THE FREE-TO-PLAY GAME COMMODITY

A SHIFT IN

DIGITAL GAME PRODUCTION

AND GAME DESIGN

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Abstract:

Over the last couple of years the free-to-play digital game has become a real phenomenon in the games industry; game publishers are releasing their games for free, without consumers necessarily paying for it. The concept of a free-to-play game has a different business model than the more traditional digital game, which also results in a different game commodity. This thesis investigates the shift from a traditional flat-fee or monthly subscription game commodity, towards a free-to-play game commodity. By exploring the shift towards a free-to-play game commodity, from a political economy approach, this thesis critically engages with its industry structures, business models, production and game design. This thesis is divided in three levels of analysis, it will start with a macro approach and look at the overarching level of freeconomics in digital culture, thereafter it will zoom into digital game production and free-to-play game production, and finally, it will take a micro approach and investigate free-to-play game design. Taken together, these three levels will critically analyze the free-to-play commodity form a political economy perspective. Compared to the traditional digital game commodity, this thesis will show how the free-to-play commodity uses audience labor to add surplus value and, in some form, control the monetization process through an extensive focus on post-development. It is therefore argued that the free-to-play game commodity embodies new forces of production, design and consumption in the games industry, and is a clear attempt of capital to force itself beyond its limits to commodify digital games with a new scope and intensity.

Keywords: *free-to-play game commodity, political economy, game production, inconvenience design, freeconomics*

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INTRODUCTION

Five years ago I started playing a fan-developed Pokémon MMORPG[1]; the game was free and lived mainly of the donations of its players. It offered the option to buy special items through PayPal, in order to pay for the servers which kept the game running. At the time I did not really perceive the game as being free-to-play. For me it was just a fun game, which gave me the option to buy valuable virtual items[2], which, in the long run, would enrich my play experience. I am not sure how much money I spent on the game, but it was definitely more that the current price of a retail PlayStation 3 or Xbox 360 game. While free-to-play games (from now on F2P games) have been around since the late nineties with games as *Furcadia* (Dragon's Eye Productions, Inc. 1996), *Dreams of Divine Lands* (Iron Realms Entertainment 1997) and later *RuneScape* (Jagex Games Studio 2001), the model has really started to pick up steam in the last two years. The concept of F2P games refers to any digital game that has the option to play/download the game for free and keep playing without (necessarily) paying for it. The last couple of years the F2P model has become more widely used in the gaming industry and not only by small game developers, but, now, also big publishers are trying their hands on the concept. The Triple-A[3] MMOGs *Star Wars: The Old Republic* (BioWare 2012) and *Tera* (Bluehole Studio 2012) have recently left the monthly subscription business model behind for the F2P concept. At the 2013 Electronic Entertainment Expo (E3) gaming giants Microsoft and Sony revealed their gaming line-up for their upcoming consoles: respectively the Xbox One and PlayStation 4. With high expectations of their new games, I was surprised to see numerous amounts of F2P games for the next generations of video game consoles. Sony introduced games like, *Warframe* (Digital Extremes 2013), *DC Universe Online* (Sony Online Entertainment 2013) and *PlanetSide 2* (Sony Online Entertainment 2013) as being F2P, and Microsoft revealed that the *Project Spark* (Team Dakota 2014) and the renewed classic *Killer Instinct* (Double Helix Games 2013) would also be F2P. Despite there being some controversy[4] about F2P games, it is interesting to note that it has been the first time in seven console generations that any console maker has announced that their new console would support F2P games. While there had been a couple of F2P games on the PlayStation 3 such as: *Dust 514* (CCP Shanghai 2013) and *Free Realms* (SOE San Diego 2011), they never had a prominent

[1] Pokémon is a media franchise published and owned by Japanese video game company Nintendo. The theme of the games is the collecting, training, and battling of Pokémon. A Pokémon MMORPG is a massively multiplayer online role-playing game set in the Pokémon universe.

[2] Virtual items are digital constructs created within virtual worlds, which may refer to entirely new characters, weapons, outfits, gold (as an in-game currency) and so on (Guo and Barnes 70).

[3] A Triple-A game, is a jargon in the games industry for (console) games developed for major platforms, and major audiences with enormous development and marketing budgets.

[4] Since the upcoming of free-to-play games in 2011, the games have been bombarded with mostly negative comments about its focus on monetization, rather than the fun of the players (Luton 1). Braid (Number None, Inc. 2009) creator Jonathan Blow said "there's no other word for F2P except evil", and a couple of months ago the Dutch developer Vlambeer mentioned that a "non-evil freemium game is almost impossible" (Luton 1). The prime example that comes up in most current discussions about the F2P concept is that of pay-to-win. Pay-to-win refers to (F2P) games which enable "rich" players to win/beat other players by paying for high priced items; these items are harder to get for the non-paying player and this creates an imbalance between the players.

spot in Sony's gaming portfolio (let alone get attention at an E3 press conference), and F2P games were almost non-existent on Xbox Live for the Xbox 360. Thus, with Sony's and Microsoft's E3 announcements it could be argued that F2P games have taken a more prominent spot among the different gaming business models. However, this acceptance of F2P games has not always been the case in the games industry, and the recent shift towards the acceptance of this model is exactly what this thesis will address.

What I am most intrigued by is the production of and the switch towards a F2P game commodity[5] in the digital gaming industry. For some developers and publishers, including the gaming giants Sony, Microsoft and Nintendo, the F2P game seems to be a new innovative manner in which they can generate revenue. While the concept is, for now, bound to some segments of the market, it raises multiple questions which demand academic inquiry. We can for instance wonder; how the F2P commodity differs from the more traditional digital game commodity[6] and how this influences their game design, business models and production, or how F2P games are situated against other free digital products and services.

For a game developer, the switch to a F2P game could mean that the game has the potential to reach a larger audience, but as game scholar Juho Hamari and digital cultures scholar Vili Lehdonvirta point out, this means a developer also has to find different ways to monetize the game (15). In the last couple of months multiple games, mainly Massively Multiplayer Online Games (MMOGs), have been switching to the F2P model. And according to *Tera's* Chief Operating Officer, Soo Min Park, the F2P model has turned their luck around. The monthly revenue for *Tera*, as a F2P game, is three times higher than their last month's subscription revenue, and their player-base multiplied by ten since offering the game for free (Miller 1); EA's *Star Wars: The Old Republic* had similar success with the model. According to SuperData Research, the F2P market will continue to grow in most parts of the global gaming market; the research company expects that in 2015 this market will rise to £14.23bn, an increase of 53.5% over the next couple of years (Dring 1). The commercial success of this market, and the games that switch to a F2P, provides an interesting academic relevance. Since this relatively new game commodity has started to become a real phenomenon in the games industry.

In their book 'Digital Play' (2003) media scholars Stephen Kline, Nick Dyer-Witheford and Greig de Peuter describe digital games as the *ideal commodity* of post-Fordism, information and promotional capitalism (75). Although Kline et al. already described digital games as the ideal commodity of the information age in 2003, I want to expand on this argument and show that the F2P

[5] A (game) commodity is a marketable product or service produced to satisfy wants or needs of consumers by, "turning use values into exchange values, or transforming products whose value is determined by their ability to meet individual and social needs into products whose value is set by their market price" (Mosco 132).

[6] The traditional game commodity is a game which is sold for a flat-fee or as a subscription-based-service that, is industrially designed and manufactured, extensively marketed, and bought and sold in massive numbers (Sotamaa 394).

game commodity nowadays could be seen as an *ideal commodity* from a game developer's and game publisher's perspective. The F2P game commodity ties in with the overarching concept of *freeconomics* within the digital/information age; where services or products are given away for free and are monetized in a different way than the regular flat-fee for a product or service (Anderson 15). In this thesis I am going to investigate the shift from traditional flat-fee or subscriptions model game commodities, towards the F2P game commodity; and research in what manner game developers or publishers could see the F2P game as a (ideal) commodity form in the current capitalistic mode of game production.

RESEARCH QUESTION, THEORY AND METHODOLOGY

In order to investigate the games industry's shift towards a F2P game commodity this thesis reflects upon the political economy of the (F2P) games industry by critically engaging in its business models, production and design practices. In this thesis a political economy perspective is used to identify the relevant parties in the circumstances of F2P game production and design. According to game scholar David Nieborg, in order to study games from a political economy perspective they should be understood and theorized as cultural commodities (9). In his doctoral dissertation about the political economy of the blockbuster video game, Nieborg uses critical theorist Douglas Kellner (2002) to suggest that economics is a cultural ordering mechanism; "it establishes the logics of cultural production, circulation and even consumption" (9). Therefore, within this thesis I view digital games as cultural commodities and I will address in what manner F2P games fit in this description. To guide this thesis the following central question is constructed: '*How and why are game developers and publishers shifting from the traditional game commodity towards a free-to-play game commodity?'*.

According to media scholar Randy Nichols, the study of digital games has rarely focused on a critical examination of production (1), but a political economic study of video games offers one way to address the manner to analyze the circumstances of production. Vincent Mosco in his book 'The Political Economy of Communication' (2009) states that, in a narrow sense, political economy is the study of social relations, particularly power relations[7] that mutually constitute the production, distribution and consumption of resources (2). In her book 'The Business and Culture of Digital Games' (2006) Aphra Kerr shows that the political economy approach is quite distinct from standard economics (4). According to Kerr, standard economics is concerned with improving efficiency, competitiveness and profit, but political economy is concerned with the issues of power and inequality which operate in and through the media industries and media texts. Therefore, a political

[7] With power relations this thesis mainly refers to the different circumstances of digital (F2P) game production that shape the F2P game commodity form.

economy perspective of F2P games insists on an examination of the circumstances of production that give rise to any given distribution of power and of the consequences for consumers, but also developers, publishers and other relevant parties involved. By situating F2P games in this wider political economy perspective I can evaluate how F2P games fit into the games industry, but more importantly into the bigger cultural industries. Kerr argues that the current focus of the cultural industry is on how the capitalist system restructures and influences the commodities that get produced (44). According to Mosco, *commodification* is an entry point from which to theorize the political economy of communication. When looking at F2P games, the commodification process is different from the more traditional game business models. Mainly because a F2P game is free and therefore it has to generate profit in a different manner and with this, it generates different affordances for the developer, but also the player.

The production process of cultural products is formed by multiple factors and different circumstances, and Kline et al. therefore structure the games industry as interplay between political economy, cultural studies and media theory which gives them a multidimensional theoretical framework. For them, the ideal commodity form embodies the most powerful economic, technological, social and cultural forces at work in a regime (Kline et al. 74). They go on to state that such a commodity tends to reflect the whole social organization of capitalism at any historical and geographical point in its development. For this thesis I will therefore focus on the wider cultural industry while making use of Mosco's political economy theories on spatialization and commodification to give an overview of the games industry shift towards a F2P game commodity. According to Mosco, spatialization is best understood as " the institutional extension of corporate power in the communication industry" (158). This relates to what Kline et al. describe as the globalization of games and the expansion of the digital game commodity to new audiences and new markets (189). This concept will be used to investigate the increasing economic viability of the F2P game commodity. Commodification refers to, according to Mosco, the process of turning use values into exchange values, of transforming products whose value is determined by their ability to meet individual and social needs into products whose value is set by their market price (132). Most digital games are created by a group of game developers, who in most cases, as waged laborers, create a marketable product. And like most sectors in the media industries, the development of these games aims at generating surplus value to the product, and with this: profit (Kline et al. 21, Nieborg 12). Kline et al. state that at the heart of the gaming industry there exists a contradiction between "commodification and play", a tension that paradoxically drives its frenzied creativity and subverts its own success (57). With this thesis I will argue that within F2P game production this tension becomes very real, since developers are sometimes forced to take the commodification process one step

further (into the design of the game) than with traditional games; seeing that most F2P games do not make any profit when a consumer first acquires the game.

For this thesis I will theorize the F2P game as a techno-economic-cultural artifact by investigating how F2P games are produced and which purpose they serve for game developers, game publishers and players (Kline et al. 28). To be able to theorize, critique and unfold the F2P commodity form and ground my arguments, I will zoom in from an overarching level of digital culture, to game production, to game design, each with a political economy perspective. In order to engage with the issues of technology, economics and culture, this thesis will follow a critical political economic approach. The qualities of such approach are summarized by media professor David Hesmondhalgh as being critical, normative, historical and holistic (31). According to Nieborg, this critical approach means that the dominant ideology of a profit-oriented capitalism is to be questioned at all times (29). The two guiding political economic concepts, spatialization and commodification, that theorize the F2P commodity form for this thesis, create a guiding methodological approach. To investigate these two concepts this thesis will use an institutional analysis, which according to Nieborg is concerned with, "tracing industry structures and their effects" (34). For this thesis this consists of a study of the F2P market structure and its position among the games industry and the wider digital culture industry. Because of the given space for this thesis, I have not been able to conduct interviews with game developers and publishers in the games industry myself, but industry sites such as Gamasutra and Gamesindustry provide an abundance of articles and interviews that dive into this subject. I have also used multiple academic works on the games industry structure and its economic situation for this analysis (Kline et al. 2003, Kerr 2006 and Nieborg 2011). The findings of this institutional analysis will be used alongside a literature study of game production from a political economy perspective; in order to analyze the different circumstances of game production, as this process inherently deals with different risks of cultural production. While I have not been able to visit multiple game studios and investigate their production structures and their relation to the industry, in order to get a better grip on the intricacies of the different strategies concerning game production, I have been able to get an inside look at the game production process during a six month research internship on F2P games at the game developer Vanguard Games in Amsterdam (see also, Hollanders 2013). To further support the analysis of game production I have used numerous academics sources that examine the different circumstances surrounding game production (Kerr 2006, Kline et al 2003, Juul 2010 and Nieborg 2011). To investigate the F2P commodity on the level of game design, this thesis will use a textual analysis of two F2P games; this will connect the more abstract theories to practical examples of these games as a F2P game commodity. In this analysis I will not explicitly focus on the content of game, but more on its game design and how this connects to its monetization design. I therefore follow Nieborg, who uses this analysis for the observations of Triple-A games in "specific contexts of

production" (33). For the textual analyses I have played a widespread library of F2P games, but extensively played *Candy Crush Saga* (King 2012) and *Star Wars: The Old Republic*. I will therefore use play as a method of direct game analysis. According to game scholar Espen Aarseth, simply analyzing code or observing others play provides insufficient data to really provide informed game scholarship, "If we have not experienced the game personally, we are liable to commit severe misunderstandings, even if we study the mechanics and try our best to guess at their workings" (3). By having played both games extensively, I have been able to take a more analytical approach to their game design and monetization design as I analyze them as F2P commodities (Aarseth 6). While both games are completely different, they are both at the top of their F2P market segment. *Candy Crush Saga* could be described as a casual match-3 game, which is played on both personal computers through Facebook, and mobile devices by millions of people; this game represents the casual segment of the F2P commodity. *Star Wars: The Old Republic* is a big production MMOG, focused on the hardcore PC gamer and is published by Electronic Arts which, since it has gone F2P, has seen an enormous increase is users and revenue; and this game represents the hardcore segment of the F2P commodity. I considered both games as paradigm cases and a great representation for the wide variety of F2P games in the industry.

Using the above mentioned theoretical framework for this thesis, I will be able to critically analyze the game production and commodification process of the F2P segment of the games industry. In this manner, I can analyze how the forces that influence the circumstances of F2P game development are not a mere product of the political economy on the business side of the industry, but also the product of political or cultural forces. For example: the difference in game audiences; hardcore or casual gamers[8] (which have different manners of playing games, based on demographics, consumption or game connotations), are forces that can classify the manner in which a F2P games are developed and designed. Therefore, not only the production processes of the games industry are important for this thesis, but also the processes of the wider cultural industry and the different audiences that play games on diverse platforms which each have different affordances.

This thesis is divided in three chapters and these three chapters are best described as three levels of analysis. In chapter one I will start with a macro approach and look at the overarching level of freeconomics in digital culture, in chapter two I will zoom into digital game production, and finally, in chapter three I will have a micro approach and take a close look at F2P game design; taken together these three chapters critically analyze the F2P commodity form on multiple levels of analysis. In the first chapter I will expand upon my theoretical framework by investigating the

[8] Game scholar Jesper Juul defines the stereotype hardcore players as "a player who has played a large number of video games, will invest large amounts of time and resources towards playing video games, and keeps up to date with video games news" (8). The stereotypical casual player is, according to Juul, the inverted image of the hardcore player. This player is willing to commit little time and few resources toward playing video games and dislikes difficult games (8). The casual player is also bound to gaming platforms which provide affordance for their specific gaming needs.

political economy in relation to games, but also the wider digital culture. With the use of this framework I will look at the phenomenon of "free" in the current information age and the commodification and spatialization of (free) games. This chapter will therefore also step outside the borders of the games industry and take a broader look at the concept of free products/services. In the second chapter I will combine the framework of the first chapter and, with the use of the political economy perspective, critically analyze the changes in circumstances of production within the games industry. This chapter will touch upon concepts such as the economics of game production, game consumption (different audiences) and risk management. Through a combination of new media and game studies literature, and specific games industrial sites, such as Gamasutra and Gamesindustry, I will research the implications of F2P game production and the commodification of F2P games. The final paragraphs of the second chapter will dig into the F2P game production process and the use of player data, metrics and the ARM funnel[9]. In the third and final chapter I will deconstruct the monetization design of two F2P games based on what I call *inconvenience design* and examine the different affordances that come into play within this design process. Here I will touch back on the previous chapters and investigate how this design concept reflects freeconomics, F2P game production and discuss why F2P games could be seen as the ideal commodity form for a game publisher in the current mode of game production.

CHAPTER 1: WHAT IS THE "FREE" IN F2P?

In this first chapter I will investigate the F2P game commodity by looking at the spatialization and commodification of (free) digital games. I will use an institutional analysis to investigate the expansion of the digital (F2P) game commodity to new markets and new monetization models. This approach will be used in order to position the F2P game commodity and its' market structure within the overarching level of freeconomics in digital culture. By using the political economy framework, this thesis recongizes that the games industry, like other media industries, exists with an capitalist framework (Kline et al. 21). According to Nicholas, this capitalist framework leaves its fingerprints on the different areas of game production, which could have a big influence on the manner in which new innovations are being shaped, contained, controlled or channeled to maximize profit (3). Although there are multiple segments of the industry which are rooted in this capitalistic framework, it is important to note that, for example, the Triple-A console segment has a different political economy compared to the MMOG segment. According to Nieborg, the latter segment has a mixed revenue stream, deriving income from the sale of physical copies, subscriptions, advertisements or

[9] The ARM funnel is a design/development method in order to monetize on F2P games. This method gives the developers the opportunity to set business goals through metrics, and monitor these metrics in three phases namely, acquisition, retention and monetization (King and Chen 3). This model is further discussed in chapter 2.

microtransactions and tends to be more on PC platform (76). Therefore, these types of games have a slighty different techno-economic logic as for example, the Triple-A game. F2P games have crossed over to many different segments of the games industry, but because of the limited scope of this thesis I will mainly look at the PC MMOG segment and the casual game segment.

1.1 THE DIGITAL GAME COMMODITY

Over the past decade the games industry has grown into an enourmous economic force in the media industry; the recent launch of the much anticipated *Grand Theft Auto V* (Rockstar North 2013) saw the game generating a enormous 800 million dollars in day-one sales (Ligman 1). While this Triple-A segment of industry receives the most attention in the media, the games industry has continued to grow, change and diversify in terms of hardware and software platforms, business models, formats and game genres (Nieborg 22). This expansion of games and business models result in numerous commodity forms, for variety of audiences and entails multiple forms of commodification.

Most of the (hardcore) games are still being developed targeting the retail supply chain, but over the last couple of years the industry has started to shift to a more digital approach (Lizardi 34). According to market research, the industry is moving rapidly to digital distribution. From 2009 to 2011, the ratio of physically distributed games dropped from 80% to 69%, and digitally distributed games rose significalty over these two years (Marchand and Hennig-Thurau 151). For the Triple-A console segment of the market, players used to be only be able to buy PlayStation 2 and Xbox games from their local game retailer. But with the current generation of consoles, PlayStation 3 and Xbox 360, players can also buy the majority of the Triple-A games digitally. Advances in technology play a large role in the digital distribution trend, as much of the digital distribution would have been difficult if not impossible a few years ago. While I am not stating that this is a purely technologically determined business strategy, larger hard drives and faster internet speed certainly opened up the possibility for these digital downloads and with this changes in the market structure. In addition to the full-game digital downloads, the Triple-A segment of the games industry is also trying to extend the commodity life of their games through paid downloadable content (DLC). Adding post-launch content is not completely new, seeing that PC games such as *The Sims* (Maxis 2000) or *World of Warcraft* (Blizzard Entertainment 2004) already had expansion packs which were selfcontained retail additions to a standalone game. Yet, whereas console gamers were used to paying for a game and enjoying it for a certain period, the intensification of DLC provides the tools to extract more value from these games. It could be stated that with DLC, game publishers are trying to create a perpetual cycle of commodification that lasts long after the consumer inserts the physical disc into the console or PC (Lizardi 37).

According to communication scholars Tiago Reis Alves and Licínio Roque, MMOGs already

required a monetization model that allowed the sustainability of the games throughout a much larger cycle (658). In a MMOG, the game publishers has cost not only in the development of the game, but there is also a very hefty amount of resources spent to keep the game running. From the early 90's this resulted in that with most games the publisher would result to a subscription-based business model for the MMOG, in which the player had to pay a monthly fee in addition to the initial purchasing fee of the game (Quick 1). While there are variations on this monetization model, some MMOGs are shifting towards a completely different model and are both losing the initial purchase price and the monthly fee, and in this manner go F2P. While there are some Triple-A console games that are F2P, these are predominantly also MMOGs, and borrow the adaptive and versatile nature of their PC peers. The typical Triple-A single player/multiplayer game is probably a far cry away from shifting towards the F2P model. But according to Nieborg, both segments do have in common that, in their commodity forms, they are in constant flux; "they are constantly added upon and expected to be continuously altered on a textual and technological level" (50). This becomes evident with franchises as *Call of Duty* (Activision Blizzard 2003*)*, who have an extensive DLC strategy, to keep gamers coming back for new modes or multiplayer maps. In some manner Mosco's notion of immanent commodity is exemplified with the DLC strategy of franchises like *Call of Duty* in the sense that "one commodity gives rise directly to an-other" (141).

Next to this hardcore gamer market, the casual market[10] has been growing tremendously, bringing along multiple new commoditity forms (Juul 2). According to new media scholar Maura Bouça, casual games have a broader audience than hardcore gamers and a lower entry barrier; mobile and social network games are often included in this category (4). Juul gives, in his book 'The Casual Revolution' (2010), an in-depth analysis of the casual game market and points out that while video games have traditionally been sold in stores, players of casual games go to website such as RealArcade or Big Fish to play games, and play most their games digitally (79). He goes on to state that these casual games were downloadable and often had a free trial for sixty minutes, played an important role in bringing industry and popular awareness to the fact that video games could reach outside their assumed audience of young men (Juul 80). Social network games such as *CityVille* (Zynga 2010) have reached 100 millions of users, and Finish game scholars Heikki Tyni, Olli Sotamaa and Saara Toivonen point out that this only emphasizes the importance of the casual game commodity in the larger games industry (22). Tyni et al. go on to state that these games, which are in most cases F2P, "represent a major shift from the traditional model of packaging digital games as "fire" and "forget" commodities and illustrate how the global games industry is moving from providing discrete offerings towards establishing ongoing relationships with players" (22).

[10] While the definition of casual games, much like all definition of other game segments, can be widely interpreted. The stereotype casual player, according to game scholar Jesper Juul, is someone who likes mainstream fiction, has little knowledge of video game conventions, is not willing to invest a lot of time in playing games and is averse to difficult games (50).

Although this paragraph does not address all the different commodity forms in the games industry, it does show how the games industry has, over the years, expanded into new markets and adapted new monetization models. All of the different segments discussed, have over time, in some manner, changed their commodification cycle and with this their commodity form. Since this thesis focuses on F2P game commodities, I mainly concerned myself with the games that have a strong relation to the F2P model. It is therefore important to indicate that the rise of F2P games have, for now, also largely fallen into the two above mentioned categories: casual games, like those offered by social network sites or the mobile devices gaming stores (Apple App Store and Google Play Store) and MMOGs for the personal computer (Markowitz 1). But not only the gaming industry has seen a shift towards the offering of free products/services, also within the wider media/digital industry these phenomena are ubiquitous. In his book 'Free: The future of a radical price' (2009) Chris Anderson, author and former editor-in-chief of WIRED magazine, introduces the concept of freeconomics as an umbrella term for the numerous of business models based on making money by giving things away for free. By investigating the concept of free(conomics) in the wider digital culture, I will be able to compare and critically analyze the F2P game commodity to other free products/services and place its' market structures in a wider perspective.

1.2 FREECONOMICS

Over the years, consumers have gotten used to free online news, free email services, free search-engines, free software, free social networks and free videos (Reime 8). The rise of these free services is, according to Anderson, being driven by the underlying technologies of the digital age. Anderson uses Moore's law to support this argument, as this points out that we get, twice the digital effort for half the money every two years e.g. more pixels on a camera, more transistors on computer hardware, meaning normal price assumptions (demand up, price up) have been turned upside down and the "net annual deflation rate of the online world is nearly 50 %" (13). According to Anderson, the internet has enabled a whole new industry of "free" with monetary services such as Google and Facebook, but also nonmonetary services such as Wikipedia, who don't expect any form of payment in return. Anderson therefore states that there is a new form of free, a 21st century adapted version, and he argues that "while the last century's free was a powerful marketing method, this century's free is an entirely new economic model" (12).

Anderson provides a rather utopian perspective on the concept of freeconomics, but I will take a more critical political economy perspective towards this concept. From the latter perspective, the concept of freeconomics, with its multiple free-business models[11], shifts traditional business

[11] Chris Anderson introduces four free business models namely; direct cross-subsidies (buy one product, get a second one for free), third-party system market, freemium and the non-monetary market.

models to extract more value out of a product or service. When a service or product is free, the company providing the product/service uses the consumer (and its actions) as a product in a third-party market to sell to an advertiser and generate profit. While services such as Google and Facebook are free to use, both these companies monitor their users' actions and provide specific advertisements based on their preferences and actions. New media scholar Mirko Tobias Schäfer uses the term implicit participation to describe this process, where user data is collected and used for marketing research and advertisement purposes, without the audience directly being aware of this process (52). Nothing is therefore really free in freeconomics, the user of the free product or service becomes, in most cases, a product herself. Yet, throughout the years the internet has evolved through free content and services, and it could be argued that consumers have gotten used to this and expect free services delivered online. This becomes evident when you look at Apple's iPhone App Store top grossing list, as most of the top grossing apps (77%) are free to download (Fox 1). But one of the best examples of companies that have completely embraced the free concept is Google. The company offers nearly a hundred products, starting with their famous search engine, to photo editing software and almost all of these services are free of charge. Anderson argues that the reason that Google adopts the free business model as their default business strategy is because it is the best way to reach the biggest possible market and achieve mass adoption (123). To put this in a political economy perspective, the free-business model is a strategy that also structures the process of commodification. In order for a product or service to be given away for free it systematically creates a significant impact on the manner in which it is produced and monetized.

While there are different monetization models for free products and services, companies such as Google and Facebook mainly accumulated their profit based on the third-party market (Bodislav 3). Within this system there is a third-party who pays to participate in a market created through free exchange between two parties (the producer and consumer). This is the most common of economies built around free, and has a lot of similarities with the traditional monetization model of radio and TV. Radio stations are, practically, free to listen to and the same goes with television. In some form this has become increasingly normal with magazines and newspapers; these businesses don't charge the real price for the creation, printing and distribution of their products. They don't sell newspapers to readers; they sell readers to advertisers (Bodislav 4). This makes it a third-party market. Political economy scholar Dallas Walker Smythe also labels this as the audience commodity, "because audience power is produced, sold, purchased and consumed, it commands a price and is a commodity; like other "labor power" it involves "work"" (233). According to Smythe, the customer of an above mentioned media channel is neither the viewer nor the audience, in contrast, he argues that the audiences are the workers. They provide the product, attention, viewing time and audience consciousness, which is then sold to the actual customers of the media channel, namely the

advertisers (Smythe 232). Thus in a way, digital companies who provide services for free represent an extension of this traditional monetization media model.

For digital games the concept of playbour, a hybrid between play and labor, signals a more explicit form of audience work. With the development of user-created content, like additional levels and modifications, the game playing audience can add value to the game commodity (Postigo 303). While this could also be seen as a way of playing the game, it can yield considerable financial gains from unpaid labor for the game publishers (Postigo 310). However, creators of the modifications are often well aware of this situation, but tend to not always see it as exploitation as long as their way of playing is still possible and fun. Although this is a rather explicit form of audience labor in games, the F2P game commodity uses a more implicit manner of audience labor; which has more similarities with how companies such as Google and Facebook handle their audience. In F2P games, the audience labor mostly consists of player data that can be retrieved by the game developer. This data gives the developer information about player demographics, but also about their play style, what they like in the game and other variables that are related to their play session. But unlike Google or Facebook, this data is not commonly used in a third-party advertisement system; seeing that this monetization model has not proven to be very lucrative for F2P games. Instead, it is used to optimize the monetization of the F2P game commodity itself. Bill Cousins, former general manager of EA's free-to-play gaming division, said that micro transactions[12] are the way to go with F2P game monetization (Senior 1). In a mobile gaming report from the market research firm Newzoo, the U.S. mobile phone gaming segment generated 90% of its revenue in 2012 through these microtransactions (Rose 1). But in order for a developer to be able to successfully monetize on these microtransactions he could use implicit audience labor (player data). This data gives the developer the opportunity to adjust his monetization design based on the manner in which the players play. Therefore, it is not strange that F2P business models for casual games monetizes users by offering them virtual items through microtransactions, which (could) enrich or speed-up the game experience (Hamari and Lehdonvirta 15). However, in order for a player to be willing to pay for microtransactions the developer needs to create monetizable needs. I argue that this mainly done through *inconvenience design.* In for example *Angry Birds* (Rovio 2009), the developer Rovio does not only use advertisements to sell their players (audience) to a third-party (LeJacq 1), but they use their advertisements as an inconvenience (inconvenience design) for the players, in order to create monetizable needs and persuade them to a premium version of the game. In the third chapter of this thesis I will elaborate further on the concept of inconvenience design and use two textual analyses to show how this is implemented in the design of the game and how it relates to monetization design

[12] Microtransactions involve selling some form of virtual items or currencies to the user of an online service or product (Hamari and Lehdonvirta 14).

and the F2P commodity.

This paragraph briefly shows that the concept of free is omnipresent in the digital/online culture, but that it still has a lot in common with older media models. However, for digital games the concept of F2P clearly shifts (compared to the traditional business model of a flat-fee or a monthly subscription game) the monetization design towards a business model which allows users to enter the game for free, and threat the game as an ongoing service. The F2P game developer could use the implicit audience labor to adjust the monetization design of their game and extract value out the play actions of the players. Compared to the traditional digital games, the audience in F2P games becomes a commodity in the production process of the game; and seeing that this is currently the most profitable monetization model for F2P games, it also structures the market of this gaming segment. I would argue that for a majority of the F2P game developers, this results in a monetization design which uses inconvenience design mechanics, which entices players to spend money to overcome these inconvenient hurdles; that the developer deliberately set up to extract (more) value out of their audience. I also argue that this results in a "commodification of play" in F2P games, which is unlike that of a flat-fee or monthly subscription game, and creates a tension between designing for fun and designing for profit.

1.3 COMMODIFICATION OF PLAY

According to Kline et al. there is, at the heart of the gaming industry, a contradiction between "commodification and play" (57). Over the last decade the games industry has grown and the increased competition for marketing shares has led to adapting a range of new business strategies that aim to reduce the risks involved in developing digital games (Sotamaa 383). Game scholar Olli Sotamaa points out that many of these new business strategies, such as media consolidation, franchising and sequels, are very similar to those practiced among other cultural industries (383). Kerr notes that "from an economic perspective games are merely commodities, created as cheaply as possible and sold in those markets that are rich enough to afford them" (1). But when you take a cultural perspective, games should be understood as designed artifacts and emergent culture. Therefore Sotamaa states that "digital games are artifacts that consist of millions of lines of code and are sold to consumer as commodities" (385). To be able to analysis the contradiction between commodification and play for the F2P game commodity, it is important to first, briefly, look at the concept of play. By situating play in game design literature, I am able to take a political economy perspective towards the commodification process of this concept within the (F2P) game market segment.

The concept of play has been one of the central concepts in game studies and is therefore practically inseparable from the study of digital games. While there have been multiple theorists who

have conceptualized play (Huizinga, Caillios, Sutton-Smith), game scholars Katie Salen and Eric Zimmerman provide a useful overview of play/game theories from game designer's perspective. They define a game as a systems-oriented and formalist one: "A game is a system in which players engage in an artificial conflict, defined by rules that results in quantifiable outcome" (Salen and Zimmerman 80). Salen and Zimmerman also use Dutch academic Johan Huizinga's concept of the "magic circle"[13] as a core concept to refer to "the special place and time created by a game", but they note that this circle is both closed and open at the same time (95). Thus, although digital games are in some cases demarcated from reality and operate within rules, they are also influenced by external factors (such as operations that players bring into the game, sometimes not intended by the game designer), and are situated within culture at large (Salen en Zimmerman 103). According to Kline et al., play has, throughout history, been a cultural form valued as; a way of teaching skills and for its role in physical cognitive, emotional and social development (243). But they also note that the last century the idealization of play became increasingly commodified (Kline et al. 244). In the age of marketing, play comes to serve new functions through which players are being introduced to the attitudes and social relations of consumerism. The paradox of play in the information capitalism is, for Kline et al. that it encourages and expands the enclave of freedom and self-development of "pure play", but it also begins to undermine that area by commodifying it (245). To put this in a political economy perspective, as play has become more distributed into the marketplace, the aim of the digital game is to create a game player who at the same time is also, simultaneously and of necessity, a game consumer. Sotamaa therefore rightfully states that the commodity form of games exercises a profound influence over the forms of play(ing); "today more than ever before, gaming exists as a commodity" (Sotamaa-b 4). Seeing that culture is commodified into game titles, the player encounters a virtual world where big gaming corporations strictly control the game's flow and with this, the play affordances of the player (Sotamaa 385).

While MMOGs provide their players with access to otherworldly virtual places, the content of the game, including for example the online identities of the players, their weapons or in-game houses, are the intellectual property of the publishing company and the environment is actively controlled through various rules, codes and (business) strategies (Harambam et al. 307). But just outside of the rules, codes and business strategies of for example, *World of Warcraft,* there is grey market which sells virtual goods on a real-world market places; magical helmets, enchanting swords and game-world currencies (such as gold pieces), which can be bought and sold on eBay and other similar online markets. This practice has generated, among other things, the process of gold

[13] In Homo Ludens (1949) Johan Huizinga uses the concept of the magic circle to point out that play happens in playgrounds which are clearly demarcated; "the magic circle {..} are all in form and function play-grounds , I .e. forbidden spots, isolated hedged around, hallowed, within special rules obtain (Huizinga 1949: 10)" (Kerr 30).

farming[14] or real-money trading which refers to a body of practices that involve the sale of virtual in-game resources for real-world money (Ahmad et al. 2). These markets give players who don't have a lot of time, but do have a lot of money, the option to not play (grind/fight bosses in order to receive a specific item or currency) for certain items, but buy them, and with this skip a certain "play" process normally mandatory in these games.

According to communication scholars Ahmad et al., the scale of real money trading has been estimated to be no less than $100 million and upwards of $1 billion annually in 2009 (3). The game publishers of MMOGs have, overall, not been positive about the gold farming process and in some cases have started banning accounts; mainly because the in-game economies are designed with activities and products that serve as sinks to remove money from circulation, and prevent inflation in the MMOG (Ahmad et al. 3). While the process of gold farming points towards a commodification of play that, generally, goes beyond the rules set by the game developer, it might have influenced ideas about how developers and publishers can further commodify their game. While virtual items sales on eBay exist outside of the scope of the developers and leaves them empty handed, it is not strange that developers have recognized the economic potential of selling virtual items (Guo and Barnes 69). The MMOG example of gold farming, allows player to buy virtual items from other players through grey markets (not included in the game), in some manner it could be argued that this breaks the "play experience" seeing that players don't "play" for weapons or gold, but step outside of the "magic circle" and buy them in a real world economy. With a F2P casual game like *Clash of Clans* (Supercell 2012), this process happens in a similar fashion. But in this F2P game, this happens in-game and is controlled and monitored by the developer of the game. Players in *Clash of Clans* are not able to trade or sell their items to other players, but can only through in-game microtransactions speed up or entirely skip their own play process. And thus buy their way through certain play phases, which, without these microtransactions, would require significant time to complete.

I therefore argue that in some manner, F2P games, like *Clash of Clans*, adopt a commodification of play that has its roots not only in freeconomics, but also in the widely contest grey markets and gold farming practices. Because *Clash of Clans* does not allow players to sell or trade items with other players, the players can only buy virtual items or currency in-game through the rules set up by the developer. This keeps full control in the developer's hands, as they are able to monetize and monitor their players' actions. As the example of *Clash of Clans* points out, power is rarely absolute in cultural production and alternative consumption strategies (freeconomics, gold farming, and microtransactions) might challenge, shape or reshape the dominant mode of game production and structure the F2P commodity form, and its market segment. This example is

[14] The name gold farming stems from a variety of repetitive practices ("farming") to accumulate virtual wealth ("gold") which farmers illicitly sell to other players who lack the time or desire to accumulate their own in-game capital (Srivastava et al 2).

therefore also a clear example of how the F2P game commodity further problematizes the contradiction between commodification and play. In the final chapter I will come back to this contradiction and critically analyze the implications and affordances of the F2P game commodity for the developer, but also the player. For the last paragraph of this chapter I am going to look at the notion of Kline et al., in which they see the digital game as the ideal commodity, and I will analyze how F2P game commodities could fall in this description.

1.4 THE NEW IDEAL COMMODITY

In 2003, Kline et al. describe digital games as the ideal commodity for post-Fordism culture of consumption; in the sense that in production, the youthful and precarious workforce of the games industry exemplify post-Fordism's tendency to fill people's leisure time and domestic space with customized and experiential commodities (75). But the games industry has continually appropriated and built upon the existing commodity forms. As I have pointed out in the previous paragraphs, freeconomics and the F2P game market structure have expand the manner in which digital games could be commodified. While not all games have taken, and probably will take, up the F2P model, its potentials embedded in the games industry are starting to be recognized. Although this has not always been the case: in 2009, for example, the game developer Valve, the makers of *Left 4 Dead* (Valve Corporation 2008), wanted to release DLC for free to their Xbox 360 consumers, but encountered a roadblock to this strategy by Microsoft, who looked to monetize the expansion with direct payment; saying they were not able to give this product away for free (Lizardi 36). Microsoft had strict policies for downloadable content/games and had no F2P games or free downloadable content on their Xbox live platform. At that time, a free product or service was not the ideal commodity for the Xbox segment of Microsoft. But seeing that they are currently planning to release the successful F2P *World of Tanks* (Wargaming 2010) on their platform they have also started to recognize the (commercial) opportunities of a F2P game commodity.

According to Mosco, digitization expands the commodification of content by extending the range of opportunities to measure and monitor, package and repackage, information and entertainment (136). While games, for the most part, were already digital, F2P games have refined the process of commodification through some form of increased digitization. Because F2P games are solely digitally distributed and require, in most cases, a constant internet connection, it has extended the range of opportunities for a developer to monitor and monetize their players. The F2P game has no retail boxed equivalent, but only exists as an online product/service, in which a game developer monetize their players in a different manner than the traditional flat-fee price or a monthly subscription fee. Kline et al. state that it is possible to identify an ideal-type commodity form in the sense that "the ideal commodity embodies the most powerful economic, technological, social, and

cultural forces at work in a regime" (74). This commodity form tends to "reflect the whole social organization of capitalism at any historical and geographical point in its development" (Kline et al. 74). While Kline et al. discussed this in 2003, they arguably would have included the F2P game in their description, had it been as omnipresent as it is nowadays. Mainly because, I would argue, nowadays the F2P commodity, more than the traditional flat-fee digital game commodity, embodies the most powerful economic, technological, social and cultural forces at work. In the coming two chapters I will elaborate on this argument, by showing that F2P games are a popular entertainment product that tap into the volatile dynamics of the consumer marketplace, and these are, according to Kline et al., the driving force of economic growth and cultural change (75).

This first chapter has pointed out that F2P games embody new forces of production, consumption and monetization in the games industry and are a clear attempt of capital to force itself beyond its own limits to commodify products/services with a new scope and intensity. Compared to the traditional digital game commodity, the F2P commodity uses implicit audience labor to add surplus value and, in some form, aims to control the monetization process. For this chapter the process of spatialization and commodification have indicated that the F2P commodity has expanded to new gaming markets and monetization models, but also expanded the control of the developer, based on the ability to initiate a capital intensive mode of cultural production, and control, through audience data, the F2P commodity form. By using an institutional analysis to investigate the industry structures, I have shown that the F2P commodity and its position among the games industry and the wider digital culture industry, typify the different economic, technological and cultural forces at work in a new regime of (free) consumption.

CHAPTER 2: GAME PRODUCTION

In the previous chapter, I argued that there are significant differences between the multiple market segments in the gaming industry and I showed how the F2P game commodity positions itself among these segments and the wider digital culture. This chapter will start by looking at the production of digital games and investigate the different forces of production that construct the digital game commodity. With the use of a literature study of game production from a political economy perspective, I will focus on the digital and F2P game production process; as this process inherently deals with different risks of cultural production. The core of this analysis is therefore focused on how industrial actors are trying to deal with the risks of cultural game production by resulting to, or starting to work with a F2P game commodity. I will trace the different business and production structures that influence the F2P game commodity as it gets produced, and critically analyze how game developers and publishers of F2P games try to overcome the features which Hesmondhalgh

argues are pertinent in the context of a cultural industry and its production (18). As a result, this analysis will be used in order to theorize the process of commodification for the F2P game commodity.

Hesmondhalgh argues that there are three features especially pertinent in the context of defining a cultural industry: (1) the high risk involved in cultural production, (2) the high production cost but low reproduction cost of cultural products and (3) the semi-public good nature of cultural products and services (17). Every cultural industry has developed their own number of strategies to respond to these features, but there are also a number of similarities between the traditional industries and the digital games industry (Kerr 45). Nieborg shows how, for example, the "super-blockbuster" movie got its ludic equivalent in the Triple-A blockbuster game (Nieborg-b 10). Kerr points out that only a small number of cultural products make a profit and these small numbers of "hits" must cover the production cost of a large number of products which fail to make a profit (45). To counter this, the film industry uses strategies such as serialization to attempt to reduce risk, and thus overcome the high rate of failure. Similar strategies are evident in the digital games industries (Kerr 46), as franchises like *Call of Duty* and *Assassins Creed* (Ubisoft 2007) release yearly sequels with tremendous financial success. According to Kerr, the current academic focus on the cultural industries is how capitalist system structures and influences the commodities that get produced (44). And seeing that the games industry has continued to grow, change and diversify in terms of; software platforms, formats, game genres and business models, it might be difficult to point to a singular notion within this industry. F2P games, as shown in the previous chapter, should be seen as a distinct segment within the wider (cultural) games industry, because it supports its own techno-economic logic as well as some socio-cultural practices and particularities. Therefore, the transformation of culture into commodities leads to a particular codification of culture and the F2P game commodity adheres to different cultural production, circulation and consumption than the traditional digital game commodity.

2.1 DIGITAL GAME PRODUCTION

The production of a digital game is a complex process and involves well-timed and managed flow of work between artist, designers and programmers, but while these three broad disciplines form the core of the development team, there are multiple external influences that shape the production process. Although the production cycle is different per market segment and or genre, multiple scholars argue that the production process can roughly be divided in three stages: development, publishing and distribution (Johns 5, Kline et al. 176, Dyer-Witheford and Sharman 2). The development phase focuses on the design and creation of the game, the publishing phase involves the overall management of the game commodity (financing, manufacturing, packaging and

promotion), and the distribution phase entails getting the games to the retailers and other outlets. While these core stages vary in duration and structure per market segment, the procedure is largely similar (Kerr 62). But, as Kerr also rightfully points out, noteworthy variation does occur, as an important phase for the MMOG segment is left out by the above mentioned scholars (62). According to Kerr, the MMOG production process, where there is a requirement for ongoing server support, community support and updated content development following purchase, introduces an important fourth production phase namely, post-development (62).

A MMOG publisher strives to have a large number of players through the longest period of time possible (Alves and Roque 658). Keeping a large number of players in the game is crucial to the financial success of the game, and therefore the quality of the play experience is of critical relevance for the MMOG. In a subscription based MMOG, the player could always choose not to play and terminate his subscription; but if the player leaves the game, its whole business model could collapse, since the act of playing is directly related to the act of paying (Alves and Roque 659). On the opposite side is the typical Triple-A console game (*Call of Duty*/ *Assassins Creed*), which does go through the more traditional production stages before it is sold as a final product at a retailer. In most cases this gaming segments needs to make its returns within a few months after its release in order to be profitable. Alves and Roque therefore argue that the customer relationships between a traditional Triple-A console game and its customers is almost inexistent, seeing that the customer buys the product after a long production channel and with that, ending the production process of the game (659). This would entail that after buying the game, in some way, it would not even matter if the customer played the Triple-A game or not. But, I would argue that the recent rise of strategic timed DLC, as shown in the first chapter, also indicates that with Triple-A console games the publisher (now) wants to keep the players playing long after they purchased the game. Seeing that games franchises like *Call of Duty, Battlefield* (Electronic Arts 2002) and *Assassins Creed* all have annual releases, I would state that DLC, just like Nieborg's argument about serialization and expansion packs[15] (56), also forms as a business strategy to keep consumer locked into their game until their sequel comes out; and the process starts all over again. Just like most subscription based MMOGs, which have a continuous flow of income, DLC provides Triple-A console game publishers with a stream of income that is extended beyond the initial purchase. While Alves and Roque, in 2007, argued that the Triple-A console game is sold as a final product and the MMOG has to be sold as a service, I would argue that this paradigm in some form still upholds, but that the up rise of DLC also indicates that publishers are trying to shift towards a more service based business model for the traditional Triple-A console game. This also results in that even Triple-A consoles games need post-

[15] According to Nieborg, expansion packs can be defined as "self-contained retail additions to commercial stand- alone proprietary game titles" (57). This is similar to DLC, as an expansion pack builds directly upon the existing game commodity and branches out the original game.

development game support, community support and server support for their customers who are going to playing long after the initial purchase.

Evidently, the production of digital games is not a solely artistic and creative process; it is determined by external forces of consumption, market testing and commercial viability (Wade 687). In most cases the financing for game production is provided by a publisher, either from a console manufacturer such as Sony or Microsoft or from an independent publisher such as Electronic Arts or Activision Blizzard (Johns 13). The publisher seeks out a developer to produce the game, but always oversees the development process. To compensate for their work, the developer is frequently granted a fixed fee or a fixed percentage of the sales revenue, and in exchange the publisher usually retains the intellectual property rights. Kerr argues that the production cycle of digital games can be conceptualized as a value chain, whereby at each stage of the production cycle companies add value to the core product, and in result, contribute to the final price paid by the consumers (66). Although the publisher finances the game, they still have to give a percentage of the revenue to other parties; the retailers who sell the game and the console manufacturers who host the game on their platform (Kerr 66). Game production can therefore be a long, costly and cooperative venture or a short and inexpensive process. The process is different per gaming segment. The production process could, for casual games, last six months, but for a MMOG this could last up to three years or more, and cost tens of millions of dollars (Dyer-Witheford and Sharman 3). The high digital game production cost results in that publishers are looking for new ways to drive down cost (Nieborg 68), and in the current mode of cultural production, increasing operations through digital distribution (something inherent to F2P games) seems like a viable option

2.2 RISK MANANGEMENT

The global revenue for console and portable hardware and software, as well as games for mobile devices (e.g., tablets and smartphones) was an estimated 67 billion dollars in 2012. Sales of microtransactions within (F2P) games generated an additional 14.8 billion dollars in 2012 (Marchand and Hennig-Thurau 141). Although the revenue within the game markets rises steadily every year, Kerr also notes that the production cost have been steadily rising across all segments in the industry and at the same time only a small number of games make a profit (68). While Kerr notes this in 2006, nowadays the production costs within the games industry are still rising; as games get more technically advanced every generation (Sinclair 1, Lee 1).The budget for the MMOG *Star Wars: The Old Republic* was more than 125 million dollars, making it one of the most expensive digital game productions of all-time (Marchand and Hennig-Thurau 148).

Game scholar Saara Toivonen argues that the development of “digital only games” has made publishing of games more cost-efficient (1), and with this, I argue that the monetization models

based on microtransactions and virtual goods become increasingly attractive for publishers. Similar to other sectors in the wider cultural industries, the games industry is in a transitional phase moving from physical, or "packaged goods" industry (selling physical retail games) towards a digital distribution model (Nieborg 42). Since digital contents can be reproduced and distributed at a lower cost than physical copies, the marginal cost becomes extremely low and therefore this model becomes increasingly attractive for game publishers. In 2007, economic scholar Miho Nojima already argued that, theoretically, this could lead to digital games becoming free of charge as the marginal cost become close to zero per game (673). Kerr even noted that the continued development of online functionality may ultimately lead to more download, and less brick and mortar retail; once the key barrier (the lack of broadband availability) has been overcome in many markets (58).

The fact that MMOGs require a constant internet connection makes the process of digital distribution/purchasing, for this segment of the market, easier than for the Triple-A console segment, with games as *Assassins Creed;* which also can be played offline. If a MMOG player does not have a strong internet connection, it makes it hard for him to play the game, because of lag[16] , download speed and other connection issues (Nojima 674).Thus, the online affordances that a MMOG game and its players have, could result in a more open socio-economic culture to a shift towards solely digital distribution, which is mandatory with F2P games. In similar fashion the casual games on mobile devices and even social network platforms are strictly distributed digitally (Nieborg 42). While not all casual games, in these segments, require an internet connection to be played (although most do), they need to be purchased online and require an internet connection to be downloaded. What is interesting from a political economy perspective is the impact that the online affordances, that these games possess, have on: the changing business strategy of publishers, production processes of developers, the ability of new players to enter the market, and with this the digital game commodity. For example: PopCap, the developer of the successful flat-fee mobile game *Plant vs. Zombies* (PopCap Games 2009), thought that they could find a bigger audience and more financial success by releasing their sequel, *Plants vs. Zombies 2: It's About Time* (PopCap Games 2013) for free (Dredge 1). Producing a game can require a multi-million dollar investment and the success of the game is not risk free, but by releasing *Plants vs. Zombies 2: It's About Time* as a F2P game, PopCap thought that they could minimize risk of their high production cost, and extract even more value out of their game. Although it is unclear if the sequel was more profitable that the original flat-fee game, the shift towards this model does point out that the publisher saw more opportunities in a F2P game commodity.

In the capitalistic mode of game production, a game publisher or developer wants to

[16] Lag is often used in reference to digital games to describe the delay (or latency) between an action by a player and the reaction of the online game.

minimize risk of failure, which means that every game has to be carefully examined based on its costs and benefits. According to Kerr, the primary reason for the high level of risk in the games industry is that "consumer's tastes in cultural commodities are driven by irrational factors like fashion and style more than needs, and thus are highly unpredictable" (45). She goes on to argue that a related reasons stems from the status of cultural products as information, and the fact that audiences need to sample an information good before deciding if they want to buy it or not (Kerr 45). From a historical perspective, game publishers have always tried to generate an audience by releasing beta versions or demo's before the official release of the game. This would be an important step to get the audience involved and interested in a new product (Kline et al. 94). Seen in the perspective of freeconomics, publishers gave out a free sample to consumers so that they could play the game, and get a feel for the game before they purchased it. The idea was that distributing a sample of the product for free would create a basic consumer need for the game and expand the market once the full/final version was released. At a very basic level, this falls back on one of the main goals of marketing to actually "make markets and create consumer needs" (Kotler 10).

From a political economy perspective, the price of a game can therefore have a profound influence on the risk management strategies of a publisher. Although hardcore gamers are used to paying 60 euro's or a 15 euro subscription for their game, the casual player is not. For this segment of the gaming market, game publishers use low- or non-existent price-barriers of entry (Perry 3). Having a high price keeps games from being an impulse purchase and especially in the casual market, where consumers do not do a lot of research on which games they want to buy, the impulse purchase is an important aspect to sell. According to Gamasutra journalist and game designer Lee Perry, the general concept of removing the price barrier is so that more consumers try the game to see if they like it (4). Here we can recall, again, one of the very basic levels of marketing: to actually "make markets"; according to Mosco, in the media industries the term audience actually refers to a market of consumers (137). By removing the price barriers, game publishers are not only reducing risk, but also creating a market audience for their games based on the price. The casual audience does not share the tastes of traditional hardcore game consumers, and they have entirely different ideas of what games are worth and how they enjoy them. According to game developer Chris Pruett, the casual audience, both on social network sites or mobile platforms, has different tastes of consuming games and prefers to try out the games for free, before making their judgments about whether or not to spend money on it (3). The difference in taste of these audience results in that these F2P mobile and social network games monetize differently from F2P PC games like *Star Wars: The Old Republic* or *Planetside 2* (Miller 2). Seeing that the F2P PC games have an audience that has more hardcore gaming connotations, this also results in that, the developer has to handle the monetization design differently than a F2P game for the casual segment. The characteristics of the targeted audience and

platform of a F2P game can therefore have a profound influence on the manner in which the developer structures its game production through risk management.

According to Hesmondhalgh, one important example of controlling risk in cultural industries is the increasing importance of marketing and efforts to use market research (157). He states that, in marketing, there is a strong tendency to embrace the familiar "as marketers need predictable commodities to work their magic on" (Hesmondhalgh 158). Looking back on the first chapter, I would argue that player (audience) data could be seen and used as a form of market(ing) research. In order to control risk, developers use their audience labor as market research tool and make the F2P commodity more predictable, in the sense that they can anticipated what their audience is going to do based on their play actions. Therefore, in order to deal with the inherent risk of cultural game production and in order to strategically control risk of digital game revenues, publishers and developers can now result to a (F2P) game commodity which provides new strategies to cope with above mentioned risk, and encapsulates old strategies in a new manner.

By analyzing the manner in which industrial actors are trying to deal with the inherent risk of cultural game production, this paragraph points out that the ability to reduce cost by digital distribution, low barriers of entry and the ability structure and control cultural production through "market research" on player data; which are some of the key characteristic of the political economy of the F2P market segment. By giving the complete game away for free, there is no risk when purchasing a free product and much like demos or game betas, F2P games give the consumer the opportunity to sample a product without fear of a bad investment. And at the same time it creates needs for the product. The evolving business and risk-management strategies through F2P commodities could be seen, from a publisher's perspective, as a new business strategy to reduce the risk of generating an audience (market), and at the same time lower the barriers for consumer to try the game. I argue that this results in a shift in game design, and that it also structures the production process of a F2P game; as the F2P game needs to be constructed in such a manner that it retains and monetizes the consumer long after sampling the game. In the next paragraph I will take a closer look at F2P production and analyze how F2P game developers deal with their audience and expand upon and make use of marketing research methods (*game analytics*) to control risk for their F2P game commodity.

2.3 F2P GAME PRODUCTION

In the previous paragraphs I stated that the F2P game commodity results into a new mode of game production that is different from the traditional game commodity. This paragraph will investigate this production process, by focusing on specific production methods used in the development of F2P

games. By engaging with this process from a political economy perspective, this paragraph shows how F2P game developers use and segment their audience as a commodity, to add surplus value to the F2P game commodity. One of the most commonly used models in F2P game production is the ARM funnel; during my internship at Vanguard Games this model was constantly applied in the development of several F2P games. The ARM funnel's primary usage is measuring player behavior and monetizing on this behavior (Askelöf 40, Hamari and Järvinen 8). This model provides F2P game developers with a framework through which they could develop and design a F2P game; and debate how players could interact with the game through three stages: acquisition, retention and monetization. This model looks at how players interact with the game through these three stages and provides data performances of the audience in each stage. Although this model proves to be a valuable development and design tool, I would argue that this model also segments players as different consumers based on their interaction with the F2P game and strives to extract as much value as possible out of each player segment; seeing that not all players provide direct revenue.

The acquisition part of the ARM model looks at the process of generating new players for the game. Within this process, existing players can be classified as being either, viral or non-viral (Askelöf 41). A viral user refers to a player, through which the game developer is able to generated new players. And seeing that generating new players is an important part of the F2P strategy, this translates back into the design of the game and therefore effects play. The retention phase refers to how well a F2P game can keep its existing players in the game. Since F2P games are free, they need to extract their revenue from their already active players through microtransactions or other services, and the longer players stay in the game, the more profitable the game will be. This results in that F2P developers are measuring how well their game performs when it comes to player retention, and they do this by analyzing player data (Ruggiero 3). This has leaded to well-known gaming industry metrics for F2P games that include: sessions per user, average session length, how many players have returned to the game within a certain timeframe and average lifetime per user. The final part of the ARM funnel is monetization, which focuses on how revenue is generated from the players. In order to measure how well a game monetizes, F2P game developers often look at metrics such as: average revenue per user (ARPU), average revenue per paying user (ARPPU), daily active users (DAU) and monthly active users (MAU).

I argue that these metrics structure the production and certainly the post-development of a F2P game, and can be of great importance for the financial success, but it can also leave its traces on the design of the game. And due to the increasing ubiquity of internet connected (F2P) games; development teams can easily collect player data indefinitely after a game's release (Hullet et al. 91). Thus, the metrics that are produced by implicit audience labor give the F2P developer the opportunity to make adjustments after the game has released, and for monetization design this is a

crucial integration (Shokrizade 4). Because player data can be collected as long as the game is running and played, the designers can keep adjusting the (monetization) mechanics or implement new ones if the old mechanics weren't profitable. Compared to the traditional flat-fee games, the game designers of F2P games are never done designing their games; because as long as the game has a big enough audience they will continue working on the design to acquire value out of their player base (Shokrizade 3).

This has resulted in that over the last couple of years several types of game analytical software have become more widely available (Ruggiero 1). The Danish company Game Analytics is just one the many companies that provide game developers with this analytical software, their slogan: "Know your players. Improve monetization. Make games people love". This slogan radiates marketing; as the statement "know your players" is identical to: understand your consumers, one of the most basic marketing theories (Kotler 229). With these software tools, game developers can seek out relationships among the data that their players produce, and in identify the different play patterns that players have, and classify them in different player segments. In others words, developers use a form of data mining[17] on their playing audience. The simplest usage of a game analytics[18] tool is that a game developer could for example, mine customer purchase data, to determine when players buy in-game currency and what they spend their currency on (Ruggiero 1). This information could then be used by the developer to promote a certain item, or have a daily deal to increase traffic. And as developers get more familiar with this process, different player segments could be mined, which will identify different player types and segment them based on their gameplay metrics. From a political economy perspective, this could lead to a developer anticipating a certain player segment's behavior, on buying for example, a particular playable sword in the game store, at a certain time and play phase in the game. And this could all be done based metrics of player segments and their history of play.

This has also led to common industry player segmentation groups based on the amount of money a player spends in a F2P game (Paavilainen 9). These groups are roughly divided in three categories namely, whales, dolphins and minnows. Whales are the biggest spenders, they can produce 80% of the revenue, but are also in the smallest player segment with 0,4% of the total user base (Hollanders 16). Minnows spent the smallest amount, and approximately consist of 2% of the total player base. Dolphins spend a middling amount, and approximately consist of 1,6% of the total

[17] Data mining is an interdisciplinary subfield of computer science and is the computational process of discovering patterns in large data sets, involving methods at the intersection of artificial intelligence, machine learning, statistics, and database systems. One of the first practical guides to mining business/consumer data, describes techniques for detecting customer behavior patterns useful in formulating marketing, sales, and customer support strategies (Berry and Linoff 1997).

[18] In basic terms, game analytics are methods which assist game developers/designers to do in-game marketing/business and create monetization needs for the players (consumers). Game analytics is not an altogether new or completely independent field. It has its roots in and borrows largely from many existing fields, such as game testing, marketing, business intelligence, but also statistics and data mining (Hollanders 9).

player base. And finally, freeloaders which don't spend at all, and consist of the majority of the player base (Paavilainen 10, Hollanders 16). I argue that these types of player segments, based on metrics, form a power law[19], which emphasizes that not every player is equal and that they could, from a F2P developer perspective, be treated as different consumer segments, which provide different value towards the F2P game commodity. Thus, from a political economy perspective the production of a F2P game, based on metrics and different player segments, gives the developer the opportunity to stimulate different types of players to spend different amounts of money.

According to Kerr, technological innovations that every new gaming console life cycle introduces have an important structuring influence on the design of the games (93). While F2P games do not bring along the traditional technological innovations that a new console cycles do (better graphics, bigger memory and hard drive), they do bring along technological innovations based on game analytical tools, by being able to monitor the game playing audience and provide an ongoing design process to extract as much value as possible out of their game playing audience. Garnham argues that production puts "important determining constraints on what is consumed, by whom and under what circumstances" (115). I argue that this is most evident within the production of F2P games, but is executed and made apparent by its game design. By focusing on the ARM model, game metrics, game analytics and player segmentation, this paragraph has pointed out that the F2P commodity gives F2P game developers the opportunity to keep (re-) designing games pre- and post-launch, in a completely different manner than before. By critically engaging with this process, this paragraph has shown that F2P game developers purposefully use and segment their audience as a commodity to add surplus value to the F2P commodity. In the following paragraph I will further discuss the implications of the findings of the previous paragraphs, and describe how this constructs the commodification process of a F2P game commodity.

2.4 F2P GAME COMMODIFICATION

F2P games let players enjoy the game without paying, but seeing that, most, digital games are made to gain profit, the game publisher needs to, somehow, monetize on the game. In the TV industry, according to Mosco, the audience ratings are as important as the commodities that are produced and marketed (137). The data that the audiences produce might even be more important than the target demographics, seeing that TV producers can demand a higher fee for commercials based on their audience ratings (Mosco 138). As described in the first chapter, this concept is based around a third-party market. But with most F2P games, there is no third-party (market); instead the data is

[19] A power law is a functional relationship between two or multiple quantities, where one quantity varies as a power over the others. There are power laws in many different research areas, and they mostly tell something about how power distribution is arranged in the object(s) of study (Shirky 36).

used to extract more value out of their audience, which is already playing the game. Throughout the game, gameplay information is fetched from a server which confirms the players' actions and registers and sends out new data (Askelöf 17). In this manner, the developer has the ability to update and change the game at any time, even after the game has released. In order to extract this data it's common for F2P games to require a constant internet connection, and therefore the digital distribution of these game forms in important factor for analyzing and extracting this data. Would F2P players be able to play their game offline and never login, the developer would have a harder time monitoring and monetizing on these players. With a constant internet connection, developers are able to track how their audience plays the game, what they spend money on and how their history will inform their future play (Ruggiero 2). F2P game developers are constantly monitoring what their players are doing and their game development evolves, every single day, with their players' actions. Perry interviewed multiple F2P developers and noted that they are constantly digging through their metrics, methodically optimizing their game, based on data from just a couple of days of observation (1). Perry stated that "they're trying to keep people playing and experiencing their game; they're evolving their already shipped games" (2). This is therefore a clear example of how post-development is a crucial production phase is F2P game production. This post-development phase gives developers the opportunity to tweak monetization design based on player data.

Each step towards the digitization of TV has, according to Mosco, refined the commodification of content of this medium; allowing for the flow to be captured or, more precisely, for the commodity to be measured and monitored in even more specific or customized ways (137). I argue that a similar evolution also occurred with digital games, in which F2P games take commodification of content a step further than the traditional flat-fee game. With traditional games the commodity form, mostly, exists out of one product: the game. With F2P games, there is not one clear-cut game commodity form, the F2P game commodity can vary per player type and can be customized per player. Alves and Roque show that MMOGs afford different player types and different player styles (661). In MMOGs, players can find their own suitable ways to make progress, while reaching for higher or self-imposed goals, and thus enjoying a personalized game experience, which the game design affords. However, the traditional MMOGs' monetization design, of games as *Ultima Online* (Origin Systems 1997) and *World of Warcraft*, did not partake in any audience segmentation, but rather treated every player the same and requested a fixed subscription fee for every player. For F2P games there is no fixed fee, the player can choose how much money he spends on the game, which leads to a clear audience segmentation for the developer based on the money (value) that they can extract from a certain player type. This results in that a F2P developer could closely monitor the different characteristics of their players and adjust their (monetization) design based on the data they collect. In this sense, F2P games can profit from the activity of their players in

that their gameplay interaction gives the developer and indication what different player types like, and how a certain type of player likes to play. This means that developers could control; what monetization content gets offered to what player type, at what price and at what point of time in the game. Hesmondhalgh argued that in order to control risk in the cultural industries, companies increasingly resolute to market research to predict the revenue of their commodities (157). I would argue that the reason that F2P developer pay so close attention to their audience, is because they are constantly applying market research methods on their player base. Of course they are trying to give the player a fun gameplay experience, but seeing that the game does not make any money when purchased, F2P developers need to closely monitor how they can monetize on this fun experience.

While the business strategy of DLC already pointed out that game publisher do not want players to make a single purchase (Nieborg 63). F2P publishers, however, want players to be more that a single or multiple purchase consumer; they want to maximize the consumer possibilities by giving the game for free and letting the consumer customize and monetize their play experiences within a long term services relationship. The service model of F2P game commodity therefore shifts the focus within game production towards a post-development phase were every player actions is monitored, segmented and valued in order to gain revenue. This means that, from a political economy perspective, game developers also have to concern themselves with not only designing fun, but also with monetizing fun; a clear contradiction between commodification and play. In order to monetize fun, F2P game developers commonly articulate business goals through metrics, and monitor these metrics in order to add value to the F2P game commodity. I argue that this a clear shift away from the traditional game commodity and shapes the development of a F2P game. This also points out that business considerations work their way back into the F2P games' development process, leading to the creation of games that are from their inception, conceived as a commodities whose market(ing) potential can be extend by player data, and constantly be adjusted in post-development, in order to keep the game profitable. This second chapter has pointed out that in F2P game production, the game developer and publisher see the games as an on-going service. But seeing that it is a free service, this also implies that game design has become part of the business model, which in traditional flat-fee digital games or subscription based games was on another production level. By analyzing the different circumstance of (F2P) game production, I was able to point out that monetization design based on player data has merged with game production and game design. Although Kline et al. already point out that marketing shapes the development of a game (221), I argue that F2P game production takes this a step further than the traditional game production, by putting marketing strategies into the design of game. This suggests that previously separate domains within game production (marketing, monetization and game design) now overlap into one free service. This is evident in that the ARM funnel has become one of the core strategies

which F2P game developers could use for the production of their games (Luban 2). Further, this chapter has shown that the production process in F2P games has, in contrast with the traditional mode of production, a strong focus on post-development and monitoring the players' actions to extract more value out of the audience. This chapter therefore shows that power is rarely absolute in the production of digital games and alternative monetization strategies might contest, shape or reshape the dominant mode of production, as we have seen with F2P games. For F2P game design this means that the ultimate goal, for a developer, is to create directly engaging and persistent experience which through game design needs to monetize its players. In the following chapter I will show how this structures the design of a F2P game, by analyzing its (monetization) game design. And I will introduce the concept of inconvenience design to indicate how developers create monetizable needs through game design in F2P games.

CHAPTER 3: INCOVENIENCE DESIGN

In the previous two chapters, I have established that F2P game production results in a different mode of game production than the more traditional digital game. This does not happen in isolation, but draws inspiration from; different production circumstances, risk management strategies for cultural industries, new audiences, increasing production cost of digital games, digital distribution and concepts such as freeconomics. I have also explained that the audience of F2P games, and the ability to monitor, track and monetize them based on the data they give out by playing, gives the developer the opportunity to add value to the F2P commodity. Within the commodification process of the F2P commodity, a game developer needs to approach the production process with a strong focus on post-development. As mentioned in the previous chapter, this also gives the developer the opportunity to keep on working on the game long after its release and structures the (monetization) design of the game.

To illustrate how this process structures F2P game design, this chapter starts out by introducing the concept of inconvenience design. With this concept I will show how developers deliberately can create monetizable needs, which are structured by player data. Thereafter I will use a textual analysis for two F2P games, *Candy Crush Saga* and *Star Wars: The Old Republic,* in order to connect the concept of inconvenience design with the F2P game (commodity). In this analysis I will not focus on the game content, but more on its monetization design and game mechanics and how they are connected to inconvenience design. I will use this analysis, in order to take a more political economic approach to F2P game design, and also put the (inconvenience) design of these games in the specific context of F2P game production discussed in the previous chapters.

3.1 INCONVENIENCE DESIGN

Designing a fun or engaging expierence is an activity that is an important, if not the most important, part of the game designer's responsibilities, but when he has to combine this with game analytics, an ARM funnel and monetization design, he is faced with two different activities: creating fun and creating monetizable needs. However, creating needs and designing monetizing aspects which relate to game mechanics or to the overall game context, can be contradictory to designing fun and relates more to marketing theory. Because F2P games are free, the game developer has to, in most F2P games, extract value out of game content or mechanics which are directly linked to the players' play experience. According to Hamari and Järvinen game mechanics[20] always have a direct relation to the goals of the game (7). Therefore, game mechanics that become commodified, and consequently affiliated to the monetization aspect of the game, could result in virtual items or services which players can buy with real money, and which give them extra benefits in reaching a goal, or a set of goals. In order for a game developer to be able to control this process, I argue that, for a big majority of the F2P games, this leads to what I would call inconvenience design.

Although inconvenience design is a relatively new term, it draws inspiration from other theories on game design, monetization design and what Hamari and Lehdonvirta call inconvenient gameplay elements[21] for digital games (22). Inconvenience design implies that some gameplay mechanics, interface elements, progression or accessibility of content (items, levels, mounts) has been intentionally designed, by the game developer, to be fairly inconvenient from the player perspective, in order to create monetizable needs. As a result of my extensive play sessions with F2P games, I would order three main forms of inconvenience design: progression-based inconvenience design, limitations-based inconvenience design and usability-based inconvenience design. Although the three forms could overlap per game or game mechanic, they do have significant differences in the manner in which they affect the overall play(er) experience. With progression-based inconvenience design the developer aims to make the manner (rate) in which the player can progress through the game inconvenient. This entails that for example: in a casual F2P game like *Farmville*, the developer deliberately choose to make the player wait multiple hours, days or in some cases weeks for his crops to grow. For a certain player segment this can become a substantial inconvenience factor, as they have to wait and put, in some manner, their progression process on hold. To avoid this

[20] I will use the definition of Hamari and Järvinen to define game mechanics as "a system that takes into account both what the players does and what game does in return"(6). Game mechanics are therefore constructs of rules intended to produce gameplay, and give the player the opportunity to interact with other players or the game.

[21] Although Hamari and Lehdonvirta's concept of inconvenient gameplay elements closely relates to inconvenience design, in the sense that in also focusses on inconvenient gameplay elements form the point of view of the player. I want to expand on their concept by focusing on the developer/publisher perspective and the opportunities that different design concepts create for them; in relation to player data and audience segmentation. By focusing on the design aspect of inconvenient game mechanics or content, I put more focus on the developer and publishers perspective and with this the construction and production of the F2P commodity. I will also give taxonomy of inconvenience design concepts common to F2P games, which adds more depth to the concept.

inconvenience, the player can purchase, through microtransactions, in-game currency and pay his way out of this waiting-game by speeding up the grow process of his crops. With limitations-based inconvenience design the developer puts limitations on the actions the player can do, that do not directly affect player progression. This has a lot in common with a freemium[22] model in the sense that through microtransactions the player receives premium functionalities. In one of the first popular F2P games, *MapleStory* (Wizet 2003), there was a limited number of spaces available for storing friends' contact information. And once the F2P players reached the limit of this storage, they had to purchase more friends slot. While new friends slots did not, directly, made the progression easier or made the player achieve his goals, it could enrich their play experience. Usability-based inconvenience design closely relates to limitations-based inconvenience design, but focuses more onthe usability, in the sense that the developer intentionally made the game non-user friendly to play[23]. This is commonly used in the F2P MMOG segment, as developers sell, for example, user interface enhancement through microtransactions. This implies that in the production process of a game (where normally a developer tries to fine-tune his game to perfection) the interface features have been intentionally designed to be inconvenient for the players' play experience. By ordering these three forms, I am not stating that these are the only forms of inconvenience design within the F2P market segment, but mainly that these are the forms that I found most prominent in my play sessions. And I would also not state that inconvenience design is something that is not applicable to all (or only) F2P games[24], but rather something that is common among a big majority of the F2P games.

With inconvenience design the developer strives to monetize on players that want to customize their play experience to their liking, and therefore pay to avoid this intentionally designed inconvenience. I therefore argue that inconvenience design can be compared to marketing techniques that try to create consumer needs, and can therefore be understood as a clear form of monetization design that is contradictory to designing fun and is aimed at creating, controlling and monetizing consumer needs. Through the use of inconvenience design, in correlation with metrics, the developer is able to commodify play and produce different consumer needs, for different player segments, in order to extract the most value out of each segment. This could for example result in that: slowing leveling advancement for a F2P role-playing game by a specific percentage, could convert a certain player segment into paid players (Graft 3). In the following paragraphs I will

[22] Freemium is a monetization strategy by which a product or service is provided free of charge, but money is charged for advanced features and functionality (premium) (Reime 5).
[23] This does not mean the game is not playable, but just that it is not as comfortable to play as for example a subscription based MMOG. Within these games, a comfortable play expierence, in the sense of usability, is perfectly optimized in the development of the game.
[24] Not all F2P game monetization is structured by inconvenience design and therefore influence game mechanics and play. *Dota 2* (Valve Corporation 2013) is a good example of a game that does not use inconvenience design. It is a competitive F2P game, but purchases do not affect the balance of the game. The player is able to buy new skins and other appearance items, but these monetization mechanics do not prevent players do something or inconveniently disrupt their play experience.

investigate the monetization design and inconvenience design of the F2P games *Candy Crush Saga* and *Star Wars: The Old Republic* a place them in the F2P game production context. I will give examples of design choices that are deliberately placed by the developer to extract more value out of their audience and the F2P commodity; these examples will also further my argument of how F2P games create a tension between commodification and play.

3.2 F2P DESIGN ANALYSIS

The textual analysis of the two F2P games will be divided in three parts. The first part will be a brief description of the game and its core mechanics; this will situated the game in a specific F2P market segment. The second part will describe the monetization options of the game, this will give an overview of the ways the player can spend money in the game. In the third part I will critically analyze the manner in which the developer tries to create needs through inconvenience design and place it in relation to monetization design and a political economy perspective. The analysis will therefore explicitly focus on how inconvenience design connects to freeconomics, the audience commodity and F2P game production.

3.2.1 CANDY CRUSH SAGA

Candy Crush Saga is a tile-matching puzzle game, with gameplay similar to that of *Bejeweled* (PopCap Games 2001). The casual game sits on top of the grossing apps charts in the Apple App Store and Google Play Store, and has been holding this position for more than 6 months. The game is very accessible and might have the biggest (casual) game audience at the moment (Stark 1). *Candy Crush Saga* therefore relies heavily on virality and it is playable on mobile devices, as well as on personal computers through Facebook. The gameplay focusses on game board, which has a grid filled with candies that can be cleared by matching sets of at least three. Players are able to switch the position of two vertically or horizontally adjacent candies, as long as the switch leads to a match. Once candies are cleared by matching, new candies fall down from the top of the board, again filling it. Unlike *Bejeweled* there is no time limit, but the player instead has a limited number of moves to reach the target score required to clear the level. As the player progresses through the game, new game modes are frequently introduced. These game modes slightly change the manner which the level needs to be completed, but never abandon the core mechanic of matching candies.

3.2.2 CANDY CRUSH SAGA MONETIZATION

According to games industry analyst Michael Pachter, the average paying *Candy Crush Saga* player spends $40 a year, and he states that the game monetizes around 8% of its total player base (Diener

1). The game monetizes[25] these players in three ways, through the use of consumable boosters, permanent boosters and a pay-to-continue mechanic.

- Consumable boosters: At the start of, or during each level, the player can purchase three different types of consumable boosters. These boosters differ per level type, and give the player an easier time completing levels. Once a booster is used, the player has to purchase it again, to use it again. The price of these boosters range between €0,89 and €3,59.
- Permanent boosters: Are booster that the player permanently owns upon purchase, and can be activated once per level. The price of these boosters range between €14,99 and €35,99.
- Pay-to-continue mechanic: This form of monetization comes in the form of hearts (lives/continues), which give the player an extra turn when he has run out of hearts. This monetization mechanic is similar to old arcade machines, in which upon death, the player needed to, within 10 seconds, insert another quarter to continue play. The price for five hearts is €0,89 in *Candy Crush Saga*.

The monetization model of *Candy Crush Saga* is focused on player progression. This means that players spend money to further their progress in the game, either by buying boosters to improve their play (performance) or hearts to extend their play (time). Another important feature that relates to the monetization options is the games' virality. *Candy Crush Saga* was initially developed as a Facebook game and although it has been fully rewritten for mobile, the basis of the game is still rooted in the easiness of sharing and requesting. The virality of the game consists of two main aspects: collaboration and competition. Players can collaborate by sending each other hearts (time) or boosters (performance). For the players, this means that they can activate their friends as a way to progress through the game without spending money. By giving players the opportunity to ask friends for hearts and boosters, the developer uses the virality as marketing tool that relates to the progression of the game. Every time the player asks for hearts, he also employs himself as a marketing tool for the developer. Thus, by connecting virality to progression, the developer is able to grown the audience of the game (something that could be crucial for F2P games[26]), without having to spend money on other marketing communication outlets. From a political economy perspective, the players do the work for the marketing department of the game developer, and through there virality become an audience commodity.

Competition on the other hand, is driven by a map-based progress screen and level-based leaderboards. Contrary to collaboration, friends are now used as a criterion on how far the player has

[25] Candy Crush Saga on Facebook uses gold as a currency form for microtransactions, the mobile version of the game does not have a currency, as players are required to directly pay for virtual items.
[26] Because not every player is going spend money on the F2P game (as I have pointed out in chapter 2, only approximately 4% of the player-base spends money), a bigger audience could, theoretically, result in more profit (Martin 1).

progressed through the game in relation to his friends. Players are able to see what levels their friends have passed, and what high scores they got on each of these levels. This can stimulate certain player-set goals and make players spend money to further their progress, or increase their high scores. But in order for a player to spend money, the developer also has to create needs through game design; I argue that from an inconvenience design perspective, the rather simplistic virality approach of *Candy Crush Saga* is very thorough and well thought of by the developer. For *Candy Crush Saga* their inconvenience design is part of the core loop[27] and constantly confronts players with a choice to either: wait, pay, or go viral. And I therefore argue that virality could be seen as form of currency from the developer's perspective.

3.2.3 CANDY CRUSH SAGA INCOVENIENCE DESIGN

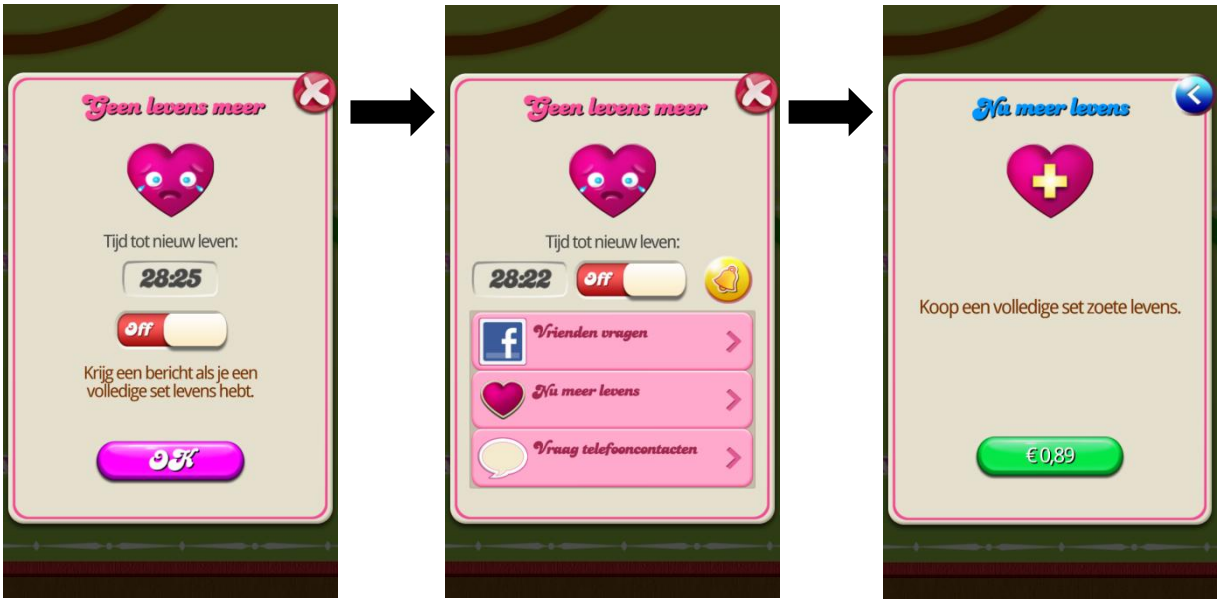
Seeing that the revenue in *Candy Crush Saga* comes from microtransactions as players buy hearts and boosters, the developer needed to create a strong demand for these monetization options. I argue that this is mainly done by progression-based inconvenience design. Seeing that *Candy Crush Saga* is clear example of a casual game (Juul 29), its inconvenience design comes in small portions, but nevertheless structures player segmentation and creates player needs which could result in monetization. This is primarily achieved by challenging progression system and well placed pay-walls[28].

Once players are out of hearts, and therefore can't play anymore, they are always left with three options: wait thirty minutes for one heart to refill, request hearts from friends or buy them through microtransactions. Each of these options gives the player the ability to continue, but the wait time is a clear form of progression-based inconvenience design, seeing that players have to wait thirty minutes every time they fail a level (which can happen in a matter of minutes). The wait time to play can therefore become an inconvenience and create player needs, but unlike most other F2P games, the players don't have to directly pay money in order to skip this inconvenience. They are able to collaborate with their friends and request/send hearts to continue their play. And when more of their friends play the game, the more and faster they are able to receive hearts or consumable boosters. Therefore, instead of collecting a direct payoff through monetization, the developer of *Candy Crush Saga* appropriates the non-paying players as a tool for viral marketing. This indicates that virality is also an inherent result of inconvenience design as the developer designed it with acquisition and retention as their business goal in mind. In the context of production the developer has implemented marketing strategies in the design of the game and seen that a big F2P audience leads to bigger player segments, this could eventually lead to a bigger profit. Therefore, virality

[27] The core loop is the series of actions the player will perform over and over again in the heart of gameplay.

becomes a social currency for the developer, which is almost as valuable as the actual microtransactions process. Thus, by collaborating with friends players are able to skip the inconvenience design of the waiting time, but this is, from political economy perspective, is a key to the success of the game and deliberately set up by the developer.

However, for some player segments the constant collaboration could also form as an inconvenience. Players who are focused on competition and beating their friends, might experience the virality as an inconvenience, in the sense that it enables their competition to beat or stay at the same level as them. These players will be more likely to use microtransactions in order to progress, which enables them to directly defeat the competition, instead of helping them. This indicates that inconvenience design could segment players, based on their reaction to an inconvenient game design.



Images 1-2-3: The pay-to-continue monetization of *Candy Crush Saga*.

Game content that becomes increasingly difficult is a very common design choice and is implemented in most MMOGs (Hamari and Lehdonvirta 20). And when the game content becomes increasingly difficult, it requires the players to obtain better items to maintain the same relative level of performance or status, as old items gradually become useless. In some manner, I found that this design choice also structures *Candy Crush Saga* progression-based inconvenience design. But unlike in MMOGs, players in *Candy Crush Saga* are not able to acquire better boosters (items) through gameplay, and therefore progress becomes increasingly difficult unless they pay or go viral. In my extensive play analysis of the game, I found that the first twenty levels are fun and challenging, but after players pass the twentieth level, they will start to hit what I would call pay-walls[29]. And will

[29] In Candy Crush Saga a pay-wall is defined by its extreme difficulty. Player will have to perfectly play every move (which are limited), and have the right amount of luck to beat it. These walls are designed to get players stuck, and force them to monetize or go viral.

continue to hit these pay-walls as they progress through the five hundred levels that the game currently supports. The difficulty of the level is deliberately increased at specific points in the game, so that players are either forced to pay, or go viral for boosters and hearts. At these points, the inconvenience of the high difficulty will create needs among player segments, which are pretty much set on progress, and therefore have to pay or go viral. This inconvenience affects both the collaboration and the competition players, in the sense that it creates needs to progress. And because *Candy Crush Saga* keeps adding levels[30], the developer can design their new levels based on player data that they constantly collect. This enables them to create the most effective inconvenience design mechanics and create the game as an ongoing service that constantly evolves through post-development. This also results in that; they can focus their inconvenience design on different player segment, as they can segment these groups through the collected player data.

Although *Candy Crush Saga* is a relatively simple casual game, the developer is able to, through the use of post-development strategies and progression-based inconvenience design, create consumer (player) needs. By setting up pay-walls and other inconvenient design mechanics *Candy Crush Saga* is forcing players to make a choice, which forces them to either stop playing or pay; by either going viral (social currency) or through microtransactions. While it is beyond the scope of thesis to address all the different player segments, I would state that, based on this textual analysis, *Candy Crush Saga* could cater to diverse player segments which all handle monetization differently, and therefore the F2P commodity form can differ per player segment.

3.2.4 STAR WARS: THE OLD REPUBLIC

Star Wars: The Old Republic is a massively multiplayer online role-playing game[31] based in the Star Wars universe. The game was originally released on December 20, 2011 with a subscription model, but almost a year later, the publisher, Electronic Arts made the game F2P. The main gameplay resolves around the player progressing through Star Wars universe completing a variety of quest and storylines (which the player can choose from at the start of the game). Players level up, and progress through the game by completing missions, exploring the universe and defeating enemies. Contrary to *Candy Crush Saga*, the game is more complex in the sense that it not easy to pick and play. Players who don't have an extensive record of playing (hardcore) digital games will probably have to be patient in order to learn to play *Star Wars: The Old Republic* (the game has a tutorial that last a couple of hours). Players who are more acquainted with (hardcore) digital games (and especially other MMORPGs), will be more familiar with the gameplay mechanics of the game.

[30] "We are always adding new levels to the game. Keep an eye on our Facebook fan page for news and updates!". Statement about the levels in Candy Crush Saga on King.com (http://about.king.com/candy-crush-saga-faqs/en).
[31] A massively multiplayer online role-playing game (MMORPG) blends the genres of role-playing video games and massively multiplayer online games (MMOG) and creates a virtual world in which a very large number of players interact with one another.

3.2.5 STAR WARS: THE OLD REPUBLIC MONETIZATION

At the 2013 game developer conference, *Star Wars: The Old Republic* game director, James Ohlen, talked about how F2P saved their game. Ohlen explained that with their F2P model, they came up with a F2P system that made subscribers the core of their business, but also, at the same time, brought in new players (Everett 2). Thus, while *Star Wars: The Old Republic* has gone F2P; they haven't completely abandoned their subscription model. The game does not require a subscription, but getting players to become a monthly subscriber is one of the core monetization strategies of the developer. However, the game has a wide variety of monetization options that don't need a subscription or are specifically focused on a subscription. Monetization can roughly be divided in three ways: microtransactions, DLC and subscribers.

- Microtransactions: *Star Wars: The Old Republic* has, since going F2P, implemented an in-game currency called Cartel Coins. Excluding a few minor non-repeatable exceptions, the only way of generating this currency in the game is to pay real money through the online store. With this currency players are able to buy an abundance of virtual items and upgrades.
- DLC: Extra downloadable content which provide new story content and raises the level cap from 50 to 55. This content is free to subscribers, but can be bought for $19.99 for non-subscribers.
- Subscribers: Subscribers have full access to all the game content and none of the inconvenience which F2P players do have. They also get a monthly allowance of Cartel Coins based on their subscription preferences. But they can also, like non-subscribers, go to the online store and buy Cartel Coins with real money

The monetization model of *Star Wars: The Old Republic* is focused on creating consumer needs for a monthly subscription and relies heavily on inconvenience design and player segmentation. This evident in the sense that it becomes a convenience factor to have a subscription for the player, mainly because it removes all the inconvenient design features in gameplay and progression. Although F2P players still have access to (almost) all of the content that subscription players do, they merely acquire it later, have limited access or have a harder time acquiring it. When a F2P player makes an in-game purchase of a $4.99 or more (on any virtual item or services) he receives a preferred status. This preferred status has less inconvenient design features than a F2P status, but does not completely remove them, as is the case with a subscription status. The game therefore, clearly, segments players based on how much they spent. And also reminds them that as a F2P player, and even as a preferred status player, they are missing out on for example: progression experience from quests, mounts, and more. In the following paragraph I will show how the developer

intentionally reminds the players, through inconvenience design, that they are missing out without a monthly subscription.

Images 4: The Preferred status player options in *Star Wars: The Old Republic.*

3.2.6 STAR WARS: THE OLD REPUBLIC INCOVENIENCE DESIGN

Because the monetization is focused on persuading players to convert to a subscription model, the inconvenience design of the game is also, intentionally, designed to support this. In *Star Wars: The Old Republic* this is mainly done by two forms of inconvenience design: limitations-based inconvenience design and progression-based inconvenience design. While there are too many examples to discuss, I will briefly describe the most noteworthy ones. Limitations-based inconvenience design mostly comes down to locking of game(play) content. This becomes evident with the fact that the F2P players have a very limited number of choices when it comes to things like for example: playable character races and with this the number of playable story lines. Every character race has a different story line, which provides a completely new gameplay experience. There are a total of eleven characters species which can be selected, but only three are available for the F2P player. Although a player needs a subscription to unlock all eleven characters races, there are five races that can be bought through the in-game store, and could also be seen as a hyper-realized version of DLC. While the F2P player is still able to play and progress through the game, the limitations-based inconvenience design prevents him from experiencing the “complete” game.

Progression-based inconvenience design is almost ubiquitous for F2P players in *Star Wars: The Old Republic.* However, it is less visible as it was with *Candy Crush Saga* and it arises from a form

of limitations-based inconvenience design. To give some examples: many MMOGs' worlds are so large that the travel time between places can be time-consuming. This has leaded to for example; flyable mounts or other fast means to travel (a quick travel system). *Star Wars: The Old Republic* has similar means to skip this travel time, but for F2P players these are always available later than subscription players or even preferred status players. In this manner, limitations-based inconvenience design prevents F2P players from accessing certain functionalities; something as simple as sprinting, only becomes available at level ten for F2P players, and subscribers learn to pilot transportation vehicles at level fifteen, while F2P players can start doing this at level twenty-five. Quick travel has a cooldown time of thirty minutes for subscribers and they have unlimited access, for F2P players this is cooldown time is two hours with limited access. These limitations can become a significant inconvenience factor for F2P players, as it takes time away from progressing through the game. Because these mechanics are locked or delayed for the F2P players, it becomes a form of progression-based inconvenience design. When a player acquires a subscription, he is able progress faster through the game than a F2P player; as travel time becomes far less of an inconvenience meaning he could use this time to progress by, for example, completing mission faster. Another example that takes away at player progression is the limited bag storage, which prevents F2P players to carry a large amount of items and forces them to quickly use or sell their items. F2P players are able to purchase more bag space through microtransactions, but they used to be able to purchase it with cartel coins. Thus, when the game went F2P, the designers deliberately made changes in the design of the game in order to create consumer needs. When players get further in the game they will be using more skills, which are activated through the ability bar and are extremely important for taking down high-level enemies. F2P players, however, only have two ability bars, which is extremely inconvenient against high-level enemies seeing that the F2P players have to make choices in which skills they put on the ability bar. Therefore, through this inconvenience design, it is almost impossible for high-level F2P players to not become a subscriber or pay with microtransactions as they progress through the later stages of the game.

Images 5-6: The Quick Bar -unlock, and extra item storage -unlock in *Star Wars: The Old Republic.*

There are many other game mechanics or functionalities that are inconveniently designed, and are, clearly, intentionally designed to create needs for a subscription or microtransactions by the developer. But the developer is not shy about letting the player know that they intentionally did this. At almost every inconvenience, they also notify the player that they can skip this inconvenience by becoming a subscriber. Players can therefore customize their own play experience based on the inconveniences factors they want to play with, and the ones which they do not want to play with. Seen from a political economy perspective, their gameplay action and monetization choices place them in a certain player segment, which result in that the F2P commodity for the developer is different for every player segment. Although players can choose not to pay or subscribe in *Star Wars: The Old Republic* and still play without any real interruption, game-specific needs are created through inconvenience design which can circumvented by microtransactions or a monthly subscription. The player is therefore always confronted with the option to enhance his play expierence, by spending money, and he is almost pushed by the developer to do this, in order to progress faster.

3.3 THE F2P GAME COMMODITY

In this final chapter I have shown that the F2P game commodity does not offer game publishers one single revenue stream, but that the F2P commodity form can vary per player segment. Some players might not spend money on the game, but can, for example, be used by the developer as a marketing tool. I therefore argue that the current nature of the F2P commodity translates into a particular mode of cultural production and circulation, which is focused on metrics and game analytics, and could translate into a form of monetization design which uses inconvenience design to create consumer needs, which could vary per player segment.

By focusing on inconvenience design in the textual analysis of the two F2P games, I have been able to support my arguments from the previous chapters and shown how developers could use their audience as a commodity. The previous paragraphs have pointed out how F2P game developers implement inconvenience design as a clear attempt of a capital intensive production, and commodify the digital game with a new scope and intensity. Compared to the traditional digital game commodity, the F2P commodity uses implicit audience labor to add surplus value and, in some form, control the monetization process through inconvenience design by creating player segments and consumer needs. Although F2P games allow players to play for free, they are also deliberately designed to stimulate certain player segments in investing various amounts of money or to use them as tools for other business goals, through an implicit form of audience labor. And seeing that there is no clear end to the F2P service model, the developer has the ability to analyze player data and structure design and monetization, in order to keep the game profitable long after its release. For the commodification of play this means that the player and its play style will be treated as a product and

that they are constantly confronted by manners in which they can enhance or expand their play(er) experience. While, with the process of gold farming or real-money in this mostly happened outside of the borders of play, F2P games bring this process into the rules of game. For the publishers and developers the F2P game commodity could be, more than the traditional flat-fee digital, seen as an (new) ideal commodity in the sense that they are, over time, able to anticipate the value that they can extract from their consumers by the use of this F2P game commodity.

CONCLUSION

Over the last couple of years numerous digital games have been either switching to a F2P model or started development with this model as their business strategy from the start. I argued that the commercial success of this market, and the F2P production and design process, provided an interesting academic relevance to research the F2P game commodity. In this thesis, I framed F2P commodity in a political economy perspective in order to critically engage with its circumstances of production and business practices. This gave me the opportunity to identify the relevant parties in the circumstances of (F2P) game production; and address the shift from a traditional game commodity towards a F2P game commodity. This thesis therefore focused on the evolving business strategies and monetization models in game production, while using political economy theories on spatialization and commodification to frame the different industry structures and production processes.

I have shown that the F2P game commodity shifts the traditional business model of a flat-fee or a monthly subscription game commodity towards a monetization design which allows users to enter the game for free and sample the game before spending money. By using an institutional analysis in the first chapter, I pointed out that the F2P commodity and its position among the games industry and the wider digital culture industry typifies the different economic, technological and cultural forces at work in a new regime of consumption, namely freeconomics. In order to make a profit of a free game, the F2P game developer uses player data to adjust the monetization design of their game, and extract value out of the play-actions of their players (audience).

As result I have, in the second chapter, noted that F2P games make significant changes in the traditional mode of cultural game production, which inherently changes the digital game as a commodity form. With a strong focus on post-development, the F2P game commodities represent a major shift from the traditional model of packaging digital games as “fire” and “forget” commodities and illustrate how the global gaming industry is moving from providing discrete offerings towards establishing ongoing relationships with its players. I therefore argued that the F2P game commodity embodies new forces of production and could be seen as a clear attempt of game publishers to

commodify digital games with a new scope and intensity. The ability of F2P game developers to monitor, track and monetize player based on data they give out by playing, forms as the core concept to add surplus value to the F2P commodity for the game publisher. One of the strategies to add value to the F2P commodity is that F2P game developers could use marketing models, such as that of the ARM funnel, to segment players as different player types based on their gameplay actions and spending. Through the collection of player data, game developers have the opportunity to keep (re-) designing games pre- and post-launch in a completely different manner than before. This player data could be seen as a result of audience labor; the F2P game is therefore not really free for its players, the users of the F2P game become, in most cases, a product themselves in a commodification process by the developer.

In the final chapter I argued that this results in a specific form of F2P game design, in which the ultimate goal is to create a directly engaging and persistent experience which needs to create consumer needs, and monetize on these needs. In order to create needs, F2P developers use a method which I called, inconvenience design, which has strong relations to monetization and the overall context of the game. Inconvenience design implies that some gameplay mechanics, interface elements, progression or accessibility of content in F2P games have been intentionally designed to be fairly inconvenient from the players' perspective. I therefore argued that inconvenience design can be compared to marketing techniques that try to create consumer needs, and can therefore be understood as a clear form of "commodification of play" that is, contradictory to designing fun, and aimed at creating, controlling and monetizing consumer needs. This also points out that the production process and design process of a F2P commodity has shifted significantly in comparison with that of the traditional digital game commodity. While the F2P commodity allows players to play a game for free, their game playing experience will always be confronted with monetization options that could enable them to tailor their play experiences by spending money.

Although the political economy approach provided a great research manner to investigate the shift towards a F2P game commodity, and its changes in game production and design, it did not give me the opportunity to pay explicit attention to the audience and their media use, except in terms of how they are constructed and segmented as products for the game developer and publisher. I therefore primarily used a political economy approach to link the process of commodification and spatialization to the issues of the games industry structures, production and design. While an institutional analysis and textual analysis provided a critical approach towards the games industry structures, production and design, it only showed how the game developer and publishers could see the F2P commodity as a (new) ideal commodity. Although I have highlighted the commodification of play, and how this in some form could affect the player, it was outside the limits of this thesis to investigate the players' experience with the F2P commodity. For future research, it

might be interesting to investigate a more player centric approach and look at: how players experience F2P games, their monetization design and inconvenience design and what this does to, for example, player immersion in comparison with the flat-fee game commodity.

SOURCES

Aarseth, Espen. "Playing Research: Methodological approaches to game analysis." *Proceedings of the Digital Arts and Culture Conference*. (2003): 1-8.

Ahmad, Muhammad Aurangzeb, Brian Keegan, Jaideep Srivastava, Dmitri Williams, and Noshir Contractor. "Mining for gold farmers: Automatic detection of deviant players in mmogs." *Computational Science and Engineering, 2009. CSE'09. International Conference on. Vol. 4*. IEEE. (2009): 1-10.

Alves, Tiago, and Licínio Roque. "Because Players Pay: The Business Model Influence on MMOG Design." *DiGRA Conference: Situated Play* (2007): 658-663.

Anderson, Chris. *Free: How today's smartest businesses profit by giving something for nothing*. Londen: Random House, 2009.

Askelöf, Peter. "Monetization of Social Network Games in Japan and the West." *Master thesis Lund University, Faculty of Engineering, LTH* (2013): 1-150.

Berry, Michael J, and Gordon Linoff. *Data mining techniques: For marketing, sales, and customer support*. John Wiley & Sons, Inc., 1997.

Bodislav, Dumitru-Alexandru. "The Internet: Source for the Globalization of the Market of Goods and Services." *Globalization & Business Conference* (2011):1-5.

Bouça, Maura. "Angry Birds, Uncommitted Players." *DiGRA Nordic Conference: Local and Global – Games in Culture and Society* (2012): 1-13.

Cook, Dave. "World of Warcraft revenue drops 54% in seven month stretch – report." *VG247* 09 December 2013. 29 October 2013 < http://www.vg247.com/2013/09/12/world-of-warcraft-revenue-drops-54-in-past-seven-months-report/>.

Diener, Matthew. "Pachter: Candy Crush Saga making $40 a year from every paying player." *Pocketgamer* 18 September 2013. 1 November 2013 < http://www.pocketgamer.biz/r/PG.Biz/NY+Games+Conference/news.asp?c=53837>.

Dredge, Stuart. "Plants vs. Zombies 2: 'The free-to-play model for this particular game is the PopCap way." *The Guardian* 15 August 2013. 29 October 2013 <http://www.theguardian.com/technology/appsblog/2013/aug/15/plants-vs-zombies-2-iphone-ipad>.

Dring, Christopher. "F2P market is worth £216m in UK." *mcvuk.com* 01 November 2012. 08 September 2013 < http://www.mcvuk.com/news/read/f2p-market-is-worth-216m-in-uk/0105620>.

Everett, Larry. "GDC 2013: James Ohlen on how F2P saved SWTOR." *Massively by Joystiq* March 29 2013. 01 November 2013 < http://massively.joystiq.com/2013/03/29/gdc-2013-james-ohlen-on-how-f2p-saved-swtor/>.

Fox, Zoe. “96% of Top-Grossing Google Play Apps Are Free.”*Mashable* 26 September 2013. 02 November 2013< http://mashable.com/2013/08/26/top-grossing-apps/>.

Garnham, Nicholas. *Emancipation, the Media, and Modernity: Arguments About the Media and Social Theory*. Oxford: Oxford University Press, 2000.

Graft, Kris. “Zynga's Reynolds On 'Social' First And Foremost.” *Gamasutra* 18 February 2010. 01 November 2013 <http://www.gamasutra.com/view/news/27310/DICE_2010_Zyngas_Reynolds_On_Social_First_And_Foremost.php>.

Guo, Yue, and Stuart Barnes. "Why people buy virtual items in virtual worlds with real money." *ACM SIGMIS Database 38.4* (2007): 69-76.

Hamari, Juho, and Vili Lehdonvirta. “Game design as marketing: How game mechanics create demand for virtual goods.”*Int. Journal of Business Science and Applied Management, Volume 5, Issue 1* (2010): 14-29.

Hamari, Juho, and Aki Järvinen. "Building customer relationship through game mechanics in social games." Business, Technological and Social Dimensions of Computer Games: Multidisciplinary Developments. Hershey, PA: IGI Global, Forthcoming (2011).

Hesmondhalgh, David. *The Cultural Industries*.2nd ed. London: Sage, 2007.

Harambam, Jaron, Stef Aupers, and Dick Houtman. "Game over? Negotiating modern capitalism in virtual game worlds." *European Journal of Cultural Studies 14.3* (2011): 299-319.

Hollanders, Bob. “Free-To-Play Monetization Design” *Research internship report Vanguard Games for the University of Utrecht* (2013): 1-32.

Hullett, Kenneth, Nachiappan Nagappan, Eric Schuh and John Hopson.“Empirical analysis of user data in game software development.” *In Proc. of ESEM* (2012): 89–98.

Johns, Jennifer. "Video games production networks: value capture, power relations and embeddedness." *Journal of Economic Geography 6.2* (2006): 151-180.

Juul, Jesper. *A Casual Revolution, Reinventing video games and their players*. Cambridge: The MIT Press, 2010.

Kerr, Aphra. *The business and culture of digital games: Gamework and gameplay*. Sage, 2006.

King, David, and Sigi Chen. “Metrics for Social Games.” Retrieved October 18, 2013 from <http://www.slideshare.net/justinsmith/metrics-for-social-games-by-david-king-and-siqi-chen>.

Kline, Stephen, Nick Dyer-Witheford, and Greig de Peuter. *Digital play: The interaction of culture, technology and marketing*. McGill-Queen's University Press: Montreal, 2003.

Kotler, Phillip. *Principles of Marketing (4rd dutch edn).* Englewood Cliffs: Prentice-Hall, 2004.

Lee, Aaron. “EA predicts 10% rise in next-gen dev costs.” *Develop-online.net* 1 March 2013. 22 September <http://www.develop-online.net/news/ea-predicts-10-rise-in-next-gen-dev-costs/0114168>.

LeJacq, Yannick. “'Angry Birds' soars, rakes in serious cash.” *Today Tech* 04 April 2013. 04 October 2013 <http://www.today.com/tech/angry-birds-soars-rakes-serious-cash-1C9221378>.

Ligman, Kris. “GTA V hits $800M in day-one sales.” *Gamasutra* 18 September, 2013. 23 October 2013 <http://www.gamasutra.com/view/news/200547/GTA_V_hits_800M_in_dayone_sales.php>.

Lizardi, Ryan. "DLC: Perpetual Commodification of the Video Game." *Democratic Communiqué 25.1* (2012): 33-45.

Luban, Pascal. “The Design of Free-To-Play Games: Part 1.” *Gamasutra* 22 November 2011. 8 November 2013 < http://www.gamasutra.com/view/feature/134920/the_design_of_freetoplay_games_.php> .

Luton, Will. “The Future of Games: F2P Is Not Evil Nor The Only Solution.” *Gamasutra* 18 April 2013. 24 September 2013 <http://www.gamesindustry.biz/articles/2013-04-18-the-future-of-games-f2p-is-not-evil-nor-the-only-solution>.

Marchand, André, and Thorsten Hennig-Thurau. "Value Creation in the Video Game Industry: Industry Economics, Consumer Benefits, and Research Opportunities." *Journal of Interactive Marketing* (2013): 141-157.

Markowitz, David. “The rise of free to play games in the western market.” *Examiner.com* 9 May 2010. 26 September 2013 <http://www.examiner.com/article/the-rise-of-free-to-play-games-the-western-market>.

Martin, Matt. “World of Tanks and the Free-to-Play Console War.” *Gamesindustry.biz* 24 June 2013. 26 September 2013 <http://www.gamesindustry.biz/articles/2013-06-24-world-of-tanks-and-the-free-to-play-console-war>.

Miller, Patrick. “Q&A: The nitty gritty of TERA's move to free-to-play.” *Gamasutra* 21 April 2013. 04 October 2013 <http://www.gamasutra.com/view/news/188941/Qamp_A_The_nitty_gritty_of_TERAs_move_to_freetoplay.php>.

Mosco , Vincent, Eileen Meehan, and Janet Wasko. "Rethinking Political Economy: Change and Continuity." *Journal of Communication* 43.4 (1993): 105-116.

Mosco, Vincent. *The political economy of communication: Rethinking and renewal*. Second edition. Sage, 2009.

Nichols, Randy. “Before play, production: Contributions of political economy to the field of game studies.” *Videogame cultures and the Future of Interactive Entertainment Conference* (2010): 1-10.

Nieborg, David.B. *Triple-A: The political economy of the blockbuster video game*. (Unpublished doctoral dissertation) University of Amsterdam, Amsterdam, Netherlands (2011).

Nieborg, David. “The winner takes all: Standardization and console games.”*DiGRA Conference: Think Design Pay* (2011):1-14.

Nojima, Miho. “Pricing models and Motivations for MMO play.” *DiGRA Conference: Situated Play* (2007): 672-681.

Paavilainen, Janne. "Can you make money with free services?." Retrieved October 20, 2013 from < http://www.academia.edu/2828892/Can_you_make_money_with_free_services>.

Perry, Lee. “There's good in you yet, F2P games, I can sense it!.” *Gamasutra* 10 May 2013. 05 October 2013 <http://gamasutra.com/blogs/LeePerry/20130510/192097/Theres_good_in_you_yet_F2P_games_I_can_sense_it>.

Postigo, Hector. "Of mods and modders chasing down the value of fan-based digital game modifications." *Games and Culture 2.4* (2007): 300-313.

Pruett, Chris. “Free-to-Play is A-OK.” *Gamasutra* 01 May 2013. 11 October 2013. <http://www.gamasutra.com/blogs/ChrisPruett/20130501/191548/FreetoPlay_is_AOK.php>.

Quick, Jonathan. “History of the MMO, and the evolution to free-to-play.” *The examiner* 17 November 2012. October 19 2013. < http://www.examiner.com/article/history-of-the-mmo-and-the-evolution-to-free-to-play>.

Reime, Erlend Vihovde. "Exploring the Freemium Business Model." *Master thesis Universitetet iOslo* (2011): 1-62.

Rose, Mike. “90% of U.S. mobile game revs come from within games – study.” *Gamasutra* 5 January 2012. 24 October 2013 <http://www.gamasutra.com/view/news/169530/90_of_US_mobile_game_revs_come_from_within_games__study.php>.

Ruggiero, Dana. “Speaker for the Data.” *Gamasutra* on 17 May 2013. 28 October 2013 <http://www.gamasutra.com/blogs/DanaRuggiero/20130517/192433/Speaker_for_the_Data.php?>.

Salen, Katie. And Eric Zimmerman. *Rules of Play. Game Design Fundamentals*. Cambridge MA: MIT Press, 2004.

Schäfer, Mirko Tobias. *Bastard Culture! User participation and the extension of the cultural industries*. Dissertation, University of Utrecht Department for Media and Culture Studies (2008).

Senior, Tom. “EA say in-game advertising in decline, microtransactions the way forward. ” *PC gamer* 22 December 2010. 27 September <http://www.pcgamer.com/2010/12/22/ea-say-in-game-advertising-in-decline-microtransactions-the-way-forward/>.

Sinclair, Brendan. “Innovation threatened by rising cost of AAA, says Raymond.” *Gamesindustry.biz* 05 Augustus 2013. 17 October 2013 <http://www.gamesindustry.biz/articles/2013-08-05-innovation-threatened-by-rising-cost-of-aaa-says-raymond>.

Shirkey, Clay. "Power laws, weblogs, and inequality." *Reformatting politics: Information technology and global civil society* (2003): 35-42.

Shokrizade, Ramin. “Next Generation Monetization: Supremacy Goods.” *Gamasutra* 9 June 2012. 4 November <http://gamasutra.com/view/feature/177190/next_generation_monetization_.php>.

Smythe, Dallas W. "On the audience commodity and its work." *Media and cultural studies KeyWorks* (1981): 230-256.

Sotamaa, Olli. "On modder labour, commodification of play, and mod competitions." *First Monday 12.9* (2007): 381-395.

Stark, Heather. “The recipe for Candy Crush Saga: luck, skill and puzzles.” *Gamasutra 03* October 2013. October 23 2013 <http://www.gamasutra.com/blogs/HeatherStark/20131003/201559/The_recipe_for_Candy_Crush_Saga_luck_skill_and_puzzles.php>.

Toivonen, Saara, and Olli Sotamaa. "Digital distribution of games: the players' perspective." *Proceedings of the International Academic Conference on the Future of Game Design and Technology. ACM*, (2010): 199-206.

Tyni, Heikki, Olli Sotamaa and Saara Toivonen. “Howdy pardner!: on free-to-play, sociability and rhythm design in FrontierVille." *Proceedings of the 15th International Academic MindTrek Conference: Envisioning Future Media Environments*. ACM (2011): 22-29.

Wade, Alex. “The State of the Art: Western Modes of Videogame Production.” *DiGRA Conference: Situated Play* (2007): 682-691.

Games

Assassins Creed Ubisoft: Ubisoft, 2007.

Battlefield. Electronic Arts: Electronic Arts, 2002.

Bejeweled. PopCap Games: PopCap Games, 2001.

Candy Crush. King: King, 2012.

Call of Duty. Infinity Ward: Activision, 2003.

CityVille. Zynga: Zynga, 2010.

Clash of Clans. Supercell: Supercell, 2012.

DC Universe Online. Sony Online Entertainment: Sony Computer Entertainment and WB Games 2013.

Dota 2. Valve Corporation: Valve Corporation, 2013.

Dreams of Divine Lands. Iron Realms Entertainment: Iron Realms Entertainment, 1997.

Dust 514. CCP Shanghai: CCP Games and Sony Computer Entertainment, 2013.

Farmville. Zynga: Zynga, 2009.

Furcadia. Dragon's Eye Productions, Inc.: Dragon's Eye Productions, Inc, 1996.

Killer Instinct. Double Helix Games: Microsoft Studios, 2013.

Left 4 Dead. Valve Corporation: Valve Corporation, 2008.

MapleStory. Wizet: Nexon, 2003.

PlanetSide 2. Sony Online Entertainment : Sony Online Entertainment, 2013.

Plant vs. Zombies. PopCap Games: PopCap Games, 2009.

Plants vs. Zombies 2: It's About Time. PopCap Games 2013: Electronic Arts, 2013.

Project Spark. Team Dakota: Microsoft Studios, 2014.

RuneScape. Jagex Games Studio: Jagex Games Studio, 2001.

Star Wars: The Old Republic. BioWare: Electronic Arts, 2012.

Tera. Bluehole Studio: Bluehole Studio, 2012.

The Sims. Maxis: Electronics Arts, 2000.

Ultima Online. Origin Systems: Electronic Arts 1997.

Warframe. Digital Extremes: Digital Extremes, 2013.

World of Warcraft. Blizzard Entertainment: Blizzard Entertainment , 2004.

World of Tanks. Wargaming: Wargaming, 2010.