were released within four years and a sixth title is planned for 2012. In comparison, Sony’s *Ratchet & Clank* franchise saw more regular releases between the PS2 and PS3 consoles with ten separate titles over nine years (see Table 4). Sony also broke the trend by releasing part of this series for the older PS2 console after the PS3 was on the market. The closest similarity is one Nintendo released the *Twilight Princess* game for both the GameCube and Wii in the same year.

Consequently, planned obsolescence is directly tied to business models in three ways. The first is through the periodic release of new console units, and the second is through the release of new titles such as the sports titles mentioned above, which effectively replace the previous version of the game. Planned obsolescence is also practiced with peripheral devices, which are made available when new consoles are released. Accept for a few exceptions, like the Wii’s ability to use GameCube controllers, most peripheral devices do not work with the newer systems.
Subscriptions and Online Services

Unlike the razors and blades model, planned obsolescence has not been closely tied to online content and subscription models. If anything, the ability to access older games by downloading them to the new consoles is the reverse of planned obsolescence; instead of making old games obsolete, the new consoles have enabled video game companies to extend or restart the revenue stream for titles that were at the end of their life cycle or already out of production. Similarly, subscription models do not have a direct tie to the planned obsolescence. In fact, these networks generally persist over time as new consoles become available. Upgrades to the networks are handled internally and do not interrupt the subscription process. Indeed, one can argue that access to these networks might extend the life cycle of current systems since updates for the operating system are either manually or automatically downloaded and installed (Microsoft Corporation, 2011i; Nintendo, 2011i; Sony Computer Entertainment America, 2011g).

Microtransactions

In comparison, microtransactions do appear to be dependent on planned obsolescence, but the question that needs answered is whether or not the obsolescence is a result of the microtransaction business model or if it is an artifact of the razors and blades model. Earlier, two types of microtransactions were discussed. The first involves the sale of items within the game itself including pets, clothing, and weapons.
Although these items do not become obsolete in the sense that they are replaced, they do become obsolete in the sense that once a new console or series title (as in MLB 2K11) becomes available that replaces the previous game, those items become useless. As a result, their obsolescence is more directly tied to the obsolescence of the console/title. Since this is a burgeoning business model, it is still too early to tell if the usability of these items will always end with the advent of a new console or replacement title. Certainly, the gaming industry, including the console manufacturers and the games they make, have it within their power to carry these items over from console to console and game to game. However, this choice would seriously disrupt the revenue stream generated by the sale of such items. The second type of microtransaction was the practice of making games and add-on packs available for a small fee, in essence selling these titles at a reduced cost to either casual gamers or to hard-core gamers as is the case with add-ons (Edge 2008). For this type of microtransaction, planned obsolescence is even more loosely connected. Casual games, such as those available for download, can be played over and over and generally have no expiration date so to speak. They do not rely on high-end graphics the way typical console games do. The exception to this rule is if a new version of a casual game title is released; in that case, the older version becomes less desirable to play. Moreover, add-on packs basically extend the current game so that it can be played for a longer period of type instead of obsolescing itself. Overall, it appears that the relationship between planned obsolescence and
microtransaction is tenuous. Instead, any relationship to obsolescence appears to be more of an artifact of the razors and blades model.

Advertising

Recall that two types of advertising were discussed – in-game advertising and advergaming. In-game advertising involved placing brands into the game world itself making the ad a part of the narrative itself. Conversely, advergaming involves building a game completely around a product to be marketed such as with the games created for Burger King and Xbox 360 (Sadler, et al., 2008). In the case of in-game advertising, there is some dependence on the practice of planned obsolescence. The primary reason for this dependence is because, over time, brands change, and as long as a static model is used, the brand can become outdated, or even nonexistent. As a result, it is important for marketers to have new video games within which to place their ads. There is less dependency on planned obsolescence in games that utilize dynamic in-game advertising. Recall that dynamic ads change based on the gamer’s location, time of day, etc. (Sadler, et al., 2008). As such, he or she can be exposed to a different set of brands, or even updated ads, each time the game is played. Moreover, advergames, by their very nature, are designed to become obsolete since they are designed to promote a specific product. Once the promotion has passed, the game’s playability greatly diminishes. In time, a new game may be designed around the same brand as part of a new promotional effort (Sadler, et al., 2008).
Conclusions for Planned Obsolescence

When examining these three business models, the level of dependency on planned obsolescence varies considerably. The strongest connection is between planned obsolescence and the razors and blades business model where a definite pattern is in place. The connection between planned obsolescence and online content/subscriptions is much weaker. If anything, this model may extend or resurrect the life of a game and even a console. At first, microtransactions seem to have a connection to planned obsolescence, but that connection has been shown to be more of an artifact of the razors and blades model. Lastly, the connection between planned obsolescence and advertising appears to depend on the type of advertising: Static in-game advertising and advergames are more dependent and dynamic in-game advertising less so. Next, the third research question, which examines the externalities associated with video games, is addressed.

Video Game Industry Business Models and Externalities

The following discussion will examine externalities and any connection they have with the business models addressed above. As a reminder, the third research question asked:

RQ3: What externalities are associated with business models in use by the video game industry for console and handheld video game systems and software?
To begin, the externalities identified in the literature review will be revisited including violence, military connections, gender, race, and the environment. In addition, the connection between video game business models and health issues, a relatively recent issue of concern, will be added. Situated within the discussions of these externalities, the various business models and their ties to the externalities will be considered. As defined, an externality is a positive or negative effect on an individual or individuals as a result of another’s actions. A positive externality results when an individual or firm not involved in producing or consuming a good or service receives some benefit from said production or consumption. On the contrary, a negative externality results when an individual or firm not involved in producing or consuming a good or service is detrimentally affected by said production or consumption (Johnson, 2005).

Violence

As documented, the issue with violence in video games and their alleged tie to aggression is still up for debate. There are those studies that have linked the two together. On the other hand, our society has not seen a large increase in violence that one would normally expect given the number of our youth and young adults who grew up playing violent video games (Barlett, Anderson, & Swing, 2009; Gauntlett, 2005; Jenkins, 2004). On the negative side, if there is a link between violent video games and aggression, even if that link is strongest when a predisposition to violence is present, then the razors and blades model has the potential to reinforce such tendencies. This is
true not because of any innate qualities built into new consoles, but more so because the model is built around stimulating demand for games – and violent games have historically sold well. CNBC special correspondent, Chris Morris (2011), reports on a list of the all-time top selling video games as compiled by the NPD Group. Included on the list are Call of Duty 4: Modern Warfare, Call of Duty: Modern Warfare 2, and Call of Duty: Black Ops. Previous years have included versions of Microsoft’s Halo series (Riley, 2010). In addition, Amazon reports that as of August 11, 2011, its current top-selling video games include Gears of War 3, Star Wars: The Old Republic Collector’s Bundle, Call of Duty: Modern Warfare 3, and Mortal Kombat (Amazon, 2011). Each of these titles contains a large amount of violence that can potentially reinforce existing patterns of behavior. On the positive side, the same NPD report showed several non-violent games topping the list as well including Mario Kart, Wii Fit Plus, Guitar Hero World Tour, and Wii Play. While this latter set of games has some element of competition built in, the focus is more social in nature than it is violent. If the effects model does hold true, then the rise of these types of games up the sales chart should be positive.

With this information in mind, it is difficult to assert any definite connection between the razors and blades business model and issues of violence. At best, one can claim that a potential connection exists. This is less true for the online and subscription model. Within this category, the Big Three have maintained revenue streams by making online content, including new games, old games, and add-on packs available
for download. Since these games are no longer tied to a specific console, any potential tie to violence is eliminated. The use of licensing agreements and revenue sharing for third-party subscriptions to television and movies is also not tied to the razors and blades model since there is no dependence on the console itself. The connection is to the ability to access the Internet, a feature that will most likely be a part of future generations of console systems, but which is maintained separately from the console through an Internet Service Provider. Moreover, no direct connection exists either between the payment of subscription fees, such as for Microsoft’s Xbox Live, and the violence externality since the subscription fee simply allows access to online gaming among other features.

In regard to microtransactions, the variant of the model that involves selling add-on levels for games does have the potential to connect to violence for the same reasons discussed above for the razors and blades model. However, this connection seems tenuous at best. On the other hand, one’s ability to purchase additional items, such as clothing and weapons, is worth considering. Remember that in this version of the microtransaction model, players who wish to extend their capabilities can do so by purchasing a variety of items including weapons. In a competitive environment, where winning, and often killing, your opponent is rewarded, the ability to gain a competitive advantage becomes attractive. This logic can hold for clothing too since some clothing gives its wearer extra protection during battle. It is most certainly true for weapons that
can strike down opponents very quickly. Assuming the connection between video
game violence and aggression holds true, the microtransaction business model can act
to reinforce aggression in the player’s quest to dominate other gamers through the
purchase of powerful weapons and protective clothing. Finally, the advertising model,
for both in-game advertising and advergaming, does not seem to be associated with the
issue of violence as the point of the advertising is to create meaningful associations with
the brand being marketed. The advertisements themselves and the brands they
promote do not stimulate violence because the game player is exposed to the
advertisement.

What is not presented in the preceding discussion is any mention of domestic
violence, cultivation effects, or mean-world syndrome. The primary reason for this
omission is twofold. First, any discussion of connections between video game business
models and domestic violence is essentially included in the discussion above; there is
no need to address it separately. Second, the extremely weak connections and mixed
results for video games, cultivation, and mean-world syndrome make it difficult to
draw any conclusions regarding the potential connections to the business models under
consideration. As a result, these issues are not directly addressed.

Connections to the Military

Recall that there are essentially three areas of concern in regard to externalities
associated with military connections to the video game industry. The first is the
military’s use of video games as a recruiting tool. The second is the use of video games as a training tool, and the third is the spread of ideology from both U.S. and terrorist perspectives. One problem is that the military is not developing and distributing games to make a profit. Instead, they are either producing their own games for internal training purposes or distributing the game for free, as with *America’s Army*, in order to attract recruits. When any branch of the armed forces contracts with a developer to create a game, usually two versions are made – one for the developer to sell in order to make a profit and the other that the military will use for its own purposes. As a result, it is difficult to tie the military externality to any of the business models discussed in this work.

With that said, there are some important considerations. For one, even when games are made available for free, it is still necessary to produce sequels or new games in order to keep the gamer’s attention. Quite simply, game players finally become bored with a game and therefore eventually stop playing a specific title. *America’s Army* is the perfect example of this phenomenon as new iterations are periodically made available. As a result, even though the Army is not profiting financially from the sale of the newer games, they do obtain new opportunities to expose game players to the military’s ideology and gain new chances to recruit by essentially following planned obsolescence model for distribution. Online distribution similarly works to the military’s advantage as they can again reinforce the ideology and step up recruiting
efforts by directly connecting to the end user. At this time, microtransactions do not have any real connection, but one can argue that the games produced by or for the military act as both in-game advertisements and advergames since these games are essentially marketing tools. As a result, while the profit motive is removed, other types of capital become involved as the armed forces do gain a benefit from increased recruiting, training of soldiers, and spread of the military ideology. From the viewpoint of the terrorist, the continued and periodic release of these war games provides opportunities for them to recruit their own soldiers as they can provide examples that justify their claims of U.S. and Western attempts to control and dominate world politics. Moreover, terrorist organizations can also easily access video games, paid for and developed by other countries, and then modify these games at a fraction of the cost. The ability to download content directly from the Internet makes this prospect even simpler.

**Gender**

In the literature review, much of the discussion on gender centered around two problems. One is the historical lack of female characters in video games, and the second is the sexualization of those characters (Beasley & Collins Standley, 2002; Dietz, 1998; Dill & Thill, 2007; Glaubke, Miller, Parker, & Espejo, 2001). On the positive side, there has been the recent growth of casual games and a larger proportion of female game players within the genre (Sadler, et al., 2008). Therefore, the trend appears to show an
increase in female gamers, at least for casual games, which is an encouraging step for the industry. Unfortunately, the situation has not improved as much for the sexualization of female game characters. Indeed, a study by Downs and Smith (2010) confirms the findings of previous research that women are still typically posed in more provocative ways than men, wore more revealing clothing, and had unrealistic body proportions. These results were strongest for games available on the Xbox 360 and less so for the PS2 and GameCube. As a result, the persistent, negative stereotype of women as sex objects appears to continue unabated. A third issue with gender in video games is the underrepresentation of female characters. Sadly, this finding too has been persistent as revealed by the Williams, Martins, Consalvo, and Ivory (2009) study and another by Martins, Williams, Harrison, and Ratan (2009). The issue with the razors and blades business model is related to the fact that with each console generation, previously successful video game titles are often simply re-released or new installments in the series are created. This practice only serves to reinforce the existing stereotypes regarding females as old characters are recycled, and even when new characters are present, they tend to follow the same stereotypes found in earlier installments in order to maintain a consistent virtual world with which the game player is familiar. The effect of repeating these stereotypes is evidenced in a study by Dixon and Linz (2000) that showed how media stereotypes portraying a group in a negative manner bolsters
stereotyping by other groups. Consequently, an association between gender issues and the razors and blades model is evident.

The same can be said for the downloadable content portion of the online and subscription model. As users play games, whether old, new, or add-on packs, the repetition of these stereotypes serve as a reinforcing factor. Licensing agreements and revenue sharing with third parties, as well as subscriptions do not appear to be associated with issues of gender for the same reasons provided in the discussion of violence. There is no direct connection. Microtransactions, on the other hand, do connect to gender issues when add-on packs, which mirror the aesthetics and design choices of the original game world, carry on the same stereotypes. In addition, microtransactions also have an association with gender issues insofar as the available clothing items typically follow the stereotypical patterns for female characters – they are revealing in very sexual ways. Conversely, weapons as downloadable items do not have the same connection since they are not generally sexual in nature. Furthermore, like the violence issue, advertising does not seem connected to gender issues, except for when similarly provocative stereotypes are used, but even then, the business model does not drive the stereotype.

Race

Unfortunately, stereotypes abound in race as well as gender, and the discussion looks much the same as the one for gender; not much has changed. As before, non-
white racial groups are generally underrepresented, and when they are present, these characters are based on racial stereotypes. Once again, the Williams et al. (2009) study comes into play, clearly showing that African Americans, and especially Hispanics, Native Americans, and Asians are seriously underrepresented in video games. Reinforcement of racial stereotypes has also been found in a more recent study by Cicchirillo, Mahood, and Appiah in 2010. Similar to the reasons for gender, the razors and blades model works to continue these underrepresentations and stereotypes in video games much to the detriment of the game player and society at large. The conclusions for online and subscription models, microtransactions, and advertising models mirror those put forth for gender as well.

The Environment

Perhaps the strongest connection is the link between the razors and blades business model and effects on the environment, which can be broken down into two sections including the continued depletion of our natural resources and the degradation of the environment. The very nature of the razors and blades business model relies on replacement of the console unit every few years as well as the production of new game titles on cartridges or discs. It is simply a pattern of consumption, replacement, and disposal. Unfortunately, this pattern is not one that is friendly to the environment. As reported by the EPA (2010d), a total of 2.37 million short tons of e-waste were added to the waste stream in 2009 including several types of consumer electronic products.
Moreover, much of this e-waste was actually whole electronic equipment or parts that could have been recycled or reused. While the totals presented by the EPA include all types of consumer electronic products, video game-related products are certainly in the mix, and even if video games only account for a fraction of the total consumer electronics waste, video game would have to account for a significant portion.

Additionally, the environmental impact is wide ranging. For one, a wide variety of metals such as lead, nickel, and cadmium, are contained in consumer electronics, and many of these are considered toxic to humans as well as other plant and animal life.

The EPA does estimate that most of this e-waste is safely secured in municipal landfills. They do not, however, guarantee that leakage into the environment will not or cannot occur (Environmental Protection Agency, 2010d).

Earlier, two potential effects on the environment were listed. The first was the process of using up of our natural resources, and the second was the degradation of the environment. Interestingly, as detailed above, the regular disposal of consumer electronics goods in landfills, which can lead to environmental degradation and serious health issues, actually exacerbates the problem related to using up our natural resources. The EPA very clearly states that by simply recycling or reusing most of these goods, we could save on energy and materials that will otherwise have to be taken from the environment in the process of manufacturing new goods. Air and water pollution can be similarly reduced (Environmental Protection Agency, 2011d). It is ethically
important to note that recent moves toward backward compatibility by the Big Three do help reduce some of this waste since console owners are less likely to simply discard old discs if they can be used in the new system.

For their part, each of the three console manufacturers does have environmental policies in place and encourage recycling. They also promote additional forms of corporate social responsibility including green methods for manufacturing and policies related to global warming (Microsoft Corporation, 2011c; Nintendo, 2011b, Sony Corporation, 2011b). Despite these efforts, Greenpeace has criticized all three manufacturers for poor environmental practices. On the negative side, both Nintendo and Microsoft have been ranked at the bottom of the list. In a 2010 report entitled the *Guide to Greener Electronics*, Greenpeace ranks a number of consumer electronics companies on their treatment of toxic chemicals, e-waste, and energy use and emissions. While Sony ranks in the middle of the pack scoring an overall ranking of 5.1 out of 10, Nintendo and Microsoft are dead last scoring a 1.8 and 1.9 respectively (Greenpeace, 2010).

Essentially, Greenpeace (2010) is interested in three outcomes. First, they believe electronics companies need to eliminate the use of hazardous substances in the production of their products. Second, Greenpeace would like electronics companies to take back and recycle their products upon becoming obsolete. Third, the organization would like electronics companies to improve “corporate policies and practices with
respect to Climate and Energy” (p. 38). Moreover, to create these rankings, Greenpeace uses several criteria that are explicitly tied to these specified outcomes. The first criteria relates to toxic chemicals. More specifically, Greenpeace would like electronics companies to eliminate the use of polyvinyl chloride (PVC), which contains toxins and is potentially flammable, and brominated flame retardants (BFR), which are added to PVC in an effort to reduce the chance of combustion. The issue is twofold. The first is that products containing these substances can have an environmental impact upon disposal. The second is that even if electronics companies do have a recycling program in place, the reprocessing of these items releases the toxic substances into the environment during the recycling process. The end goal for Greenpeace is the elimination of PVCs and BFRs, as well as several other toxic chemicals, from electronics products altogether. Greenpeace also rates electronics companies according to their policies on taking back and recycling/re-using the products they manufacture, and their policies on energy as they relate to climate change. All rankings are based on information published by the corporations that Greenpeace evaluates (Greenpeace, 2010).

For Nintendo, the ranking is low due to a number of factors. Of note is the company’s lack of an established timeline for eliminating the use of PVC and BFRs in its manufacturing processes. In regard to e-waste, Nintendo scored even worse due to a lack of Individual Producer Responsibility, which requires that take back and recycling
policies are made transparent to the public. This section also includes reports on the amount of e-waste collected. Currently, Nintendo reports only on its recycling rate for products that have been returned, or returned for repair. In addition, Nintendo does not make information available on the amount of recycled material used in its products. Finally, Nintendo received low scores for its lack of commitment to mandatory cuts in greenhouse gas emissions by at least 30% by 2020, its lack of information on use of renewable energy resources, and an actual increase in Nintendo’s own direct greenhouse gas emissions from 2007 to 2008. On the positive side, Nintendo has eliminated the use of PVCs in its internal wiring, the company has banned phthalates, which are used to soften PVCs, and has adopted a low power AC adaptor for its Nintendo DSi handheld unit. Another positive aspect of Nintendo’s progress involves the company’s self-reporting on CO₂ emissions (Greenpeace, 2010).

Microsoft was similarly criticized on several criteria including the company backtracking on a commitment to eliminate PVC and BFRs by the end of 2010. Microsoft has revised the timeline to 2012, but for BFRs only while a timeline for eliminating PVCs is unclear. Microsoft also suffers from a lack of clearly communicating its commitment to eliminating hazardous products to its suppliers, and for an absence of any methodology to restrict the use of hazardous substances in its own manufacturing processes. Greenpeace also notes Microsoft’s lack of a timeline for increasing its use of renewable energy. On the other hand, Microsoft has made
improvement in a number of areas including its take-back program for products that have become obsolete and its reporting of e-waste that has been recycled. Furthermore, Microsoft has also supported mandatory cuts in greenhouse gas emissions and reported its own total carbon dioxide equivalent emissions to the public (Greenpeace, 2010).

Finally, Sony scored comparatively higher due to a number of factors. Among these are the company’s increased number of products that are partially free of BFRs and PVC. Regarding e-waste, Sony has done quite well partly due to its use of approximately 17,000 tons of recycled plastics each year 90% of which came from post-consumer waste. In addition, Sony has reported its greenhouse gas emissions, reduced the amount of greenhouse gas emissions (down 17 percent over an eight-year period), and increased the number of products that meet Energy Star standards for reducing energy consumption (Greenpeace, 2010). According to Greenpeace, Sony needs to establish a timeline for getting rid of “phthalates, beryllium copper, and antimony and its compounds” (p. 15), and the company still needs to increase the number of products that are free of hazardous substances in order to improve its score (Greenpeace, 2010).

It is important to point out that out of the three companies, Sony’s video game products only make up a portion of its consumer electronics sales. As a result, Greenpeace’s report is focused on all of these consumer electronic products, while the evaluations of Nintendo and Microsoft are almost entirely video game products. Information that compares all three companies on just video game electronics is not
available. Therefore, Sony’s ranking could be higher or lower in regard to just video game products.

As shown, there is a direct connection between harm to the environment and the razors and blades business model. The online content and subscription model and the microtransaction model have the opposite effect. Since each of these models involves downloadable content, no direct effect on the environment takes place because no disc needs to be disposed; everything is digital. As a result, these two models provide the best future alternative when it comes to environmental concerns. The ability to update consoles, effectively increasing their life spans, is also beneficial to the environment given that console manufacturers do not have to use resources from the environment as often. Manufactures also do not need to recycle/reuse the components as often either. Finally, in-game advertising does not associate well with environmental problems directly attributable to video games. An indirect connection may occur since consumption of the brand advertised within the game may, in and of itself, lead to environmental problems depending on the nature of the product being consumed. For instance, if the brand is McDonalds and the game player buys a meal from McDonalds due to the advertising within the game, then an indirect association could occur if the trash is not discarded of properly. Since there are a number of connections that would need to take place, from playing the game to consumption of a third-party product and improper disposal of the refuse, further analysis needs conducted in order for such a
claim to be asserted with any certainty. Advergaming, though, can result in the same
association with environmental problems as the razors and blades model if the game
takes the physical form of a disc or cartridge, which is then disposed of in a landfill.

*Visual Attention, Spatial Abilities, Education, Prosocial Games, and Civic Engagement*

At the end of the literature review on externalities, a brief overview was
presented on a few positive externalities identified and associated with video games.
Given the lack of research and definitive conclusions in these areas, it is difficult to tie
these externalities to any business model. On the surface, it is unlikely that the
medically- and psychologically-related concerns are connected to video game business
models. For example, the increase in attention span and spatial abilities have more to
do with the simple act of playing video games no matter the business model used to
produce and distribute the game itself. Instead, factors such as frequency of gameplay
and type of game are more likely to be connected. The connection to educational
reinforcement is similar in nature. Additionally, the ability of prosocial games to
reduce hostile expectations and lower accessibility to antisocial thoughts is not
dependent on any business model. As well, the correlation between playing video
games and civic engagement is problematic in that it is only a correlation, and therefore,
one cannot prove that the business model can affect the outcome since no direct causal
relationship has been established.
Health

Of relatively recent concern, connections between video game play and a variety of health issues are being reported in a number of studies. One area of concern is related to Internet addiction and online gameplay. For example, a study by Van Rooij, Schoenmakers, Vermulst, Van Den Eijnden, and Van De Mheen (2011) found that a small group (3%) of players were considered addicted to online games. In addition, a study by Arvaniti, Priftis, Papadimitriou, Yiallourovs, Kapsokefalou, Anthracopoulos, and Panagiotakos (2011) demonstrated a connection between the consumption of salty snacks and video game play. At issue is a potential connection between salty snack intake and asthma. The results of the study showed that eating a larger amount of salty snacks was associated with children who watched television or played video games more than two hours per day. Moreover, children who consumed salty snacks were also 4.8 times likelier to have asthma symptoms. Also among adolescents, a study by Borusiak, Bouikidis, Liersch, and Russell (2008) showed an increase in blood pressure and heart rate during video game play, which could have potentially harmful effects. Other issues were evident in the adult population. For female gamers, there was a greater incidence of depression, and for male gamers, a higher body mass index (Weaver, Mays, Weaver, Kannenberg, Hopkins, Eroğlu, and Bernhardt, 2009). Additional physical issues include associations between video game play and eyestrain.
Conversely, there have been studies that showed positive health-related effects from video game play. These include a study on college-age males who played interactive video games and also followed a cycling regimen. Results showed that VO2 max was increased and resting systolic blood pressure was greatly reduced in comparison with a control group that followed a program using only stationary cycling (Warburton, Bredin, Horita, Zbogar, Scott, Esch, & Rhodes, 2007). Furthermore, there is evidence that active video games, such as those that encourage exercise (e.g. Wii Fit), or those that just require movement to control the game (e.g. games for the Wii, PlayStation Move, or Xbox Connect), can have healthy benefits related to higher physical activity levels (Mhurchu, Maddison, Yannan, Jull, Prapavessis, & Rogers, 2008). Moreover, there are indications that video games can also be used to help educate individuals regarding healthy eating (Baranowski, Baranowski, Thompson, Buday, Jago, Griffith, Islam, Nguyen, & Watson, 2011), physical exercise/education (Papastergiou, 2009), and diabetes including behavioral changes to reduce the development of diabetes (Thompson, Baranowski, Buday, Baranowski, Thompson, Jago, & Griffith, 2010). Finally, on the psychological end, video games have been found to be a healthy form of relaxation, socialization, and coping (Wack & Tantleff-Dunn,
2009). What is shown is that the evidence is mixed, and only additional studies will help clarify the evidence.

Regardless, one can still examine the association between the health-related externalities and each business model. In the end, the question is whether the externality is positive, negative, or a mixture of both. In addition, the evidence suggests that some of the positive effects come from playing certain types of games (e.g. active games that require movement). In regard to the razors and blades model, one can see that most negative externalities are related to prolonged and repetitive game play. These externalities include asthma, higher blood pressure and heart rates, obesity, eyestrain, and repetitive motion injuries. In this instance, the razors and blades model does not directly associate with the risks. In fact, a gamer can buy a game in a store (disc), online through download, as an add-on pack, or packaged as an advergames, and the business model would not change the health issue. Health-related externalities are also not connected to licensing agreements, microtransactions, or in-game advertising for the same reason. The same can be said for positive externalities, which likewise come from gameplay itself, not the business models.
CHAPTER 5: DISCUSSION OF RESULTS - WALKTHROUGH

For many video games, guides that include hints and tips for working through the game as well as step-by-step instructions on how to complete various levels are provided in the form of walkthroughs. In this chapter the discussion section will act as a walkthrough for this study’s results. Four areas will be addressed: relevance to political economy, conclusions, limitations, and recommendations for future research.

Relevance to Political Economy

The conceptual framework for political economy spelled out three primary processes of interest including commodification, spatialization, and structuration. This section of the discussion will examine each of these processes in regard to how they relate to this study. Moreover, a discussion of the four standpoints of political economy will follow including a look at historical change, social totality, moral philosophy, and praxis.

Processes

Commodification

There are several types of commodification taking place within the video game industry. More specifically, one can examine the relationship between commodification and communication. Within the video game industry, and directly tied to this study, the use of telecommunication technologies to streamline communication processes is certainly just as prevalent as it is in other industries if not more so. In addition, the use
of Internet access to enable users to download and install games directly to a console further extend the commodification process since retailers can be cut out of the process and console manufacturers can eliminate the use of any physical distribution. These measures certainly reduce costs, which benefit the producers directly. The ability to purchase items through the microtransaction business model works in a similar way in that the purchase of add-on packs, social games, or in-game items can all be handled digitally.

Moreover, the messages produced by video game companies tend to reflect the interest of capitalists. This can be seen in the use of advertising within games or through the advergaming model where the end goal is to establish a given brand in the game player’s mind through its association with an enjoyable product. Furthermore, digitization expands the capitalist’s potential by providing additional ways to “measure and monitor, package and repackage” (Mosco, 2009, p. 135) both information and entertainment. The move from physical discs and cartridges to online downloading and the use of in-game advertising and advergaming are certainly instances of packaging and repackaging a product, whether that product is a regular video game title or an advergame.

In addition, with the advent of online business models, the process of commodifying the audience has become more invasive and complete. Currently, users of all three game consoles maintain accounts online that include player profiles with
basic demographics and the games that each person plays and purchases. Additionally, the amount of time spent playing games, the time of day, and the types of add-ons can likewise be tracked. All of this information is given by the gamer without much thought, or it is tracked without the user fully understanding how the company collects and uses this information.

The commodification of labor is also in evidence and has become an area of recent academic research into the video game industry. At its most basic level, labor is commodified because the individuals who create the games and hardware do not profit from their labor; capitalists, in the form of the various game producers and distributors, do profit from the creative work of their employees however. Moreover, recent research has shown a tendency to exploit this labor as exemplified by the case of EA Spouse. The case documents how an employee at Electronic Arts was overworked to the point of exhaustion. Responses to this type of industry exploitation include high turnover, continuing education, and union organization (Dyer-Witheford & de Peuter, 2006). However, video game developers have not yet formally unionized, although the topic has received much attention mostly due to the long hours and low pay (Wilson, 2011). In addition, immanent commodification, through the collection of game ratings, is also in evidence; however, externalizing commodification, which occurs when commodification is spread to areas previously untouched by the commodification process, is not.
Spatialization

Spatialization, a process that overcomes both time and space, is also found within the video game industry. Indeed, one of the consequences of spatialization is that power and control tend to become concentrated through the use of ICTs. At this time, the Big Three control the console market and have for the past decade. As a result, a small number of corporations maintain most of the power. Certainly, ICTs have enabled these companies to concentrate their power and spread their control across the globe. Indeed, each of the Big Three have headquarters in specific countries, yet have divisions and subsidiaries spread around the world through processes of horizontal and vertical integration. This concentration has also been made possible through the liberalization of trade policies across several nations including trade agreements and deregulation associated with the United States.

Structuration

The final element in the framework for the political economy of communication is structuration, which has been defined as a “process by which structures are constituted out of human agency, even as they provide the very ‘medium’ of that constitution” (Mosco, 2009, p. 185). In essence, all human action is performed within a pre-existing social structure, which means that human action is at least partially predetermined. The structure and rules that are followed are not permanent however (Indeje & Zheng, 2010). Within the video game industry, and specifically within the
console segment, several issues arise. The first is in regard to social class. While console units such as the Xbox 360, Wii, and PS3 are found in a large percentage of households across the United States, the ability for an individual from the lower class to own a console or afford the high-speed broadband connection is low.

The second and third areas include communication and gender and communication and race, both of which have been addressed extensively as externalities in the analysis section of this study. The fourth area, communication and social movements, is also in evidence. The 2004 case of EA Spouse comes into play as the spouse of the Electronic Arts programmer made the situation public through the use of a blog that is still available online. The public response was overwhelming and the blog provided a means of disseminating information to those with similar concerns. While it was not a social movement per se, it was the starting point for raising awareness (EA Spouse, 2004).

The last element in this discussion of structuration is communication and hegemony. There are ties to the issues of class, labor, and social movements here as seen in the efforts to organize the industry’s developers. The discussion has been ongoing for several years and still no effort has succeeded. Some of this is due to employees’ simple acceptance that the conditions under which they work or perfectly normal. At times, as with EA Spouse, there is some resistance, and then the topic recedes for a while from public attention as employees continue to work under the
same conditions or are replaced by new employees. This give in take extends over time as the employees repeatedly consent to continue working for these companies. Moreover, one method for maintaining control within hegemony is through some of form of distraction. While past research has looked at entertainment as a distraction for the masses, a related form occurs when video game industry employers build the myth of the free-wheeling and fun working environment including open design concepts, the ability to play games (including video games), and free soda and snacks (Bak, 2008). These perks mask the issues that abound within the industry and act as a distraction to the true working environment.

*Standpoints*

*History*

Of principal concern to this study was the evolution of business models within the video game industry. This concern is primarily historical in nature as it traces this evolution over time. What has been discovered is that these changing models are influencing consumption patterns. For most of the industry’s history, the razors and blades model has been the norm; however, it appears that with the advent and growth of online, subscription, and microtransaction models, the pattern may move away from the cyclical pattern currently in place. For certain externalities, these changes have important implications. Unfortunately, for issues of violence, gender, and race, the potential effects will not be altered without some change to the way video games are
created. On the positive side, a move away from cyclical patterns to on demand
patterns that utilize purely electronic means of dissemination can have a favorable
impact on the environment with the reduction in toxic wastes. Other externalities are
also historically important, especially the development of training simulations for the
military, and subsequent move to use video games as recruiting tools. As has been
outlined, these are important ideological concerns for society at large.

*Social Totality*

Moreover, social totality involves a concern for the interaction of society,
politics, and economics. Given that all of the externalities addressed in this study
impact society in both positive and negative ways, the societal portion is clearly in
evidence. Politics comes into play as well with so much attention being paid to the
violence issue. The lack of concern in regard to the environment and climate change is
also a political issue that has been mostly ignored. In addition, the liberalization of
trade policies has affected commerce through the outsourcing of jobs and production
overseas. Outsourcing, in turn, impacts society by raising unemployment levels. The
loss of employment then reduces the amount of money being injected into the system
and a vicious cycle is created. An additional concern is the role of overconsumption in
relation to society, politics, and economics. Driven largely by political concerns,
overconsumption has become naturalized as necessary for happiness and economic
prosperity. When consumption slows, this slowdown is reported in the media and by
government and business leaders as bad. As a result, fears arise regarding whether or not individuals are performing their civic duty to the extent that many families go into debt in order to contribute in a way consistent with the perceived norm.

*Moral Philosophy*

Without providing an extended review of the contents of this study, it should be noted that the focus on externalities is itself a concern for the public good. This study examines a number of important issues that range from the effects on protected classes, such as race and gender, to degradation of the environment due to current business practices and planned obsolescence. In addition, the violence issue is far from certain and requires additional study in order to more accurately understand the potential effects, whether those effects are direct in nature or if they act to alter are view of social reality.

*Praxis*

It is my sincere hope that the results of this study can be used to better the human condition. At the very least, it is our job in academia to extend the knowledge we create to the public. As such, educating the public about the externalities under consideration and the way that the business models used by video game companies contribute to these externalities is an important step. However, it is also important to affect change on the political and economic front. One way to accomplish this task is to push for a change in accounting practices from the current system that is mainly
charged with recording the financial transactions and information used by businesses to 
a new approach based on social accounting, which adds concern for the types of 
impacts identified in this study. There is a move underway within the accounting 
profession to make just this sort of change. As described by Pestoff (2011), social 
accounting includes “…developing notions of social bookkeeping and management; 
developing accounts for specific stakeholder groups, like employees and the 
unemployed, suppliers, communities, etc.; [and] accounts focusing on issues such as 
social justice, human rights, taxation, biodiversity, natural resources, etc.” (p. 7). Such a 
change in accounting practices can help make business practices more transparent 
including the organization’s effects on society as a whole.

Conclusions

The evolution of business models within the video game industry, specifically 
within the console segment, is both one of tradition and progress. The tradition portion 
comes from a reliance on the razors and blades model that has existed for over a 
century for several types of consumer goods, including the original razor and razor 
blistades, and for over 30 years for video games. Advertising, in a similar way, has been 
one of tradition in that various media have been used to promote products including 
radio, television, and film. On the other hand, the business models have also been one 
of progress, particularly as they relate to advancements in technology. This includes 
the other two business models discussed – online and subscription models and
microtransactions, which could not exist in their current form without the advent of the Internet and computer networks.

In the end, this work is not only focused on these business models, but also on the connection these business models have to planned obsolescence and externalities. What has been shown is that planned obsolescence is very connected to the razors and blades model that relies on obsolesc ing physical products, namely consoles and games, in order to start a new cycle. However, it appears that this relationship will be changing, again, mostly due to changes in technology. With access to games through the Internet, where content, both old and new, can be accessed without the need for physical discs or cartridges, and where console lives can be extended, the need to maintain the normal four to five year cycle may eventually end. At the least, it will extend beyond the historical four to five year cycle. After all, until technology makes the need for a physical device unnecessary, gamers will still need to have some place to store games, and that hardware must have the capability to keep up with newer technologies that affect gameplay and aesthetics. So planned obsolescence may not entirely go away, but the relationships it has with current business models will certainly change.

At issue with each of the different business models is that they all, to varying degrees, require conspicuous consumption in order to work. This means that consumers must pay additional money in order to gain a new gaming experience since
most games are designed to have only limited replay value. In fact, having the most recent game becomes a type of social capital for gamers (Kong & Theodore, 2011). The same is true for console units. Having the latest console becomes a bragging point for many gamers because it gives them access to the latest technology. Conspicuous consumption is quite evident with the razors and blades model, which requires regular purchases of games and consoles to be successful. Online content also has a strong tie to conspicuous consumption, while the subscription model is less so.

Microtransactions, defined as selling a high quantity of a good at a low price, is also very dependent on conspicuous consumption. In fact, the microtransaction model will not work well without it since, without the high volume, a profit cannot be made. As well, advertising, which seeks repeated exposure to increase effectiveness, also relies on conspicuous consumption.

Moreover, the issue of externalities is likewise important. Currently, the way games are designed, no matter the delivery system, still results in games that are violent and full of gender and racial misrepresentations that act to perpetuate stereotypes seriously in need of dispelling. The environment stands the most to gain from changes to past business models. With the trend toward online gaming and online game delivery, the need for countless discs and cartridges can be substantially reduced. In addition, the lengthening console cycle and move by console manufacturers to implement green solutions – under the watchful eye of Greenpeace and the EPA –
provide a more promising outlook when it comes to using the earth’s resources in a sustainable manner. Health-related externalities have a potentially positive outlook as well considering the number of areas that video game play can help including education initiatives and active gaming, another result of advancements in technology. On the other hand, the potential physical effects such as eyestrain, obesity, and repetitive motion injuries still need attention. In the end, advancements in technology may also be the answer, but unless there is social pressure on government and industry, these changes may take longer than necessary.

What has not been discussed so far is if and how the companies whose business models directly tie to these externalities should account for said externalities. On the negative side, externalities are essentially costs incurred by society. On the positive side, externalities act very much like revenue. They benefit society just as cash flow benefits the business owner(s). In both cases, a company does not incur a direct financial cost nor does it garner a monetary gain. However, a cost is incurred and a benefit gained by society because of the way a company conducts business. As a result, even if these externalities are not quantifiable in financial terms, the potential exists for the government to impose taxes on companies who do not meet, for instance, an environmental standard. Conversely, tax breaks can be issued for companies who meet or exceed set standards. In both situations, the tax, or lack thereof, becomes quantifiable financially. What those taxes should be, including what gets taxed, the
exact tax rates, who gets taxed, etc. is beyond the scope of this study, but it is certainly one avenue for solving the issue of how externalities can be accounted for by the companies who produce them. Furthermore, one industry expert suggested that video game companies should be required to fund media literacy programs as a way of educating the public about the potential effects incurred by playing video games (Respondent M2, personal communication, December 3, 2009). This, too, is a method of financially accounting for the externalities associated with video games.

Limitations

There are certainly limitations to this study including the scope. For one, the research centered on only three companies in the video game industry with a further focus on the console and handheld segment. This deliberate decision was an effort to keep the project manageable. Certainly, there are a number of video games companies extended around the globe, and the computer gaming market brings with it its own concerns. Moreover, not every potential externality was addressed. For those externalities that were included, a lack of research in a few areas further limited the study. Other externalities that were not addressed include the way in which media products work to mask the everyday lived experiences of the average person as a sort of false consciousness or opiate for the masses. Connections to the neoliberal global order were similarly not addressed primarily because of the limitation in scope.
Recommendations for Future Research

As was just addressed, this study was, indeed, limited in scope. There is so much more to cover including future changes to the console industry, changes in the handheld market as smartphones make further inroads into the gaming industry (especially with casual games), the growth of casual games, and advancements in networked/online technology that directly affects the console part of the industry. For instance, Internet connectivity may change as wireless networks, including 3G and 4G cellular networks, are finding their way onto numerous electronic devices like the iPad. The potential for their inclusion on console systems in lieu of or in addition to Wi-Fi is most likely under consideration. One respondent to the survey conducted for this study considered attention to the development of online games, social games, and casual games very important, especially as they pertain to the expansion of the audience for video games (Respondent A1, personal communication, December 3, 2009). This includes more games for women who make up a larger part of the market share for causal games as compared to traditional video games. Relatedly, the development of casual games by consumers opens up the door for corporations to take advantage of a free labor pool in order to increase profits (Respondent A2, personal communication, March 2, 2010). In addition, the labor practices of the video game industry, only touched on here, deserve much more attention as does the growth of the microtransaction model, which needs additional research as manufacturers work to
make this model seem natural in an effort to increase profits from what is essentially the production of one title. Moreover, there is a growing secondary market for games that enables gamers to trade used games and hardware for store credit. These games and hardware are then offered at a reduced price to those interested in saving money. As such, the secondary market poses a direct challenge to the established market and the companies that control it as well reduce the amount of refuse entering our landfills. (Respondent A1, personal communication, December 3, 2009). Respondent A1 also suggested that an important issue for the industry is the potential for regulation and taxation of the virtual world, an issue already proposed by federal legislators. Related industries also deserve attention. These include the music industry, which is based on a different type of planned obsolescence. More specifically, the lifespan of a song or disc is relatively short, and while songs can be consumer over and over again, their popularity and primary lifecycle often last only a few weeks at best. On a global scale, the impact of the United State’s and other nations’ obsession with consumer electronics must be examined. Recent reports of violence associated with the mining of precious metals in the Congo are difficult to ignore. Many of these metals are sold to consumer electronics’ companies to make the many high-tech devices in demand today (NGO News Africa, 2011). Another global concern is related to the practice of exporting our garbage to other countries, in effect, reducing the environmental impact on U.S. soil by increasing the environmental impact on the environment of other countries, many of
them third-world. In the end, video games, for all of the reason presented, need attention by researchers due to their societal, economic, and political impacts. This is especially true for those who use the political economy framework.


Brown, P. M. & Cameron, L. D. (2000). What can be done to reduce overconsumption? 


doi:10.1016/j.jesp.2009.04.005


doi: 10.1177/1555412005281403


doi: 10.1177/0093650209356394

Schramm, M. (2010, March 23). *Nintendo 3DS handheld announced, more news at E3*. 


doi:10.1080/14649365.2010.521855


Sony Computer Entertainment America. (2011a). *Can I play PlayStation (or PS one) and PlayStation 2 software titles on the PlayStation 3 computer entertainment system?* Retrieved from http://us.playstation.com/support/answer/index.htm?a_id=232


doi: 10.1111/j.1540-5931.2006.00206.x


http://www.time.com/time/interactive/0,31813,2029221,00.html


APPENDIX A

Dear (Name of Subject):

My name is Mark Cruea and I am a doctoral student in the School of Communication Studies at Bowling Green State University (BGSU). Currently, I am completing research that focuses on business models used in the video game industry as well as the external costs associated with these business models. Examples of these external costs include effects on the environment and society in general. The research will be conducted this summer and used as part of my dissertation, which is to be completed by the end of 2009. The only requirement is that participants must be at least 18 years of age.

In order to gain a well-rounded view of these issues, I am asking for your participation via a quick written survey that is made up of seven questions. The survey is included at the end of this email, and along with several other industry and media professionals, you are being asked to provide your answers as part of the reply. In total, about 45-60 minutes is expected for completion, although I appreciate the opportunity to contact you in the future for expansion on or further clarification of any of your answers.

Your participation means that the information you provide will be used in my dissertation. To protect your confidentiality, though, all responses will be coded in such a way that your answers cannot be directly attributed to you. However, since this survey is being conducted via email, which is not 100% secure, it is possible that someone intercepting your email will have access to your responses. This includes employers who may track electronic communication. The risks to you are no more than expected in the course of a normal day, but you may wish to complete the survey on a home or public computer in order for your response to remain more confidential. As such, your participation is voluntary and you may withdraw at any time. In the end, the findings of this study will provide a better understanding of how industry business models affects society in ways other than through the cost of a product. Please note that no direct benefit to you is expected.

If there are ever any questions, please feel free to contact me or my advisor using the information below. In addition, if you have questions about the conduct of this study or your rights as a research participant, you may contact the Chair of Bowling Green State University’s Human Subjects Review Board at 419-372-7716 or at hsrb@bgsu.edu.

If you are willing to participate, simply reply to this message and complete the survey below. By so doing, you are consenting to your participation in this study. Thank you for your time, and I hope you will consider contributing to this important work.

Sincerely,

Mark D. Cruea
419-772-2099
mcruea@bgsu.edu

Dr. Oliver Boyd-Barrett, Advisor
419-372-6018
oboydb@bgsu.edu
Video Game Industry Survey Questions

Please type your answers in the text boxes provided below each question.

1. In your assessment, what are the two or three most important general features, positive and negative, of the current state of the video game industry?

2. From the industry's perspective, what are the main challenges facing the video game industry today?

3. What are the prospects for economic growth in the video game industry? Please focus your discussion on console units, portable game units, and PC games as well as the software associated with these units.

4. Please answer the following questions using Microsoft, Sony, and Nintendo as the basis for your discussion. For Microsoft and Sony, please limit your discussion to the video game divisions of each.
   a. What are the current strengths, weaknesses, opportunities, and threats for each of these companies?
   b. With these three companies in mind, how do you see competition affecting the industry over the next two to five years?

5. Current business models in the video game industry include the sale of games (in retail outlets and via digital download), the use of product placement (i.e. use of in-game advertising), planned obsolescence (i.e. replacement of consoles periodically with new versions), and subscription services (i.e. for access to multiplayer online games) among others. How effective do you believe these business models have been and why? If discussing a business model not defined above, please provide a description of that business model in your discussion.

6. What changes do you see in the underlying business models of the video game industry over the next two to five years?

7. What social, cultural, and political issues arise from the way that video game companies conduct business?
APPENDIX B

Respondent A1

1. In your assessment, what are the two or three most important general features, positive and negative, of the current state of the video game industry?

features is a vague term; but in terms of the industry, i'd say a positive element has been the expansion of the market - the development of areas such as online games, social games, casual games, mobile/iphone games are all helping to expand the audience for games, and what we think games can be. at the same this this expansion has also moved us beyond the console as central driver of the industry. while this might be problematic for the console developers, i think overall it's a positive move in terms of making the tools for development more democratic, and opening up new possibilities for what games can look and act like.

that said, i think the other important (and positive) feature of the game industry right now has been the development of the wii. the wii continued the work of the ds and online casual games, but did so in a big way - by really drawing attention to underserved markets. nintendo wasn't afraid to potentially alienate part of its user base to create the system, and it seems to have paid off exponentially.

2. From the industry's perspective, what are the main challenges facing the video game industry today?

One big challenge has been the growth of sales of used games - that eliminates royalties and licensing payments when the game is resold to another user. More and more retailers are starting to stock used games, and they are becoming a bigger share of overall game sales. I think some companies are looking more seriously at digital downloads as one answer to this, but I don't know that that will be a solution for all publishers in the immediate future.

Another challenge is the incredible diversity of the market right now. There is little consensus on what types of games might stay/become/sink in popularity; and so it's hard for new and even established companies to have a clear focus. There are almost too many opportunities. Likewise, some of those opportunities (social games, online, casual) have price points that can't support development, or require outsourcing of work. Or they may require rethinking the business model entirely of boxed games for sale, or monthly subscriptions, to something like microtransactions instead.

3. What are the prospects for economic growth in the video game industry? Please focus your discussion on console units, portable game units, and PC games as well as the software associated with these units.

Well, prospects are good, although in this economy sales are still down from prior years. I'm not sure if the industry can support a new round of consoles being released every five years now, given the costs of developing them. Apart from the wii, they seem incredibly expensive to produce, and consumers (especially these days) appear unlikely to purchase another new set of consoles in 2-3 years time. I don't know what the popularity of netbooks will do for pc games - they appear (right now) unable to run more than very lightweight applications, making them not suitable for more than casual/social/online games that are not MMOGs. Regarding software, I think we'll see more online sales/downloads, and less boxed content. Consumers might object to the loss of the idea of 'ownership' but it seems they'd rather have the game right away, than own a CD and jewel box.

4. Please answer the following questions using Microsoft, Sony, and Nintendo as the basis for your discussion. For Microsoft and Sony, please limit your discussion to the video game divisions of each.

a. What are the current strengths, weaknesses, opportunities, and threats for each of these companies?
Microsoft—their early launch of the 360 and their success with live arcade has helped them expand their installed base far beyond the first Xbox. They have a more extensive game library than Sony, and they've also managed to scoop some games from Sony and diminish the exclusives that Sony was supposed to enjoy (such as Final Fantasy 13). Their weakness was the red ring of death, which I haven't heard much about lately; and their image as appealing mainly to hardcore gamers. This has changed with the Arcade featuring more casual games; likewise their opening of the arcade to indie developers expands their library and gives them more credibility as offering opportunities to more developers outside the triple-A atmosphere. They have the opportunity to take the lead in the console wars; the main threat is if the PS3 gains momentum with its recent price drop. The Wii seems to appeal to a different audience.

Sony—they had the lead with the PS2 and then totally blew it with the price point of the PS3 at launch. I think they underestimated demand for blu-ray players, and their lack of decent game library further put them behind. Their game selection is expanding now, but there aren't that many games for the PS3 that would qualify as 'console sellers', especially given the lack of exclusives. Likewise their online system isn't as good or polished as Microsoft's is, placing them further behind in that regard. With their new slim model and lower price tag they might be able to make up lost ground, but I don't know if that will really happen or not.

Nintendo—When the Wii was being launched it was derided by many people as a kids toy that couldn't compete with the 'real' consoles—some publications speculated that maybe Nintendo should give up on hardware (apart from the DS) and focus instead on software. Of course we know how mistaken that prediction was—the Wii is the top seller globally, and has opened up new markets. Since it was so cheap to produce Nintendo has already broken even on sales and it making a profit. Very recently sales have started to decline in Japan—although I don't know if this is due to a saturation of the market, or the global recession. Nintendo has the opportunity to continue to redefine what gaming means, much like they did with the original NES system.

b. With these three companies in mind, how do you see competition affecting the industry over the next two to five years?

As I said, I don't know if we'll see another set of consoles come out that soon—even if they could be developed, it seems unlikely that consumers would be willing to pay for them at this time. So each company will try to grow their current installed base, and then expand their number of titles, making money from the licensing of those titles. Perhaps they will compete for more exclusives; and the online components will probably become even more important over time.

5. Current business models in the video game industry include the sale of games (in retail outlets and via digital download), the use of product placement (i.e. use of in-game advertising), planned obsolescence (i.e. replacement of consoles periodically with new versions), and subscription services (i.e. for access to multiplayer online games) among others. How effective do you believe these business models have been and why? If discussing a business model not defined above, please provide a description of that business model in your discussion.

Until recently sales of games via retail outlets were successful from a retailers and publishers point of view, although perhaps not from the developer side of things—the bottlenecks of retailers/middlemen limited access to shelves, and developers had little choice but to sign with major publishers or have no real chance to market their games. That's changed of course with digital downloads, although there is still the problem of finding outlets that gamers will know about. Steam, casual publishers like Big Fish Games, and even Amazon do digital downloads and appear to be trusted by users, so these models will likely continue; although I'm not sure how many such portals can exist without becoming too dispersed. I'm not that versed in the success (or not) of product placement, so it's harder for me to identify future trends in this area. Obviously it can work well in games that have the correct
environment, but for fantasy themed RPGs, for example, there is little realistic opportunity. I've already mentioned the console cycle above. Regarding subscriptions, I think some will continue, but we'll also see more diversity of models, including 'freemium' systems (many people play for free; a small percentage pay to access premium content and subsidize the game) and micro-transactions for things like added content/status elements in games.

6. What changes do you see in the underlying business models of the video game industry over the next two to five years?
   More creativity in the models—perhaps games that are released in chapters for a cheaper price (like the Sam & Max series) per episode, and the rise of micro-transactions and freemium models.

7. What social, cultural, and political issues arise from the way that video game companies conduct business?
   This could be several dissertations— I'm not sure what you are looking for here. Clearly the business models of games companies are similar to those appearing elsewhere such as online, and for digital businesses; politically games are forcing the legal system to look into how virtual worlds might be regulated, taxed, or policed; and games are an important aspect of our culture, shaping how we interact with others, how we see things like competition and collaboration, and what other media we either give up or reduce usage of.

Respondent A2

1. In your assessment, what are the two or three most important general features, positive and negative, of the current state of the video game industry?

   The video game industry has entered a period of stabilization and standardization similar to the classical period in Hollywood. A small number of companies dominate production and apply recurring formulas and norms to their products which helps to insure a consistent quality of output. The challenge is how to insure experimentation and innovation in this context. The games industry has historically grown through waves of small scale entrepreneurship coupled with the purchase of these innovative companies by larger firms. Recently we've seen the majors closing down these smaller companies, once they've been absorbed, and in many cases, we are seeing innovative practices give way to greater standardization — as when a company makes its reputation with a distinctive game title and then gets harnessed to do expansion packs forever after. The greatest hope for innovation today comes at the fringes — from iPhone apps, casual games, university based game programs, and other aspects of the independent games movement. It remains to be seen whether these new innovators remain independent — functioning like the independent cinema as an alternative cultural sphere — or get absorbed by the majors. If they get absorbed, are the majors going to be as willing to serve under-served populations, to take creative risks, to explore alternative functions of the medium, etc.?

2. From the industry's perspective, what are the main challenges facing the video game industry today?
   I am not sure how many in the industry would recognize it as such but I still think the biggest challenge facing the industry is the reconceptualization of its audience — away from the notion of the "hardcore gamers" and towards a more diversified and mature segment of the American population. While the "hardcore" market provides them with a reliable base, it also acts as a conservative force, constraining their ability to reach to other potential consumers. We are starting to see them break out of this trap — with an expansion of female players through casual games and of family players.
through the Wii Will these trends continue? It remains to be seen -- the industry has moved at a glacial pace in response to these concerns.

3. What are the prospects for economic growth in the video game industry? Please focus your discussion on console units, portable game units, and PC games as well as the software associated with these units.

4. Please answer the following questions using Microsoft, Sony, and Nintendo as the basis for your discussion. For Microsoft and Sony, please limit your discussion to the video game divisions of each.
   a. What are the current strengths, weaknesses, opportunities, and threats for each of these companies?
   b. With these three companies in mind, how do you see competition affecting the industry over the next two to five years?

5. Current business models in the video game industry include the sale of games (in retail outlets and via digital download), the use of product placement (i.e. use of in-game advertising), planned obsolescence (i.e. replacement of consoles periodically with new versions), and subscription services (i.e. for access to multiplayer online games) among others. How effective do you believe these business models have been and why? If discussing a business model not defined above, please provide a description of that business model in your discussion.

6. What changes do you see in the underlying business models of the video game industry over the next two to five years?
I've already identified two key trends -- the tension between standardization and innovation and the challenges of diversifying the market. A third has to do with the "web 2.0" business model and the concept of user-generated content. The games industry has been a leader in creating space for consumers to share what they create with each other, seeing their increased engagement as helping to spread awareness of their products and often to sustain their shelf life. In doing so, the games industry has mapped the directions being taken by many other creative industries today -- towards a greater collaboration between producers and consumers. Yet, we've seen in recent years a growing recognition that industry and consumer interests are not fully aligned and that in some cases, the user-generated content movement exploits "free labor" at the expense of disrupting the fan communities and laying off creative workers. I am predicting that change in the coming few years will amount to a continual refinement and realignment of the "moral economy" between producers and consumers, a trend that is going to impact creative and digital companies across the board.

7. What social, cultural, and political issues arise from the way that video game companies conduct business?
These issues are not radically different in kind from those faced by any other industry -- they produce content which appeals to some consumers and displeases others. Games have been under special pressure in this regard because of their historic association with children. Some segments of the public still sees games as a 'children's medium' and are confused by the persistence of adult themes aimed at more mature players. Certain industry leaders have discovered that controversy sells -- and have thus sought to enflame an already tense regulatory structure in order to get "street cred" with the hardcore gamer market. Games do not enjoy the same level of public respectability enjoyed by other popular arts and so they are particularly vulnerable to pressures for censorship.
Respondent A3

1. In your assessment, what are the two or three most important general features, positive and negative, of the current state of the video game industry?
   positive: dominance by corporations; small array of topics; exploitation of players via eulas
   negative:

2. From the industry's perspective, what are the main challenges facing the video game industry today?
   HOW TO EXPLOIT WORKERS AND PLAYERS MORE AND MORE EFFECTIVELY AND AVOID REGULATION

3. What are the prospects for economic growth in the video game industry? Please focus your discussion on console units, portable game units, and PC games as well as the software associated with these units.

4. Please answer the following questions using Microsoft, Sony, and Nintendo as the basis for your discussion. For Microsoft and Sony, please limit your discussion to the video game divisions of each.
   c. What are the current strengths, weaknesses, opportunities, and threats for each of these companies?
   d. With these three companies in mind, how do you see competition affecting the industry over the next two to five years?

5. Current business models in the video game industry include the sale of games (in retail outlets and via digital download), the use of product placement (i.e. use of in-game advertising), planned obsolescence (i.e. replacement of consoles periodically with new versions), and subscription services (i.e. for access to multiplayer online games) among others. How effective do you believe these business models have been and why? If discussing a business model not defined above, please provide a description of that business model in your discussion.

6. What changes do you see in the underlying business models of the video game industry over the next two to five years?
   MORE GAMES AND TECHNOLOGIES AIMED AT BUSY PEOPLE (I.E. NOT MALES AGED UNDER 30)

7. What social, cultural, and political issues arise from the products that video game companies create and the way they conduct business?
   SEE ABOVE

Respondent J1

1. In your assessment, what are the two or three most important general features, positive and negative, of the current state of the video game industry?
   positive:
   1. increased awareness of gaming has moved gaming from hobby to business which has increased production values and revenue
   2. the lower cost of certain platforms as development tools for independent game companies allows for a greater margin of creativity that can reach a larger audience.
   negative:
1. It's hard for a good development team to stay together in the current environment. Companies like EA or Microsoft buy development houses, pump out a couple of games and then destroy them thus removing the creative cohesion that previously existed.

2. No matter the economic environment, the game publishers have no problem pumping out trash title after trash title with an add-on controller. Instead of applying good faith and maybe dropping games back to the price they were before the current generation.

2. From the industry's perspective, what are the main challenges facing the video game industry today? The same challenges that were faced by every other media that has managed to hit the mainstream: acceptance as more than a toy. A great example of this is the ESRB. Movies have ratings that give a guideline as to the content that one can expect to experience upon viewing. A parent will look at a movie and think "Rated R, this is not for my children." The same parent will look at Grand Theft Auto IV and ignore the Rated M warning. Once that child does something wrong, the parents are never blamed.

3. What are the prospects for economic growth in the video game industry? Please focus your discussion on console units, portable game units, and PC games as well as the software associated with these units.

1. Download services such as Steam and Impulse could very well be the future of gaming. If you can cut out the physical media, the publishers automatically increase their profits substantially. With most of the target market for gaming having access to high speed Internet service, it can't be out of the realm of possibility to expect the next generation of consoles to take advantage of this fact. That's not to say physical media will go away, but the option will be there and as we advance it will become a standard instead of a nice perk.

2. Portable gaming will always be popular for a few specific reasons but only one company has made it successful - Nintendo. There's plenty of room for another company, but it has to be done well. The PSP launch and subsequent marketing/development should be a lesson to future handheld attempts.

3. Casual games are the industry's least-covered but most-mentioned market.

4. Please answer the following questions using Microsoft, Sony, and Nintendo as the basis for your discussion. For Microsoft and Sony, please limit your discussion to the video game divisions of each.

a. What are the strengths, weaknesses, opportunities, and threats facing the video game divisions of Microsoft, Nintendo, and Sony?

Microsoft:
Strengths: Great market penetration with an early launch this generation. XBox Live is the standard for how gaming and consoles should be integrated. Great product library.
Weaknesses: Lacking Blu-Ray and built-in wireless make the 360 look like less of a deal as compared to new PS3. Backwards compatibility has always been very sketchy.
Opportunities: The 360 is hip with this generation of gamers so an earlier launch, again, could rock Sony and possibly Nintendo. Rumors circulating about a handheld MS gaming device could be gigantic.
Threats: Falling behind and not offering the "complete package" that the PS3 offers could cause problems for Microsoft.

Sony:
Strengths: Name recognition from absolute domination of previous generations. Blu-Ray. With price drop, very competitive to Microsoft.
Weaknesses: Slow start this generation from ludicrous launch price point. Lacking the exclusive titles that were once its bread and butter. PSP Go.
Opportunities: With the price drop, Sony is now competitive with Microsoft and offers Blu-Ray viewing as well as easy wireless.
Threats: Microsoft has Sony's number this generation. Nintendo has always had Sony's number in the handheld race.

Nintendo:
Strengths: Market dominance. The launch price point and marketing surrounding the Nintendo Wii was perfect for the time. Add in the fact that most people couldn't find one and it introduces another level of hysteria to the general public. Nintendo DS/DSi is a gaming powerhouse.
Weaknesses: Has always and will always be seen as a kids platform. Motion controls are seldom used for anything other than a "its in there, lets use it" capacity. The ratio of quality software released as compared to absolute garbage is pretty low.
Opportunities: When you control both markets - handhelds and console - you just need to stay on top. If Nintendo wants an older audience, they'll need better hardware and give older players a reason to want to own a Wii.
Threats: No real immediate threats exist. If anyone could challenge Nintendo in the handheld market, it would be Microsoft, but the odds of a coup are astronomically low. Nintendo needs to upgrade their console hardware.

b. With these three companies in mind, how do you see competition affecting the industry over the next two to five years?

5. Current business models in the video game industry include the sale of games (in retail outlets and via digital download), the use of product placement (i.e. use of in-game advertising), planned obsolescence (i.e. replacement of consoles periodically with new versions), and subscription services (i.e. for access to multiplayer online games) among others. How effective do you believe these business models have been and why? If discussing a business model not defined above, please provide a description of that business model in your discussion.

6. What changes do you see in the underlying business models of the video game industry over the next two to five years?

7. What social, cultural, and political issues arise from the way that video game companies conduct business?

**Respondent M1**

1. In your assessment, what are the two or three most important general features, positive and negative, of the current state of the video game industry? the industry continues to deceive parents about the effects that games can have on children and youth by only focusing on positive effects and dismissing evidence of negative effects, rather than taking a balanced approach that accepts the science on both positive and negative effects.

2. From the industry's perspective, what are the main challenges facing the video game industry today?
3. What are the prospects for economic growth in the video game industry? Please focus your discussion on console units, portable game units, and PC games as well as the software associated with these units.

4. Please answer the following questions using Microsoft, Sony, and Nintendo as the basis for your discussion. For Microsoft and Sony, please limit your discussion to the video game divisions of each.
   a. What are the current strengths, weaknesses, opportunities, and threats for each of these companies?
   b. With these three companies in mind, how do you see competition affecting the industry over the next two to five years?

5. Current business models in the video game industry include the sale of games (in retail outlets and via digital download), the use of product placement (i.e. use of in-game advertising), planned obsolescence (i.e. replacement of consoles periodically with new versions), and subscription services (i.e. for access to multiplayer online games) among others. How effective do you believe these business models have been and why? If discussing a business model not defined above, please provide a description of that business model in your discussion.

6. What changes do you see in the underlying business models of the video game industry over the next two to five years?

7. What social, cultural, and political issues arise from the way that video game companies conduct business?
   Games have many scientifically-documented effects, from improving health to increasing aggression. The most disturbing issues arise from the way the industry attempts to vilify any researchers who conduct studies that document evidence of harmful effects (such as violent game effect studies), while praising studies and researchers who document evidence of beneficial effects, regardless of how poor those studies may be. This provides a disincentive to parents to use the rating system (which has problems of its own as demonstrated by several good studies), as it suggests that there is no reason that parents should pay attention to game content or the ratings. Instead, the industry should be honest about the wealth of data on all the scientifically-documented effects, and use that to explain to parents why it is important that they use the ratings.

**Respondent M2**

1. In your assessment, what are the two or three most important general features, positive and negative, of the current state of the video game industry? The most positive is that youth learn many skills by playing video games. The negative is that since media literacy skills are generally not taught to children, that youth are not critical consumers of video games and that they do not realize the impact that such media may have on them individually and on society at large. Producers of video games are sometimes socially irresponsible in their messaging and yet if it sells, that's enough of a reason to continue selling.

2. From the industry's perspective, what are the main challenges facing the video game industry today?
3. What are the prospects for economic growth in the video game industry? Please focus your discussion on console units, portable game units, and PC games as well as the software associated with these units.

4. Please answer the following questions using Microsoft, Sony, and Nintendo as the basis for your discussion. For Microsoft and Sony, please limit your discussion to the video game divisions of each.
   a. What are the current strengths, weaknesses, opportunities, and threats for each of these companies?
   b. With these three companies in mind, how do you see competition affecting the industry over the next two to five years?

5. Current business models in the video game industry include the sale of games (in retail outlets and via digital download), the use of product placement (i.e. use of in-game advertising), planned obsolescence (i.e. replacement of consoles periodically with new versions), and subscription services (i.e. for access to multiplayer online games) among others. How effective do you believe these business models have been and why? If discussing a business model not defined above, please provide a description of that business model in your discussion.
   I can't answer on the business models; however, when it comes to product placement, the sponsors should be identified in the game credits/overviews so that their role in the messaging is transparent rather than obscured and hidden from the audience. The audience is paying for the game and for the product placement within it; it's only fair that they should know who is influencing the production of the product they are buying.

6. What changes do you see in the underlying business models of the video game industry over the next two to five years?

7. What social, cultural, and political issues arise from the way that video game companies conduct business?
   There are 4 known and researched effects of media violence on individuals and society. These well-known effects (increased fear of the world at large (mean-world syndrome), increased desire for violence, decreased sensitivity to violence and decreased willingness to help strangers in trouble) have impacts on how we live, and yet the makers of video games take no responsibility for the impact that their products are having. If these messages are being consciously put out by producers (and they are! because violence and sex sell), then they should have some responsibility for providing funding for media literacy education for all citizens. Alcohol companies and cigarette companies are required to provide "safety" messages; so should video game companies. Also, labelling and protections for minors' purchases should definitely be required and enforced legally.
July 31, 2009

TO: Mark Cruea
COMS

FROM: Hillary Harms, Ph.D.
HSRB Administrator

RE: HSRB Project No.: H10D005GE7

TITLE: Business Models and Associated Externalities: A Radical View of the Video Game Industry

You have met the conditions for approval for your project involving human subjects. As of July 30, 2009, your project has been granted final approval by the Human Subjects Review Board (HSRB). This approval expires on July 5, 2010. You may proceed with subject recruitment and data collection.

The final approved version of the consent document(s) is attached. Consistent with federal OHRP guidance to IRBs, the consent document(s) bearing the HSRB approval/expiration date stamp is the only valid version and you must use copies of the date-stamped document(s) in obtaining consent from research subjects.

You are responsible to conduct the study as approved by the HSRB and to use only approved forms. If you seek to make any changes in your project activities or procedures (including increases in the number of participants), please send a request for modifications immediately to the HSRB via this office. Please notify me, in writing (fax: 372-6916 or email: hsrc@bgsu.edu) upon completion of your project.

Good luck with your work. Let me know if this office or the HSRB can be of assistance as your project proceeds.

Comments/Modifications:
Stamped originals are coming to Mark via campus mail.

c: Dr. Oliver Boyd-Barrett

Research Category: EXPEDITED #7
Dear (Name of Subject):

My name is Mark Cruea and I am a doctoral student in the School of Communication Studies at Bowling Green State University (BGSU). Currently, I am completing research that focuses on business models used in the video game industry as well as the external costs associated with these business models. Examples of these external costs include effects on the environment and society in general. The research will be conducted this summer and used as part of my dissertation, which is to be completed by the end of 2009. The only requirement is that participants must be at least 18 years of age.

In order to gain a well-rounded view of these issues, I am asking for your participation via a quick written survey that is made up of seven questions. The survey is included at the end of this email, and along with several other industry and media professionals, you are being asked to provide your answers as part of the reply. In total, about 45-60 minutes is expected for completion, although I appreciate the opportunity to contact you in the future for expansion or further clarification of any of your answers.

Your participation means that the information you provide will be used in my dissertation. To protect your confidentiality, though, all responses will be coded in such a way that your answers cannot be directly attributed to you. However, since this survey is being conducted via email, which is not 100% secure, it is possible that someone intercepting your email will have access to your responses. This includes employers who may track electronic communication. The risks to you are no more than expected in the course of a normal day, but you may wish to complete the survey on a home or public computer in order for your response to remain more confidential. As such, your participation is voluntary and you may withdraw at any time. In the end, the findings of this study will provide a better understanding of how industry business models affects society in ways other than through the cost of a product. Please note that no direct benefit to you is expected.

If there are ever any questions, please feel free to contact me or my advisor using the information below. In addition, if you have questions about the conduct of this study or your rights as a research participant, you may contact the Chair of Bowling Green State University's Human Subjects Review Board at 419-372-7716 or at hscr@bgsu.edu.

If you are willing to participate, simply reply to this message and complete the survey below. By so doing, you are consenting to your participation in this study. Thank you for your time, and I hope you will consider contributing to this important work.

Sincerely,

Mark D. Cruea
419-772-2099
mrcuea@bgsu.edu

Dr. Oliver Boyd-Barrett, Advisor
419-372-6018
oboeydb@bgsu.edu
Table 1

Console Release Dates for Nintendo, Sony, and Microsoft

<table>
<thead>
<tr>
<th>Manufacturer and System</th>
<th>Release Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nintendo</td>
<td></td>
</tr>
<tr>
<td>Nintendo Entertainment System</td>
<td>1985</td>
</tr>
<tr>
<td>Super Nintendo Entertainment System</td>
<td>1991</td>
</tr>
<tr>
<td>Nintendo 64</td>
<td>1996</td>
</tr>
<tr>
<td>GameCube</td>
<td>2001</td>
</tr>
<tr>
<td>Wii</td>
<td>2006</td>
</tr>
<tr>
<td>Sony</td>
<td></td>
</tr>
<tr>
<td>PlayStation</td>
<td>1995</td>
</tr>
<tr>
<td>PlayStation 2</td>
<td>2000</td>
</tr>
<tr>
<td>PlayStation 3</td>
<td>2006</td>
</tr>
<tr>
<td>Microsoft</td>
<td></td>
</tr>
<tr>
<td>Xbox</td>
<td>2001</td>
</tr>
<tr>
<td>Xbox 360</td>
<td>2005</td>
</tr>
</tbody>
</table>

Table 2

*Nintendo’s Zelda Franchise: Video Game Release Years by Console System*

<table>
<thead>
<tr>
<th>Video Game Title</th>
<th>Console System</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>NES</td>
</tr>
<tr>
<td><em>The Legend of Zelda</em></td>
<td>1987</td>
</tr>
<tr>
<td><em>LoZ: The Adventure of Link</em></td>
<td>1988</td>
</tr>
<tr>
<td><em>LoZ: A Link to the Past</em></td>
<td>—</td>
</tr>
<tr>
<td><em>LoZ: Ocarina of Time</em></td>
<td>—</td>
</tr>
<tr>
<td><em>LoZ: Majora’s Mask</em></td>
<td>—</td>
</tr>
<tr>
<td><em>LoZ: Ocarina of Time: Master Quest</em></td>
<td>—</td>
</tr>
<tr>
<td><em>LoZ: Wind Waker</em></td>
<td>—</td>
</tr>
<tr>
<td><em>LoZ: Four Swords Adventures</em></td>
<td>—</td>
</tr>
<tr>
<td><em>LoZ: Twilight Princess</em></td>
<td>—</td>
</tr>
<tr>
<td><em>LoZ: Crossbow Training</em></td>
<td>—</td>
</tr>
<tr>
<td><em>LoZ: Skyward Sword</em></td>
<td>—</td>
</tr>
</tbody>
</table>

*Note.* Console system abbreviations include Loz=Legend of Zelda; NES=Nintendo Entertainment System; SNES=Super Nintendo Entertainment System; N64=Nintendo 64; and GC=GameCube. Presence of an em dash (—) in a cell indicates the game was not released in that given year.

Table 3

Microsoft’s Halo Franchise: Video Game Release Years by Console System

<table>
<thead>
<tr>
<th>Video Game Title</th>
<th>Xbox</th>
<th>Xbox 360</th>
</tr>
</thead>
<tbody>
<tr>
<td>Halo: Combat Evolved</td>
<td>2001</td>
<td>—</td>
</tr>
<tr>
<td>Halo 2</td>
<td>2004</td>
<td>—</td>
</tr>
<tr>
<td>Halo 3</td>
<td>—</td>
<td>2007</td>
</tr>
<tr>
<td>Halo Wars</td>
<td>—</td>
<td>2009</td>
</tr>
<tr>
<td>Halo 3:ODST</td>
<td>—</td>
<td>2009</td>
</tr>
<tr>
<td>Halo: Reach</td>
<td>—</td>
<td>2010</td>
</tr>
<tr>
<td>Halo: Anniversary</td>
<td>—</td>
<td>2011</td>
</tr>
<tr>
<td>Halo 4</td>
<td>—</td>
<td>2012</td>
</tr>
</tbody>
</table>

Note. Release date for Halo 4 is the anticipated release date. Presence of an em dash (—) in a cell indicates the game was not released in that given year.

Source: Microsoft (2011b).
Table 4

Sony’s Ratchet & Clank Franchise: Video Game Release Years by Console System

<table>
<thead>
<tr>
<th>Video Game Title</th>
<th>Console System</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>PS2</td>
</tr>
<tr>
<td>Ratchet and Clank</td>
<td>2002</td>
</tr>
<tr>
<td>Ratchet &amp; Clank: Going Commando</td>
<td>2003</td>
</tr>
<tr>
<td>Ratchet &amp; Clank: Up Your Arsenal</td>
<td>2004</td>
</tr>
<tr>
<td>Ratchet: Deadlocked</td>
<td>2005</td>
</tr>
<tr>
<td>Ratchet &amp; Clank: Size Matters</td>
<td>2008</td>
</tr>
<tr>
<td>Ratchet &amp; Clank Future: Quest for Booty</td>
<td>2008</td>
</tr>
<tr>
<td>Secret Agent Clank</td>
<td>2009</td>
</tr>
<tr>
<td>Ratchet &amp; Clank Future: A Crack in Time</td>
<td>2009</td>
</tr>
<tr>
<td>Ratchet &amp; Clank: All 4 One</td>
<td>2011</td>
</tr>
</tbody>
</table>

*Source: GameSpot (2011).*