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Exploring the Value Creation of Online Microenterprises

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Abstract

The role of Internet and information and communication technology (ICT) in the economy has been growing increasingly over the recent years. Meanwhile, a significant part (93%) of Finnish enterprises outside agriculture, forestry and fishing industries are microenterprises and these firms employ 26% of the workforce and make up for 18% of the private sector turnover in Finland if aforementioned industries are excluded. Additionally, it has been predicted that small firms will have an increasing role in creating new jobs in the Finnish economy. This makes online microenterprises an extremely interesting and important subject of study. However, this group of firms is little researched, even more so from viewpoint of value creation.

This thesis sheds light on the phenomenon of online-based microenterprises that sell digital goods by examining their value creation processes. The study was conducted as multiple cases study, where five Finnish mobile gaming firms' representatives were interviewed in order to identify the value activities, relevant value chain actors and value distribution in the chain. Due to the lack of niche-specific previous research, the literature forming the basis for the study is drawn from e-commerce and value creation literature at large.

The findings suggest that the main activities in creating a mobile game are sound and audio production, graphic design, game design and development, marketing through various channels, and distribution. The main actors are various freelancers in the upstream of the value chain, in-house operators in terms of game design, development, graphic design, business development and marketing, and downstream actors in the form of publishers, Apple or Google and finally the end customer. It is also important to note the role of various media such as game review websites and blogs in the value formation process.

Also revenue models of mobile games were identified. These are in-app purchases, advertising, and premium game sales.

The value is captured in following proportions. Apple or Google captures 30% of a game's retail price and in-app purchases, whereas a potential publisher captures approximately 30% - 50% of the revenue that is left after the distributor, which translates to 21% - 35% of the total revenue. The rest is captured by the mobile game development firm, which has to subtract salaries and other operating expenses from their revenue.

Keywords value creation, value chains, mobile games

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Tiivistelmä

Internetin sekä informaatio- ja viestintäteknologian (ICT) osuus taloudessa on lisääntynyt kasvavassa määrin viime vuosien aikana. Samalla merkittävä osa (93%) maa-, metsä- ja kalatalouden ulkopuolella toimivista suomalaisyrityksistä ovat mikroyrityksiä, ja yritykset työllistävät 26% työvoimasta ja tuottavat 18% liikevaihdosta yksityisellä sektorilla Suomessa, jos edellämainittuja toimialoja ei oteta huomioon. Lisäksi on ennustettu, että pienyrityksillä tulee olemaan kasvava rooli uusien työpaikkojen luomisessa Suomen taloudessa. Tämä tekee verkossa toimivista mikroyrityksistä äärimmäisen mielenkiintoisen ja tärkeän tutkimusaiheen. Kuitenkin tämä ryhmä yrityksistä on vähän tutkittu, ja vielä vähemmän ryhmää on tutkittu arvonluontiprosessin näkökulmasta.

Pro gradu -tutkielma valottaa verkossa toimivien, digitaalisia tuotteita myyvien mikroyritysten ilmiötä tutkimalla niiden arvonluontiprosesseja. Tutkimus toteutettiin monen tapausyksikön tutkimuksena, jossa viiden eri suomalaisen mobiilipeliyrityksen edustajia haastateltiin, jotta voitaisiin saada selville arvoketjun toiminnot, olennaiset toimijat sekä arvon jakautuminen arvoketjussa. Aiemman soveltuvan kirjallisuuden vähyydestä johtuen tutkimuksen pohjana toimiva kirjallisuuskatsaus on otettu sähköistä kauppaa ja arvon luontia koskevasta akateemisesta kirjallisuudesta.

Tutkimuksen tuloksista voidaan päätellä, että pääasialliset mobiilipelin luontiin liittyvät arvoketjun toiminnot ovat ääni- ja musiikkituotanto, graafinen suunnittelu, pelisuunnittelu ja -kehitys sekä markkinointi ja jakelu monen eri kanavat kautta. Pääasialliset arvoketjun toimijat ovat lukuisat eri freelancer-työntekijät arvoketjun alkupäässä, talonsisäiset toimijat pelisuunnittelussa ja -kehityksessä, graafisessa suunnittelussa, liiketoiminnan kehittämisessä sekä markkinoinnissa, sekä arvoketjun loppupään toimijat julkaisijan, Applen tai Googlen sekä loppuasiakkaan muodossa. On myös tärkeää huomioida eri medioiden, kuten peliarvosteluverkkosivustojen ja blogien rooli arvon kehittymisessä.

Myös mobiilipelien tulomalleja voitiin tunnistaa. Tulomallit ovat sovelluksen sisäiset ostokset, mainostulot, ja maksullisten pelien myyntitulot.

Arvo jakautuu siten, että Apple tai Google ansaitsee pelin myyntihinnasta sekä sovelluksen sisäisistä ostoista 30% , kun taas mahdollinen julkaisija saa edellämainitun jakelijan jälkeen jäljellä olevasta osuudesta noin 30% - 50%, joka on noin 21% - 35% myyntihinnasta. Loppu myyntihinnasta päätyy pelin kehittäneelle yritykselle, joka vähentää summasta vielä toimintakulunsa.

Avainsanat arvon luonti, arvoketjut, mobiilipelit

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1. INTRODUCTION

1.1 Background

The role of information and communication technology (ICT) has grown significantly during the last few decades, especially during the first decade of the third millennium. As the speed of technological development accelerates, the number and scope of the practical applications of technology are likely to increase. In business, the introduction of technologies such as personal computers, laptops, and the Internet, email, smartphones, and tablet computers has transformed global business environment completely. E-commerce as a field is relatively young, and all but extensively researched. Consumers and businesses alike can today conduct online transactions with a click of a mouse or tap of a finger, and the opportunities for shopping or purchasing both tangible and intangible goods and services online are overwhelming. (Friedman, 2006)

Technology certainly has changed consumer habits, and this has been noted well in businesses, academia and society in general. However, the means of doing business have changed not only in the buying or value-consuming side of the transactions, but on the producing and value-creating side as well. This is an interesting phenomenon that deserves to be investigated more. It is greatly interesting to discover the realities and details of setting up and running a successful or profitable business with minimal resources, as entrepreneurship is an appealing career path in itself.

Furthermore, innovations in modern technology and automation have enabled businesses to cut down on resources and people, and to operate with only little human resources. Indeed, the Internet and other technologies have given birth to a new phenomenon of online entrepreneurs and online businesses, where enormous value is being created at minimal human and capital resources, often having only few other people than the founder/owner running the business.

At the same time, traditional factory work, that once was a major source of employment in the developed economies of North America and Europe, no longer seems to be able to offer employment opportunities to as many people as in the nineteenth and twentieth century and as a result of this, a growing portion of the working population has to find work elsewhere. In fact, Brynjolfsson and McAfee (2011) argue that in order to reverse the trend of growing unemployment in the United States of America, the U.S. government ought to provide citizens with better training on information technology skills, since a growing part of the population will have to employ themselves as entrepreneurs in the near future, and information technology provides a good opportunity for doing this with relatively low start-up costs. Friedman (2006) accompanies this thought by suggesting that both education and scientific research in the field of natural sciences and technology are of paramount importance if a country is to succeed and thrive in the global economy.

It has also been noted in the Finnish society that small businesses are a large employer and that their share of the new jobs being created in the Finnish economy is significant. According to the Federation of Finnish Enterprises (2011), 93% of all enterprises in Finland excluding agriculture, forestry and the fishing industry are microenterprises, consisting of 1-9 employees. These microenterprises employ 26% of the workforce and make up to 18% of the turnover in the private sector if the aforementioned three industries are excluded.

Also Farhoomand and Lovelock (2001, p.575) argue that the Internet has lead and will further lead to the growth in the number of small firms and extremely large firms – at the expense of medium-sized firms – and decrease in the average size in employees. This is so because small firms have gained the ability to become more competitive, thanks to the Internet and virtual value chains, and because of consolidation happening in the larger companies. This is mainly because of two reasons that make smaller firms increasingly more competitive in the online marketspace: cost-structure efficiency and enhanced ability for product differentiation.

In the new economy characterized by increased communications and management information systems and the sourcing of the irrelevant parts of the value chain, it has become easier for small firms to enjoy the benefits of enhanced vertical integration of their value chain, without necessarily owning the additional parts of it. Not having to run the whole chain internally enables smaller firms to keep their costs down, while the informational integration drives the costs down even more. This makes it possible for companies to focus better on their core competencies and offer superior value through differentiation. Also, new economies of scale and scope have made it possible for small firms to have extensive geographical reach with little resources.

Thus, small firms have many advantages to them: lower cost structure, extended geographical reach and ability to differentiate their product offering. The traditional risks of differentiation can be buffered by technology; the fading effect of differentiation and imitation by competitors can be tackled by leveraging the new technology to research and study the targeted niche market continuously, which allows the company to develop new and more innovative products for the given niche market.

As this phenomenon of growing number of small firms and online firms is extremely interesting and economically important, this thesis aims to shed light on an area of the economy that is both increasingly important yet still little researched: microenterprises that operate within the online realm of digital goods and services. The aim is to uncover and explore the phenomenon of this kind of microenterprises by investigating the value chain and value creation of case companies, five Finnish mobile gaming firms. This is done by examining case companies through interviews with people who

own, run or manage these companies.

1.2 Research Problem / Research Gap

E-commerce is a relatively young and dynamic phenomenon, and as such there exists quite limited academic research on the field. Value creation is a concept that is well investigated in the existing literature from various points of view. Some viewpoints and topics studied include value chain analysis (Dekker, 2003; Linden et al., 2009; Dedrick et al., 2009; Crain and Abraham, 2008), value chain governance (Gereffi et al., 2005) and value co-creation (Prahalad and Ramaswamy, 2000 & 2004; Helm and Jones, 2010). However, little research has concentrated on online microenterprises. My thesis aims to study the value creation processes of these firms, and link the existing value creation literature with e-commerce microenterprises. In other words, the research questions are more based on gap-spotting than problematization if we use Sandberg and Alvesson's (2010) terminology.

1.3 Research Questions

How is value created in online-based microenterprises that sell digital goods?

What are the main value activities in the product value chain?

Who are the actors in the product value chain?

How is the value distributed among the participants of the value chain?

1.4 Subject of Study: Global Online-based Microenterprises

In order to conduct research in an effective and efficient manner, the study has been confined with certain boundaries.

Firstly, the theoretical unit of analysis is the value chain and the value creating architecture of a selected product of the businesses studied, namely how the value is being created in the specific product value chain of the firm.

Secondly, since the trend in business is increasingly towards digitalization and because it is also otherwise an extremely interesting subject, the study only addresses businesses that provide digital goods, excluding businesses who sell products that have to be physically shipped or stored. Therefore, the study focuses on so called location-free businesses, or virtual organizations as some researchers (Turban, 2008) call them, whose products can be produced, marketed, and delivered completely digitally, in the online-sphere. These digital products and services can include, but are not limited to:

affiliate marketing, banner advertising space, websites, digital goods that can be delivered as file downloads, such as e-books, audiobooks, PDF-files, games and access to a membership site. The business models of online firms are presented in more detail in the literature review section of the thesis.

Thirdly, the firms studied are to be microenterprises, which implies that the firms studied only consist of 1-10 employees. An exception to this aspect was made because there appeared a good opportunity to include a firm of approximately twenty employees. All in all, there are four firms of less than ten employees and one firm with approximately twenty employees.

The firms studied are Finnish microenterprises that produce and sell mobile games, or games that are available for tablet computers and/or smartphones. The firms are based in Finland but have global sales, thanks to the extensive reach of the current mobile device operating system application stores.

1.5 Structure of the Thesis

The thesis is organized as follows: first, relevant literature in the fields of e-commerce and value creation are reviewed, after which the theoretical framework for the study in presented. Then I overview and justify the methodological choices of the thesis, after which the findings are presented. Subsequently I analyze the findings and finally end the thesis with conclusions. In the appendices section there are a table of online business models of e-commerce in general as well as a copy of the interview guide questions that were used in the semi-structured interviews that form the empirical part of the thesis.

2. LITERATURE REVIEW

The literature review of this thesis is organized as follows. First e-commerce at large is addressed, after which more specific aspects of e-commerce and internet entrepreneurship, such as business models and revenue models, are being described and analyzed in more detail.

Subsequently, the thesis discusses different technological and business processes that are vital for understanding this phenomenon in a holistic way. After these processes follow the value chain model and its virtual equivalents, which are at the heart of this study.

Finally, a theoretical framework is presented, which is used for guiding the empirical part of the study, the qualitative interviews with online entrepreneurs.

2.1 E-Commerce

Since this thesis largely is centered on e-commerce and digital goods, it is appropriate to define these terms and take a look at what they mean. E-commerce, as defined by Laudon and Traver (2011), as well as Turban (2008), is commercial transactions between organizations and individuals conducted in a digital form. Laudon and Traver emphasized that there have to be two parties, buyer and seller, as well as a commercial transaction between these two parties, and that this commercial transaction has to be executed online for it to suffice the requisites of the definition of e-commerce. For example, even if a firm had sophisticated customer relationship management (CRM) and/or enterprise resource planning (ERP) systems in place, its operations do not enter the sphere of e-commerce unless a commercial transaction with another party is made in the online sphere.

Chaffey (2007, p.15) notes that different authors recognize the relationship in a different way, but also confirms that *e-commerce* is a subcategory of *e-business*, defined by commercial electronic transactions between separate entities, whereas *e-business* itself is a broader concept, including not only *e-commerce* but also a larger set of internal and external electronic information management processes.

Modern e-commerce is seen to have born along with the World Wide Web, even though there have been online transactions already before the popularization of the WWW. Examples of these are different Electronic Data Interchange (EDI) transactions between corporations in the 1980s. However, it was not until the exponential growth of the World Wide Web in the 1990s that enabled and greatly facilitated the spreading of online transactions, and brought online purchasing to the reach of not only businesses, but also private consumers.

The 1990s and the 2000s have seen an explosive growth of e-commerce, and currently there are a variety of different combinations of technologies, business models, and revenue models that are utilized. The main categories of business models and revenue models will be briefly presented in the following sections. It is to be noted that some of these business models and revenue models require intensive human resources, leading us to the conclusion that they are less than practical if one is to pursue a business venture involving as little human resources as possible.

2.1.1 Brief History of E-Commerce

Dann and Dann (2001) note that the roots of the Internet and e-commerce trace back to 1969, when ARPANET was created by different US military and governmental agencies as well as universities. This network, sometimes referred to as Internet 1.0, however was a closed network and only the ancestor of the Internet as we know it. Computers and modems could cost thousands of dollars and also for this reason were basically out of the reach of private individuals. However, already during this time institutional users in academia noticed how easy it is to keep in touch with the Internet with various inventions like multi-person chat sessions, remote connections, downloading of files via ftp, and especially email, which was developed already in 1971. This drove the growth of Internet usage before the World Wide Web (Hanson, 2000). Between 1969 and 1990 there were many incremental developments but a key milestone from the e-commerce point of view was the opening of Internet to general public in 1991, thanks to Tim Berners-Lee and the World Wide Web.

The next key step for the birth of global e-commerce was the development of commercial web browsers, for it was only this event that truly made the Internet and the WWW accessible to also non-technical people and therefore enabled the explosive growth of Internet usage. The honor for this is often attributed to Netscape Navigator, launched in 1995, as it was the first truly successful web browser that became popular among the general public and that made the World Wide Web available to practically any person with a computer and Internet connection, since it was both easy to install and use. (Friedman, 2006)

However, an important event preceding and enabling the birth of commercial web browsers and the commercial Internet occurred already before the launch of Netscape Navigator. US National Science Foundation (NSF), who was the entity historically sustaining the physical networks forming the basis of the Internet, or the Internet backbone, had been run with a governmental funding of about 15 million dollars a year, and with a regulation or policy of acceptable use, which explicitly prohibited all commercial transactions online. Only when the US government removed both the funding and the policy in the early 1990s, commercial transactions online become a possibility. The new Internet backbone was launched in 1994. (Hanson, 2000)

Thus, from 1994-1995 begins the history of the modern Internet, characterized by graphical web browsers and several unique aspects, and largely also the history of modern e-commerce. Laudon and Traver (2011) divide the history of modern e-commerce into three eras: innovation (1995-2000), consolidation (2001-2006) and reinvention (2006-present). Innovation was the time when many important technologies were developed and investigated. Also during this time the venture capital investments were at their highest, especially in the later part of the era.

Hanson (2000) talks about a "virtuous cycle" as an important accelerator for innovation during this era between the years 1995 to 2000. This cycle consists of three parts: web sites and content, consumer and business Internet access, and popular fascination. Together these parts formed a positive feedback loop, each part feeding each other, which greatly accelerated the development of the commercial Internet. The driving force in the cycle is popular fascination. As businesses and individuals get excited with online services and technology, they buy new computers and modems, which turns into a great opportunity for Internet service providers, who then ramp up the network capacity, invest in new, improved infrastructure, and otherwise create new services. This improves the content that can be created and shared online, which then feeds the popular fascination. With this feedback loop the adoption of the commercial Internet and its growth was significantly a faster process than it would have been without the loop, due to the many mutually reinforcing parts of the cycle. (Hanson, 2000)

During this time period, many different parties had high expectations for the Internet and e-commerce. Some of those expectations came true, some did not.

Computer scientists and technologists dreamed of a free Internet and thus also of a self-governed and independent e-commerce environment, whereas economists were drawing pictures of a nearly perfect market with equal distribution of information, where complete price and cost transparency would prevail, driving down transaction costs, search costs, prices for consumers, and making intermediaries obsolete (this is often referred to as the process of disintermediation).

Entrepreneurs, in turn, envisioned a world of opportunities for extraordinary profits in the online sphere. In their vision, new tools for marketing communications, such as email and web pages, were so inexpensive, powerful and universal that they would give the best marketers a good chance to segment the customers according to their needs, price sensitivity and buying behavior more precisely and efficiently. This vision of e-commerce would profit the first movers the most – the companies that enter a market first and therefore are able to establish a large customer base. These firms would be able to familiarize their large customer base with the proprietary features of the business like user

interface or other factors alike. This would create switching costs should the customer later want to switch to a competitor's product or service.

Also, if a large enough user base adopted a certain proprietary technology or protocol, it could create a network effect, meaning that people get even more value from a product only due to the fact that so many other people are using the same thing or technology. This became a reality for example in the case of Windows, the world's most common desktop operating system. First movers successful in making this network effect a reality would then reap the rewards by being able to charge customers for their various products and services, thus becoming the new intermediaries of the Internet era. (Laudon and Traver, 2011)

Because of these market dynamics as perceived by entrepreneurs and early Internet marketers, it became of paramount importance to attract customers and gain market share quickly. One way of doing this was the idea of lowering prices. The companies were willing to lower prices when going online because the costs of both customer acquisition and retention were also supposed to be lower than they had traditionally been in the offline world.

All this lead to a market situation where growing revenue, conquering market share and maximizing the number of visitors a website became a lot more important than actual earnings or profits. In these early days of e-commerce it was expected that the exceptional profitability would eventually come, after some time of losses.

This era was very unconventional in many senses. Most of the funding of the new e-commerce startups was mainly venture capital. Many of the firms were founded by a young and new generation of entrepreneurs, who thought that big corporations were too slow in their bureaucratic decision-making processes to spot market opportunities and thus be competitive enough online. The majority of the new business models and business ideas were concentrating on the deconstruction of traditional value chains, and replacing those with pure online companies. It is not exaggeration to say that this era was characterized by hypercompetition, innovation and experimentation. (Laudon and Traver, 2011)

The innovation era is seen to have ended in the IT bubble crash in 2000. Technologically the era was a breakthrough, as many innovations and concepts common today were originally given birth and many important everyday technologies were adopted during that era. From a commercial or business point of view the innovation era produced mixed results. From all dot-com companies founded since 1995 only around 10% still remain as independent firms, and few of them are profitable. However, as a whole e-commerce has grown to enormous proportions since the innovation era, and according to some sources 25% of all retail B2C business is conducted online (Laudon and Traver, 2011).

Moreover, consumers have learned to use the Internet as a source of information when looking to buy products, and e-commerce and its influence on the global economy is difficult to measure on any specific scale. (Laudon and Traver, 2011)

After the innovation era came a time period which Laudon and Traver call consolidation (2001-2006). During this era e-commerce grew into its adulthood; emphasis shifted from technology to business, big corporations caught up on the nimble startups, venture capital investments were replaced by traditional bank financing and acquisitions by larger firms. During this era, many large corporations finally jumped in the sea of e-commerce, and started reinforcing their brands and changing their businesses and business models more compatible with the Internet. Many of the small dot-coms, in turn, perished as their business models proved to be unprofitable in the long term and streams of venture capital got dry.

As mentioned earlier, the era after this, starting from 2006 and continuing in the present, is called reinvention by Laudon and Traver (2011). This period has been characterized by social networks and user-generated online content, as well as the influence of Google and other large media firms buying smaller entrepreneurial firms like MySpace. The future outcomes of this period are still unknown, but is it certain that e-commerce has evolved into a social phenomenon as much as it is a technological and a business phenomenon.

Over time, e-commerce has changed a lot and change is likely to continue, which makes the future difficult to forecast. Laudon and Traver (2011) point out five factors that are likely to play a major role in shaping the future of e-commerce. First of these is the propagation of technologies like the Internet, the WWW, as well as wireless technologies and devices such as smartphones and tablets, which will continually shape the nature of online commerce. The second factor is rising e-commerce prices that will cover the real costs of doing business online, take into account the benefit of this to the customers, and pay investors a certain rate of return. The third factor is that the profit margins of e-commerce will rise to levels similar to traditional retailing. Fourth, the actors on the market will change so that traditional Fortune 500 firms' participation will grow, as will that of small start-ups, what comes to smaller, more niche-type segments of the market. The fifth factor, according to Laudon and Traver, is that pure online companies will have a smaller role on the market, while firms with both offline and online presence will take a lion's share of the e-commerce market.

In addition to the aforementioned five factors Laudon and Traver also bring up the growing governmental regulation and rising energy and fuel costs as essential parts of the future of the Internet and thus also of that of e-commerce.

2.1.2 The Unique Aspects of E-Commerce

There are certain features when commerce is taken to the digital sphere that affect in numerous ways the way business is conducted and purchases are made. Laudon and Traver (2011) list the following eight aspects as the most profound characteristics separating e-commerce from traditional commerce: *global reach*, *universal standards*, *richness*, *ubiquity*, *information density*, *interactivity*, *personalization/customization*, and finally, *social technology*, referring to user content generation and social networking. Dann and Dann (2001), too, mention global reach (they refer to it as global access), interactivity and customization. Some aspects not mentioned by Laudon and Traver (2011) but noted by Dann and Dann (2001) are *time independence* and that the Internet is *interest driven*.

Global Reach

Unlike traditional means of commerce, which are usually local merchants or national merchants, e-commerce can cross national and regional boundaries in a very fast, effective and cost-efficient way and thus the market potential for global e-commerce is equivalent to the whole world's population (Laudon and Traver, 2011). On the other hand, it also means that Internet retailers and marketers have to take into account the international nature of their potential customer base in their logistics and marketing (Dann and Dann, 2001). However, fortunately the online-based microenterprises need not worry about logistics due to having no physical inventory. Dann and Dann's statement about adapting marketing hold true even for online microenterprises, nonetheless.

Universal Standards

Another trait is universal standards. Unlike traditional commerce technologies, such as television, radio and cell phone network standards, which vary from country to country, the standards defining the Internet and thus also e-commerce are universal, meaning they are the same in every country. On the merchants' side, this results in drastically lower market entry costs than in traditional commerce, and on the buyers' side this universality of common standards reduces search costs, or the effort one needs to make in order to find a suitable product on the market. Also, as everyone, businesses and consumers alike, is using the same technology, the users get to benefit from network externalities, meaning that it is possible to find many suppliers, delivery options and prices for the same product anywhere in the world and compare them on a similar basis. (Laudon and Traver, 2011)

Richness

According to Evans and Wurster (1999), the richness of information means the complexity and content of a message transmitted. Salespeople, small retail stores, traditional markets and other face-to-face means of communication have great richness in them. However, these means have a rather limited reach. On the other hand, traditional media, such as radio, TV and newspapers have a very extensive reach but they are not nearly as rich as communication in person. Historically, there's been this tradeoff between having either reach or richness, but not both. The Internet defies this tradeoff, for it has both an extensive reach, and it is also a very rich form of communication, for the messages online can be tailored according to the user and they can be interactive unlike traditional media. For example, the richness of the Internet allows even for selling complex goods, such as used cars or complex financial instruments online. These could previously only be sold by really good face-to-face salespeople. Chatting online with a salesperson is a significantly richer experience than printed media, and can be very close to a real human interaction.

Ubiquity

Traditionally, people have had to travel to a physical marketplace to make purchases and other commercial transactions. An advertisement in print media, radio or television and guided people to a specific place at a specific time to make business. Ubiquity means, however, that Internet, and therefore also the marketplace, is everywhere, all the time. Consequently, it is called a marketspace – a place for conducting transactions that spans through temporal and geographic locations.

For the consumers, the main benefit of ubiquity are lower transaction costs. People save time and money when they do not have to travel somewhere to participate in a market. What is more is that also the required cognitive energy, or the mental effort required to make the conscious transactions on the marketplace is also lower. (Laudon and Traver, 2011)

Clarke III (2008) argues that ubiquity is today taken even further by mobile phones because mobile applications can transmit even more real-time information and and that time and location sensitive businesses such as travel and financial services firms are likely to benefit the most from the ubiquity aspect.

Hanson (2000) addresses the ubiquity element of the Internet on a more abstract level, citing Metcalfe's law as the reason for why the value of Internet as a network grows exponentially by the number of participants, rather than in a linear fashion. Metcalfe noted that the value of a network grows with the rate of the square of the size of the network. This is because when a new participant joins the network, not only does the new participant get to enjoy value provided by the network, but

also the existing participants each get to enjoy the contribution of the new participant. Therefore, the hundredth person joining brings a lot more value than the third person, because this hundredth person enables 99 new connections as opposed to two new connections offered by the third person.

According to Hanson (2000), this communal value is at the heart of Metcalfe's law and the reason why the ubiquity of the Internet is such a powerful thing. It is because of this that the large investments on networking technologies originally were perceived to be worth their costs for governmental and military organizations, when Internet still consisted of a closed network outside of private consumers' reach.

Information Density

Information density refers to the overall amount and quality of information available to all market participants, both consumers and businesses. E-commerce technologies such as the Internet and World Wide Web increase this information density and thus reduce the costs of collecting, storing and processing information. While these costs are being reduced, also the accuracy and timeliness of information is increasing, making it more abundant and of higher quality.

This, in turn, results in various consequences in real life. As both prices and costs become more transparent, consumers can find out both the variety of prices in the market and also the costs of producing the products and making them available for purchase (Sinha, 2000; cited in Laudon and Traver, 2011).

The sellers, on the other hand, can also find out more about the consumers as well, making it easier to segment potential customers and market the products available. These possibilities lend themselves to price discrimination, meaning businesses can offer the same or similar products to different target groups at different prices. If a consumer is, for example, extremely interested in buying a certain type of product, and the seller knows that, the business can charge a premium price whereas with another customer they can display that specific product perhaps with a bit lower price. Knowing more about the consumers also boosts the ability to branding and other means of differentiation. (Laudon and Traver, 2011)

Interactivity

E-commerce technology is unique technology compared to the traditional commerce technologies (radio, TV) in the sense that it allows for two-way communication, not mere broadcasting from

business to consumer, but also a chance for the consumers to produce their own stream of communication toward the business. On a website customer can enter information in many ways, such as filling forms, and clicking specific links as a way of providing valuable information to the business. Previous to the Internet, only the telephone has been an interactive medium of communication, but even the telephone cannot facilitate interactive communication on such as massive scale like the Internet does. (Laudon and Traver, 2011)

Interactivity both creates customer value and also enables relationship building. Hanson (2000) also argues that as websites enable interactive features and thus cater for more personalized needs and wants, users are likely to engage more in the site. This results in the increased number of customer (or user) contacts, or visits to a site, as well as increased duration of those contacts. Hanson also mentions that the amount of contact grows faster than the degree of interactivity, the former following an exponential curve as a function of the latter.

This increased usage then creates even more opportunities for personalization, community building and other real-time marketing activities, which in turn translate to increased revenues. Hanson notes that while traditional businesses often do not like increased customer contact due to its added costs, in the online world this situation is completely to opposite; added customer contacts (visits to a site) have very little marginal cost, whereas things like driving traffic, getting user attention and sustaining their interest are the costly activities. In fact, customer contacts are perhaps the most valuable asset an online marketer might have and that is why interactivity is so important.

According to Hanson (2000), interactivity depends on three factors: direct communication, individual choice, and friendly technology. Direct communication implies that dialogue between the users and the marketer is only possible when there is no intermediation by a third party. Individual choice refers to the fact that the Internet is a tool for assortment, advice, choice and transactions, instead of being a mere medium of communication. The websites ought to be user-friendly because for many users the Internet can be a challenging environment, and if the interface is too complicated the users are likely not to visit again.

Personalization/Customization

The interactivity and information density of e-commerce technologies allow for personalization, which means that businesses can tailor their marketing communication according to the receiver's personal information like name, hobbies, other interests, past purchases and past online behavior in general. In addition to the marketing communication, also the product or service offered can be adjusted to the customer's needs and wants on the basis of information gathered on the customer. As

a consumer makes purchases online, a great number of details and information can be stored by the merchant for later use. Over time, this information accumulates and becomes an extremely helpful tool for the business serving the customer, allowing the business to personalize and customize both the marketing communication as well as the products suggested to the customer, among other things. (Laudon and Traver, 2011)

There are many ways in which personalization is so advantageous. In its own way this has revolutionized marketing; in traditional commerce, marketers have had to be satisfied with compromised products that are differentiated well for some but not for others. Personalization, in turn, is a special form of differentiation as it allows for complete customization according to the individual, which adds the perceived value of a product or service. Also, should a firm have a wide range of compatible products for a given need or want, personalization can provide the user great assistance in choosing the right product, or eliminate the need to choose consciously. (Hanson, 2000)

Clarke III (2008) also includes personalization as part of the value proposition for m-commerce. Current mobile phones are already so technologically advanced that they can help customers and firms accomplish all of the above with only the customer's cell phone, and no computer is required.

Social Technology: User Content Generation and Social Networking

Unlike any of the traditional commerce technologies, the Internet permits the users (or customers, in many occasions) participate in the content creation process. Social networks such as Facebook, Twitter, MySpace as well as different blogging platforms such as Blogger or Wordpress enable users to create content, such as photos, video, audio, and text, of their own and share it instantaneously with the rest of the world.

This aspect of the Internet is perhaps the most revolutionary one, for it inverts the traditional model of mass communication, where content is usually created in and shared from a central hub by journalists and other professionals. The new, web-based model of mass communication is a network where everyone has virtually the same opportunities of creating and providing for content at an extremely low cost. (Laudon and Traver, 2011)

2.1.3 Revenue Models in E-Commerce

Revenue model is a model answering the question of how a company will earn income, generate profits and produce a superior return on investment. Porter (1985) highlights that as much as to earn and make a profit, a firm's objective is to produce greater returns than the alternative investment.

Therefore, it is not enough to earn a profit to make an enterprise successful, but superior return on investment is needed as well.

Laudon & Traver (2011) and Turban (2008) lay out the following revenue models for e-commerce: the advertising model, the subscription model, the transaction fee model, the sales model and the affiliate model. According to the authors, most e-commerce firms operate with either one or a combination of these models. These all models also can be applied by the firms in this study: online microenterprises selling digital products.

Advertising

Advertising is today among the most common and prevalent of the existing revenue models in e-commerce. It is usually used as a source of revenue by websites and businesses who provide content, services or products to their users. These can be online news sites, such as New York Times (www.nytimes.com), online discussion forums, such as MuroBBS (murobbs.plaza.fi), a Finnish technology discussion forum, or blogs like the celebrity blog of Perez Hilton (www.perezhilton.com).

The advertising model works in the following way: a website offering content such as news or other articles, products and services, offer also a platform for advertisers and can earn revenue as advertising fees. The higher the amount of traffic, or viewers navigating to the website, and the more specialized the site (and thus also the visitors' needs), the higher the advertising fee potential is. (Laudon & Traver, 2011)

There are many benefits that make advertising a very lucrative revenue model to pursue. Its main strength is that the site's content remains free to the user, thus not limiting the amount of visitors to a website as drastically as some other revenue models such as the subscription model. When a website provides visitors with highly specialized content, also the audience tends to be better segmented and thus the advertisements can be better targeted. When this is the case, the advertisements offer more value to the advertiser, resulting in better revenue potential and therefore also to the site owner. There are also downsides to the advertising revenue model, however. Various advertisement blocking tool and techniques have become increasingly common, and Walbesser (2011) argues that the only way to prevent users from blocking one's advertisements is to offer advertisements that do not disturb users. Otherwise there is no guarantee that the advertisements are, in fact, seen by anyone.

Advertising can also be utilized as a revenue model by search engines like Google, Microsoft Bing and Yahoo or social networks such as Facebook. These are able to show extremely well targeted ads, not only because of the search keywords they obtain as input from search engine users, or the

information on one's Facebook account, but also due to the fact that these companies place cookies on their users' computers which enables them to track all the websites the user visits during their Facebook or Google session. According to Lehdonvirta (2009), online advertising revenues in the United States alone were approximately 16.9 billion USD.

Subscription

The subscription revenue model is based on customers paying a weekly or monthly subscription fee to the site in exchange for the access to online content or services. An example of this revenue model is AOL (America Online) who charges a fee to access their services (Turban, 2008). Traditionally, generating revenues by subscription has not been successful in the online world. Over the years Internet users have gotten used to the fact that the overwhelming majority of nearly all online content is free, so whenever they come across with content they would have to pay for, it is easy to leave the site and look elsewhere for the information they need or want. (Laudon and Traver, 2011)

In other words, customers are not in general very inclined to pay for access to content, unless it is perceived to be of high value. This high value content can be something that is either not readily available elsewhere or not easily replicated by competing websites. Examples of companies using a subscription model are Match.com, a dating website, and Xboxlive.com, a gaming website. (Laudon & Traver, 2011)

Other businesses using a subscription model are often sites that provide specialist or niche content, or cloud software providers (software that can be used through the user's web browser, without a need to install anything to the user's computer).

Transaction Fee

Companies that generate revenue by transaction fees work essentially by providing a platform to conduct online transactions and by then taking their share, usually a small percentage, of the value of those transactions. This transaction fee can either be a fixed sum per transaction or a percentage commission of the transaction's value. Examples of these are Paypal, likely the world's largest online payment platform provider, and eBay, an online auction website, both owned by eBay Inc. Normally companies utilizing the transaction fee revenue model are rather large companies in terms of the number of employees, so this is probably not a relevant revenue model to further elaborate for this study.

Sales

In the revenue model by sales the firm generates revenue by selling goods, services, or information. An example of this revenue model is Amazon.com, the world's largest online bookstore, or Wal-Mart, the world's largest retailer. Also various microenterprises can utilize the sales revenue model relatively easily, for example by offering digital goods on their website or selling mobile applications or offering in-app purchases within a mobile application. Virtual goods sales have been researched by for example Hamari and Lehdonvirta (2010), who suggest this revenue model ought to be incorporated more integrally especially to games such as virtual worlds and massively multiple online games. Lehdonvirta (2009) notes that virtual items sales have become an increasingly common revenue model for online games, virtual worlds, social networking sites and other online services.

Affiliate

In the affiliate model, a website redirects traffic to an affiliate site to earn a fixed referral fee or a certain percentage of the sales resulting from the redirected visitor (Laudon & Traver, 2011). Examples of this revenue model are blogs and other content sites such as review sites who recommend a third party's product and then get a commission of the sales of that same product. This is possible by placing specific affiliate links to the blog. These links can inform the seller that the customer came from this specific website.

An example of the affiliate model is Groupon, on online discount coupon company that advertises various discounted products and services, and then earn an affiliate commission of the sales that have resulted from these advertisements.

Other Revenue Models

In addition to the aforementioned revenue models, Turban (2008, p.20) also mentions charging for live content like sports events online, and licensing fees, for example when Microsoft charges an annual fee for the license of a Windows working station.

2.1.4 Business Models in E-Commerce

Classifying the prevailing business models in e-commerce is not completely straightforward. This is because many, if not most, companies utilize several business models simultaneously. Various authors have different categorizations for business models.

For example, Laudon & Traver (2011) list the following B2C business models: portal, e-tailer, content provider, transaction broker, market creator, service provider and virtual community provider. Laudon and Traver's (2011) B2B business models, in turn, comprise the following: electronic or e-distributor or e-supplier, e-procurement, market of interchange, industrial consortium and private industrial network. In addition to these B2C and B2B business models, there are some others that Laudon & Traver classify as "emerging". These include peer to peer (P2P), consumer to consumer (C2C) and mobile commerce, or m-commerce, although m-commerce is already becoming more and more established with the smartphone revolution along with Apple's App Store and Google Play in Android devices.

Turban's (2008) list of e-commerce business models differs from that of Laudon and Traver's. On Turban's list there are online direct marketing, electronic tendering systems, name your own price, find the best price, affiliate marketing, viral marketing, group purchasing, online auctions, product and service customization, electronic marketplaces and exchanges, information brokers (infomediaries), bartering, deep discounting, membership, value-chain integrators, value chain service providers, supply chain improvers, social networks, communities and blogging, direct sales by manufacturers, and negotiation.

Turban argues that in order to thrive in the fast-moving marketspace, firms must be ready to change their revenue models and business models as the market changes. The list above laid out by Turban includes business models for both B2B and B2C. Many of the business models above can be used for both, although some only suit B2B or B2C.

In addition to B2C business models, it is important to note that B2B or business-to-business e-commerce is more than 10 times the size of B2C ecommerce. It is estimated that all B2C e-commerce

activities in 2010 amount to $256 billion, whereas all B2B activities are approximated to total over $3.6 trillion (Laudon and Traver, 2011). Chaffey (2007, p.43) explains that there are more opportunities for B2B business transactions in the online marketspace simply because the value chain needs collaboration between an organization and its suppliers, intermediaries, distributors and wholesalers in order for the product to reach the end consumer. I will not address each B2B business model in detail, as they primarily require 10 or more employees, and the online business models that fit my thesis and are feasible to execute with 1-9 employees are already covered by B2C and other e-commerce business models.

2.2 Value Creation

Before beginning with the literature review section regarding value and value creation, it is worthwhile to note that studying value creation and value capture processes is extremely and increasingly important in the globalized world, where firms' value configurations can easily be modified and jobs can be automated or transferred to other geographical locations. How firms decide to distribute their operations makes a difference, not only to companies, but to whole national and even regional economies and eventually shapes the world economy (Reich, 1990 and 1991; Tyson, 1991; Gereffi et al., 2005; Linden et al., 2009). As research on the field proceeds and we learn more about what affects value creation and value capture of companies, both firms and national governments can make better educated decisions aiming to create welfare and prosperity.

The following sections of the literature review aims to provide an overview of academic value creation related literature to date, as well as to present a few frameworks and model accompanied with contemplation on how well they fit the online world. I begin by briefly introducing value creation, value capture and value chains as concepts, after which a more detailed account on various value chain studies will be taken a look at, and finally, the value creation of online business will be discussed in the light of recent academic literature.

2.2.1 Porter's Value Chain Model

There have existed different perspectives on value and value creation since the 1700s as Adam Smith (1776) introduced his concept of the division of labor, followed by various theoretical viewpoints and tools for measuring value and making a firm more competitive until today, as presented for example by Helm and Jones (2010). However, modern value literature owes a lot to Michael Porter's (1985) concept of value chains, since Porter's value chain model has been the model many others have built upon later on. Although Porter originally developed the value chain model to serve as a tool in finding sources of competitive advantage for an individual firm (Porter, 1985, p.33), the model has since then been used as a basis for many other kinds of value-related research, such as investigating the effects globalization has had on developing economies (Kaplinsky, 2000) and studying the value distribution of a single value chain from an external point of view (Dedrick, et al., 2009; Linden et al., 2009; Ali-Yrkkö, 2010). Overall, the interest in value research has increased over the last decades, and we are only beginning to form a picture of global value creation processes and how they work (Ali-Yrkkö, 2013).

The value chain model in Figure 2 displays how the *total value* of a product or service consists of *value activities* and *margin.* Margin is the difference between the price paid by the customer and the

total costs of production. The value activities comprise *primary activities* (the bottom half) and *support activities* (the top half); primary activities are actions taken by the firm that are directly involved in physically transforming the product and selling it to the customer, as well as providing after-sales service, whereas support activities are the activities not directly involved with the product transformation. Instead, support activities provide human resources, technology and other inputs to the primary activities, and all support activities can be associated with a specific primary activity as also firm-wide activities, except for the firm infrastructure, which supports the whole chain. The primary value activities are: *inbound logistics, operations, outbound logistics, marketing & sales*, and finally, *after-sales service*. The support activities are *procurement, technology development, human resource management, and firm infrastructure*. (Porter, 1985, p.38)

Porter states that the value activities are a firm's main source of competitive advantage. This is so because how well and at what cost each activity is performed separately and (more importantly) in conjunction defines the firm's success in two ways. Firstly, it determines the cost base of the firm (low or high cost structure). Secondly, it determines how well the firm satisfies the customer needs, or, in other words, is able to *differentiate* itself. (Porter, 1985, p.39)

Porter also highlights the role of the linkages between the different value activities, as well as the need to gain competitive advantage through coordinating and optimizing the whole chain. According to him, the value chain ought to comprise everything the firm does, so that its activities can be analyzed in full.

According to some, the value chain model as depicted by Porter is no longer adequate to describe the complete process of value creation. For example, the proponents of the co-creation paradigm (Prahalad and Ramaswamy, 2000, 2004; Kohler et al., 2011;) highlight including the customers as an integral part in the value creation process, and this is something that Porter's model as such does not do. According to Merchant (2012), the model does not take into account the fact that differentiation and high profits can be achieved with modern technology even with minimal resources.

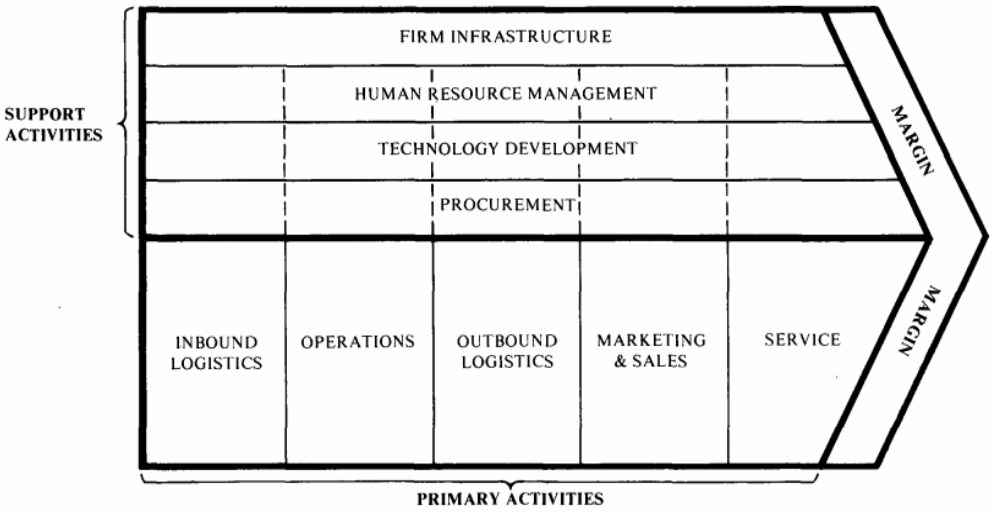

Figure 1. The Generic Value Chain Model. (Porter, 1985)

2.2.2 Value Chain Literature in the 1990s and 2000s

After Porter (1985), global value chains and value distribution have been increasingly studied in the academic business literature in the 1990s and the 21st century. Due to globalization and firms relocating their different parts of the value chain to foreign countries, Robert Reich (1990) raised a concern over American firms relocating their labor-intensive activities abroad and posed a question about whether it is more important for American competitiveness to have American companies conduct their production activities in the United States or to have only the corporate ownership in the USA and employ people in low-cost economies instead of the United States.

Reich argued that production matters more than corporate ownership, meaning that it is more important for national competitiveness to stay as a lucrative country for foreign firms to perform their labor-intensive activities in America. This also implied to him that relocating labor-intensive production activities abroad drains value away from the United States and distributes it to the economies where these labor-intensive activities are performed.

Overall, Reich's statement was that labor is a more important source of value added and source to a nation's competitiveness than mere corporate ownership. His argument was that keeping highly skilled labor-intensive activities in the country supports the idea of having a highly skilled workforce which contributes to national competitiveness. In Reich's words, “the company is a good 'American' corporation if it equips its American workforce to compete in the global economy”. As a result, Reich recommends that the United States ought to formulate public policies in order to make the country a

more conducive location for foreign corporations and foreign direct investment (FDI), so as the American workforce can enjoy the highly skilled jobs and the learning accompanied that these corporations can provide.

In response to Reich's contemplation, Linda Tyson (1991) stated it to be more important to have American corporations owning innovation (corporate ownership) in the United States, not possessing workforce. She does not disagree with Reich on the importance of investing in highly skilled national workforce, but she makes a strong points on how vital the competitiveness of American companies is for the national economic growth and how "American companies locate their 'higher-end' jobs and operations at home".

Despite the fact that innovation was initially not intended as a subject of theoretical section of this thesis, these articles by Reich and Tyson are – in addition to value creation – tightly linked with innovation, so it is hard to avoid innovation and its role in the global value creation and value distribution discussion.

A lot of the existing literature supports Tyson's view about the innovation owner capturing the most value, but there are also differing viewpoints. Ali-Yrkkö (2013) makes a point that value captured pattern differs by industry, and that in the heavy machinery industry, for example, the location of production and assembly can make a significant difference to the value captured by each country whereas in the consumer electronics industry this is not so (Linden et al., 2009, Ali-Yrkkö, 2010).

Later on, Tyson's view that (innovation) ownership is more important than retaining manufacturing or production activities has gained more ground in the academic literature than Reich's somewhat opposite opinion. Innovation has since the early 1990s often been referred to as a key driver of value and economic growth both in firm and country level and this has been confirmed by various studies. (Tyson, 1991; Grossman and Helpman, 1994; Cameron, 1996; Linden et al., 2009)

Grossman and Helpman's (1994) endogenous growth model suggests that countries fostering innovation and innovative environment could sustain economic growth more likely than the countries with not as innovation-friendly environments. Grossman and Helpman (1994) found out that even though R&D investment rates among countries studied did not always correlate consistently to GDP growth rates, R&D investment rates had a rather consistent correlation on productivity growth, and that having an innovation-friendly climate in a country attracts more R&D activity, which in turn boosts GDP growth in the long term.

Cameron (1996), in turn, conducted a study with economic data of five countries – the USA, the UK, Japan, France and Germany – ranging from 1870 to 1984. In his study, Cameron compared the productivity growth of these countries to their economic growth rates over time. He was able to

conclude from the findings that investments and efforts in domestic firms' innovation contributed to national economic growth, because innovative efforts accelerated the adoption of foreign research efforts and also because domestic research "plays an important role in human capital formation".

If many of the studies mentioned above concentrate more on competitiveness and value creation on the macro level, there have also been conducted studies regarding value chain on a more micro-level.

Dekker (2003) studied a UK-based clothing industry retail firm, J. Sainsbury, in order to investigate the firm's value chain and to better coordinate supply chain interdependence. Dekker's study is a case study about how a retail firm can improve its supply chain practices in collaboration with the aid of value chain analysis (VCA). A study by Shank and Govindarajan following similar logic was published already in 1992, where the authors employed the value chain analysis in studying an American packaging company called NorthAm Packagin Company. In Dekker's study, accounting data was carefully examined, various interviews with company representatives were conducted, and also other data was employed. This other data included an on-site demonstration of the model, company documents relating to this project, and annual reports and publications where J. Sainsbury was analyzed.

Dekker's study did not include the whole value chain from raw materials to end consumers, but the part of the chain comprising the retailer J.Sainsbury and its direct supplier firms. Nonetheless, valuable findings could be extracted as a result of Dekker's research. Thanks to applying a cost analysis model resembling VCA, the firm was able to analyze costs not only on the individual supplier level, but also on the supplier network level. Then improvement suggestions could be generated and evaluated on the basis of this analysis, and finally, the cost model employed could be used to track the development of supply chain during a longer time period. Dekker acknowledges that, among other issues that arose during the research, an important requirement to be able to conduct this kind of a comprehensive analysis is that the firms have a collaborative and trusting relationship instead of a more hierarchy-based relationship.

Crain and Abraham (2008) devised a framework for not analyzing only the internal value chains particular to some company, but also the external value chains, as they call them. Crain and Abraham's framework encompass the whole value chain of a certain product from raw materials to end product used by the end consumer or customer. This model helps to identify how value is distributed along the value chain in the big picture and what strategic issues and concerns each company might have. Gaining an understanding of this helps, according to Crain and Abraham (2008), in identifying the related firms' strategic needs and becoming able to better serve other companies in the value chain. Crain and Abraham's model is important because it is one of the few works that acknowledge the importance of external value chain analysis instead of only focusing on

the firm's own internal value chain. It helps us to gain a more holistic view on the value creation process of a certain product or service. So, the internal value chain analysis seeks to improve the value chain, and make it more efficient, while the external value chain analysis seeks to find out how value is distributed among the different parts of the value chain.

According to the resource-based view (RBV) or resource-based theory (RBT) of the firm, an organization has a selection of valuable resources from which it can draw value, and which it ought to develop and protect. In essence, it is the resources possessed by the firm that the value stems from. This leads to a conclusion that in order to establish a sustainable competitive advantage a firm must obtain resources that are valuable, rare, inimitable and non-substitutable. (Barney, 1991; Schmidt and Keil, 2013)

Bowman and Ambrosini (2000) argue that while many researchers have tried to answer the question of how these valuable resources can be imitated, the question of what actually makes a resource valuable has received less attention. Some authors have argued that resources are valuable in relation to a specific market environment (Amit and Schoemaker, 1991; cited in Bowman and Ambrosini, 2000). For example, Barney (1991) has deemed a resource to be valuable if that resource exploits opportunities and/or neutralizes threats in a firm's market environment. Barney adds that resources are also valuable if they enable a company to execute its strategy with more efficiency or effectiveness.

Some have defined resources to be valuable if they enable the firm to better satisfy customer needs (Bogner and Thomas, 1994; cited in Bowman and Ambrosini, 2000; Verdin and Williamson, 1994; cited in Bowman and Ambrosini, 2000), while others have stated if they enable the firm to satisfy customer needs at a lower cost than the competing firms (Barney, 1986a; Peteraf, 1993; both cited in Bowman and Ambrosini, 2000). According to Conner (1991; cited in Bowman and Ambrosini, 2000), gaining above normal profits demands one of two things: first option is that the company's product is distinctive in to the buyers, meaning that it has an attractive attributes/price relationship compared to competing products, the second option being that the product is similar compared to competition but has a lower price.

All in all, the RBV pertains that a resource's value exists in relation to its ability to fulfill the customers' needs (Aaker, 1989; Aharoni, 1993; Prahalad and Hamel, 1990 and 1994; Williams, 1992; all cited in Bowman and Ambrosini, 2000). This inevitably leads to a question: how is this determined? How do customers evaluate or judge a product's value to them?

Classical economists have tended to explain the value of a product to a customer through utility theory: total utility is the satisfaction gained from possessing a good, while marginal utility is the satisfaction gained from getting one extra unit of a good or the satisfaction lost by giving up one unit

of the good. Early neo-classical economists referred to people as rational consumers (the economic man), who diligently and systematically evaluated their purchase options before buying any good or services. Later, this view has been modified to assume that people will generally buy what they assume will bring them the most satisfaction. (Bowman and Ambrosini, 2000)

How do people then develop their expectations and make these judgments about whether or not the product on offer satisfies their needs, wants and expectation better than the competing products? Customers have to make inferences based on the other products on offer, their own specific needs, values, beliefs, the product attributes and other similar factors. According to Zeithalm, customers have to evaluate the value of a product based on their perceptions of what is given and what is received in return when buying the product (1991; cited in Bowman and Ambrosini).

The literature refers to the concept of value in different ways, but Bowman and Ambrosini (2000) define the phenomenon in the following manner that is, according to them, originally employed by classical economists: a product or service can possess two types of value, (perceived) use value and realized exchange (monetary) value. Use value refers to product features and attributes, and to the relationship of how well these respond to and satisfy customer's specific needs and wants. This means that use value is always perceived by the customer. Exchange value refers to price, and the monetary value exchanged at a point in time when the product is sold.

Perceived use value can also be translated to monetary value, at least in a conceptual sense. According to Collis (1994), this can be defined as the monetary value the customer would be willing to pay for the product if there was only a single supplier to it. This price is a combination of the customer's assessment of the perceived value of the product and the customer's willingness to pay, and always takes into account the customer's wider needs and perceptions about the product as well as the competing range of similar products. The instances where a seller is a) aware of this price the customer is ready to pay and b) able to price discriminate are extremely rare, however, and only occur in monopolistic situations. Usually, the price paid will be less than the total monetary value perceived by the customer. The difference of the total monetary value and the price the customer actually pays is defined as 'consumer surplus'. This consumer surplus (CS) is by many consumers known as 'value for money' (Bach et al. 1987; Whitehead, 1996; both cited in Bowman and Ambrosini, 2000). (Bowman and Ambrosini, 2000)

According to Bowman and Ambrosini (2000), customers select to buy the good or service that has the biggest consumer surplus. Alas, the chosen product has to offer greater value for money (consumer surplus) than the competing products. Firms can increase the consumer surplus either by increasing the perceived use value (and therefore the total monetary value) of a product by changing its features to suit better the customer's needs while keeping price the same, or by lowering the price

of a product without altering the features and thus perceived use value.

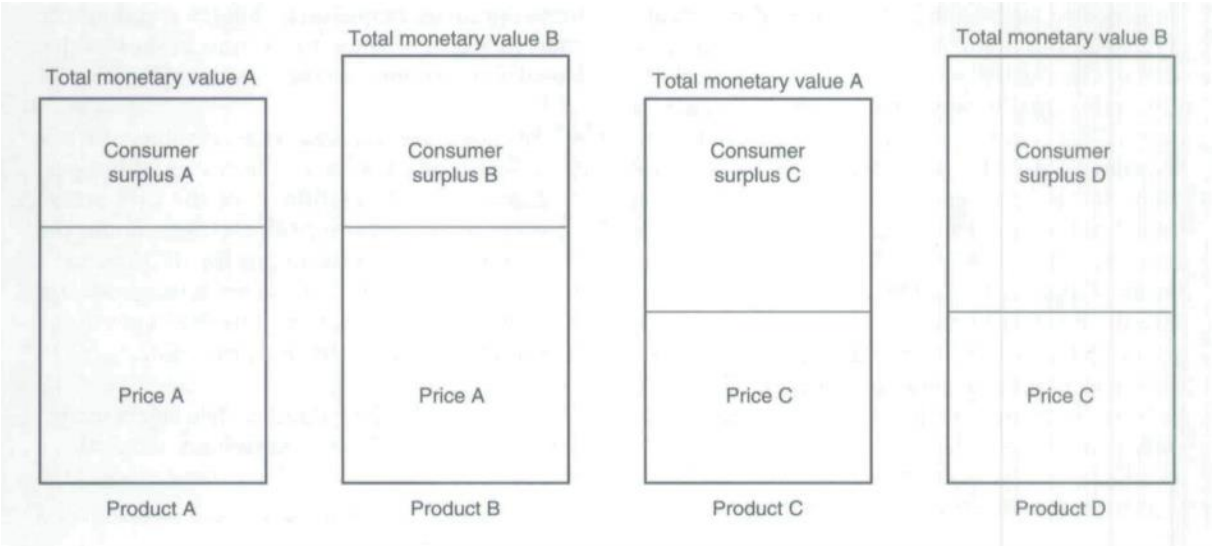

Figure 2. Total monetary value, price, and consumer surplus. (Bowman and Ambrosini, 2000)

Developing from the RBV, Bowman and Ambrosini (2000) suggest that the ultimate source of value added (and thus profits) is "the combination and deployment of labor with other resources". Bowman and Ambrosini highlight especially the role of "entrepreneurial labor" which, according to them, is the determining factor in enabling a firm to achieve superior profits compared to its competitors. Entrepreneurial labor refers to the coordinating and organizing work associated with the deployment of other types of labor and other resources.

On the basis of the existing literature cited by Bowman and Ambrosini (2000) it is difficult to explicitly point out which kind of entrepreneurial labor is the source of a differential profits in any specific situation. The authors claim that it might be either consciously chosen and explicit, well-articulated activities that are the reason for a firm's success, or it might as well be that the entrepreneurial labor performed in the firm is tacit and not produced by deliberate coordination. This tacitness has its advantages and disadvantages; on the one hand, it is very challenging for the competing firms to imitate a successful company if even the management of the company itself does not know where the success ultimately stems from. On the other hand, this can be dangerous as the management may unconsciously take actions that undermine the firm's success factors in one way or another. One example of this could be cutting costs and in the meanwhile let go of valuable resources such as important employees or important intellectual property. (Bowman and Ambrosini, 2000)

It is important to note that according to this concept of value creation the use value of procured

production inputs cannot automatically transform into new use values that the company could sell, but the use value the firm sells is always created by combining the use values of other input factors with labor.

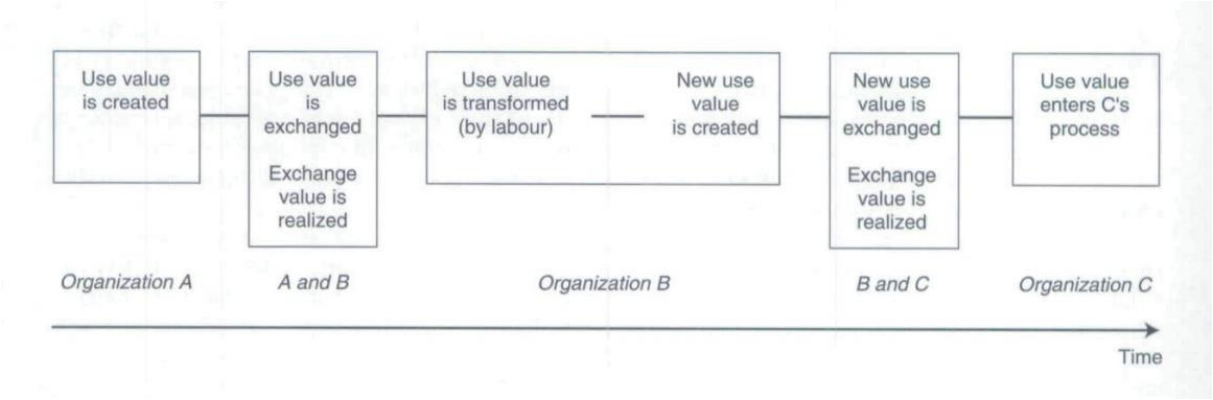

Figure 3. The process of value creation. Bowman and Ambrosini, 2000.

When discussing and examining value and value creation, it is inevitable to address also the concept of value capture. As Bowman and Ambrosini (2000) noted, the resource-based school of thought has been more concerned about capturing value from customers and limiting competitors from imitating the firm's value creation than about capturing value as part of total value added, when the whole value chain is taken into consideration. Therefore Bowman and Ambrosini (2000) suggest that in addition to the RBV that explains how a firm *creates* value, industrial organization theory (IO) is useful in investigating the other half of the equation, namely how the created use value is *captured*, by whom and why.

Adapting from the IO theory, the profits captured by the firm are a function of two things: 1) comparisons that customers make regarding their needs, the firm's product and its competing products, and 2) the comparisons the firm's suppliers make between the deal they can make with the firm in question and the possible deals they can make with other firms. In other words, the *created value* is a function of the firm's internal resources and the labor employed in transforming them to new use values, whereas the *captured (exchange) value* is a function of the bargaining relationships between the firm and its customers and suppliers. (Bowman and Ambrosini, 2000)

These bargaining relationships between a seller and buyer are shaped by a few variables. These

variables are familiar from the industrial organization theory: the availability of close substitute

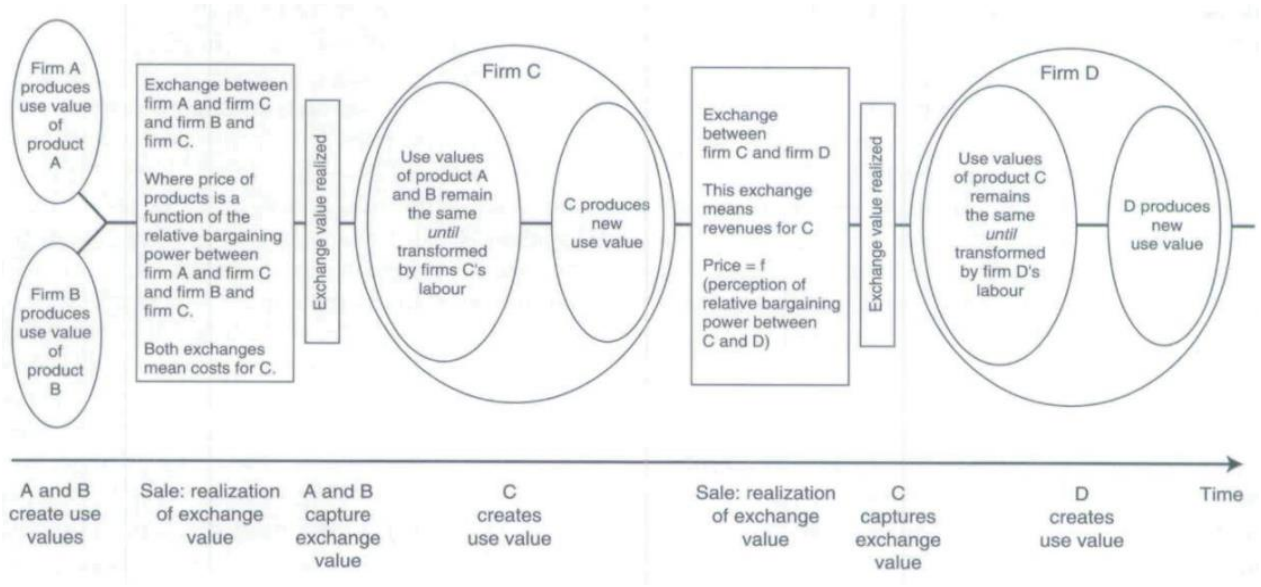

Figure 4. Summary of value creation and value capture processes. (Bowman and Ambrosini, 2000)

products and low switching costs give the buyer more power, whereas the seller is in a more powerful bargaining position if its resource is something the buyer cannot obtain easily elsewhere. It is important to note that in terms of captured value there is no relationship between the use value the resource has in the buyer's production process and the amount of exchange value captured by the seller. Even if a resource is critical in creating the final product, the captured exchange value is dependent on the bargaining relationship of the supplier and the buying firm, and the price paid to the supplier might be low if there are other suppliers to the same or similar product, or if the supplier is simply not aware of its bargaining position. According to Bowman and Ambrosini (2000), this concept of bargaining relationships also applies to the suppliers of labor and capital. Although labor is the differential factor among firms, and the main factor explaining a firm's success, the bargaining power of employees is usually relatively weak. There are some instances where the labor performed is unique and not easily substitutable, such as in the case of elite athletes, artists, and key salespeople or managers, and they are usually able to command higher salaries. For a common employee, this is usually not the case, and the contribution made by the employee is not easy to identify. Therefore, the employees of the company are not able to capture all the exchange value captured by the firm. In contrast, the suppliers of capital have a better bargaining position, which makes them able to capture part of the value captured by the firm although capital is a homogeneous resource and their contribution can be argued to be much less differential than that of employees. This is because although capital is a homogeneous resource, it is a scarce one. The scarcity of capital is what matters, not the nature of the use value it creates. Figure 4 explains the whole process of value creation and

value capture as conceptualized by Bowman and Ambrosini (2000).

The power relationships within a value chain, however, can be affected by more factors than merely the bargaining power between actors or scarcity of a resource. Gereffi et al. (2005) constructed a framework to explain the governance patterns in global value chains. The authors identified three variables affecting these governance patterns and changes in the global value chains. The variables are: the complexity of transactions, the ability to codify transactions, and the capabilities in the supply base. The framework devised by Gereffi et al. recognize five different governance patterns, which the authors have named accordingly: hierarchy, captive, relational, modular, and market. These five types of governance vary from high to low levels of explicit coordination and power asymmetry in the following manner as depicted in Figure 5.

The value chain governance model of Gereffi et al. (2005) draws attention to many important issues, such as the power structures of various industries, the importance of coordination, and the fact that it greatly depends on the industry (and the variables the authors mention) who exerts greatest power in the value chain. Gereffi et al. illustrate their framework by exhibiting four different industry cases and their value chain structures in terms of these variables and types of governance. It is difficult,

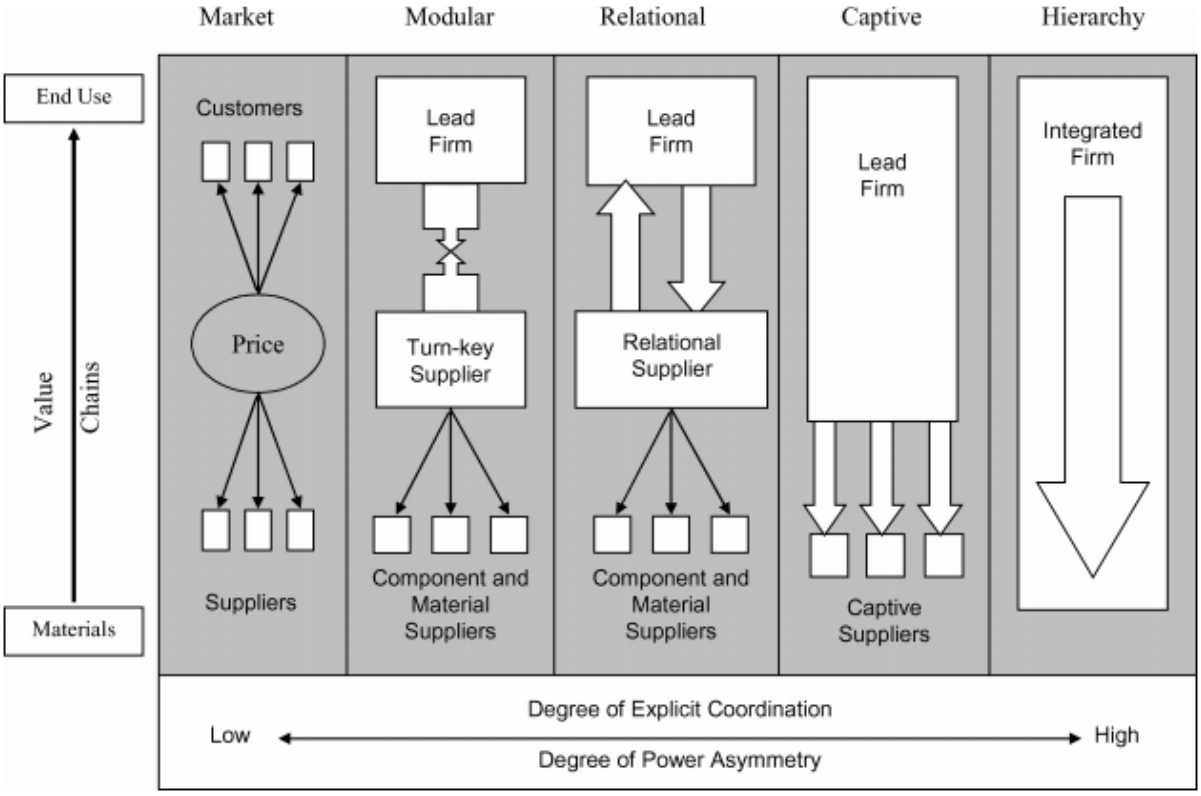

Figure 5. Five global value chain governance types. (Gereffi et al., 2005)

though, to sort online micro business into any of the five types generated by this framework, perhaps the "market" type applying the most to online microenterprises. Nevertheless, the framework generated by Gereffi et al. can be very valuable when analyzing more traditional industries and global

power relationships between firms and countries.

Some of the earlier case studies conducted on value formation are the study on value creation of Apple's portable music player, the video iPod (Linden et al., 2009), and the case study on Nokia N95 cell phone value creation (Ali-Yrkkö, 2010). Both of these studies present a rough presentation of the value chain of the product in question and a breakdown of how the product's value added is attributed among parts of their respective value chains (raw material suppliers, component suppliers, lead firm, distributors, wholesalers and retailers) as well as geographically.

Ali-Yrkkö (2010) set the two following research questions for his study: 1) how is the value of the N95 distributed across organizations and participants? 2) How does the total value added of the N95 spread to different countries/regions, and how much of it is created domestically in Finland? Similarly, though not as explicitly stated, Linden et al. (2009) aim to "estimate the value added at each stage of the supply chain" or "break out the value embedded in an innovative product" and thereby clarify how the value is distributed across the many participants in the supply chain. Not unlike Ali-Yrkkö, Linden et al. also aggregated this firm-level data to find out the distribution of value by country/region.

These studies have their methodological flaws, too. As companies in the electronics industry are somewhat reluctant to disclose exact data on the component prices, gross margins and other product-specific data in their annual reports or other publicly available data, alternative ways of obtaining data had to be applied. Both studies use data derived from industry analysts what comes to components prices and product tear-down reports, in addition to which Ali-Yrkkö (2010) also used interview data. Additionally, the component-specific gross margins of the supplier firms in both Ali-Yrkkö's (2010 and Linden et al.'s (2009) studies are only estimates based on the company-wide gross margins of each firm in question, rather than actual gross margins for each component in question. It could be argued, however, that this would hardly alter the main conclusions drawn out of these two studies.

The findings of both studies confirmed that in both cases the majority of value added is captured by the lead firm. Nokia captured 49% of the value added of the N95 retail price, and Apple captured 27% of the retail price of the iPod. In the case of iPod units that are retailed directly by Apple, its margin is even larger. The component suppliers were the party capturing the second-largest part of the value added, and distribution and retail captured almost as much value. What is remarkable is that in both cases only a small amount of total value added was captured by the firms assembling the products.

The findings also confirmed that geographically the most amount of value is captured by the home country of the lead firm, Finland in the case of Nokia and the USA in the case of Apple. This is significant because it confirms what Tyson (1991) stated, that retaining innovation, not production

activities, suffices to capture value in the home country of the firm, at least in these cases. However, as later noted by Ali-Yrkkö (2013), this is not the same in all industries, but is industry-dependent. In addition, in both studies the value added was dispersed among a wide spectrum of geographic locations, which confirms the fragmentation of global consumer electronics value chains.

2.2.3 Value in the Co-Creation View

During the last two decades a new paradigm called co-creation has emerged in the academic business literature. The proponents of the co-creation view claim that the traditional concept of a markets as places for exchange of goods and services is transforming from a place where companies sell their manufactured products to consumers who then consume these products to a place where consumers participate more actively in the value-creation process already in an earlier point of the process, taking part in the production or even design phase of creating the product. (Prahalad and Ramaswamy, 2000 and 2004; Wikström, 1996)

This shift in the economy is due to occur because of more capable and knowledgeable consumers who are better able to participate in a dialogue than before and because of advances in company information and manufacturing processes that enable the increased flexibility in the designing, manufacturing and delivering of products. (Wikström, 1996; Prahalad and Ramaswamy, 2000) This has various consequences and companies have to adapt themselves to four realities in order to take advantage of this change. These four realities are encouraging active dialogue between themselves and their customers, mobilizing customer communities to their advantage, managing customer diversity, and most importantly, co-creating personalized experiences along with the customers.

According to Prahalad and Ramaswamy (2000 and 2004), customers are buying less and less mere *products* that the companies are pushing at them, but that they are buying increasing amount of *experiences*, and have their say in how the experience is going to be. This means that companies need to learn to manage co-creating these personalized experiences with customers, engage skillfully in interactive dialogue, and shape customer expectations as part of a two-way dialogue that will to some extent replace the old one-way marketing communication. In addition, since customers have better access to pricing and distribution channel information than ever before, companies need to be able to adapt to interactive pricing processes and multiple distribution channels. This in turn requires radical and continuous reconfiguration of the supply chain and resources such as people, machines, infrastructure and capital. Therefore it will become more crucial than ever to be able to learn, transfer knowledge and respond quickly to changing customer needs. (Prahalad and Ramaswamy, 2000 and 2004; Helm and Jones, 2010)

Much of the changes in the global markets acknowledged by the co-creation authors have occurred due to the increased role of the Internet. It is the Internet that makes markets the customers more knowledgeable and capable, and the processes more transparent, and the interaction and dialogue between companies and their customers easier. Therefore I now address the impact of the Internet on the traditional value chain model and value creation.

2.3 Value Chains and E-Commerce - The Virtual Value Chain

In the earlier days of the e-commerce, in the 1990s and 2000s, many were predicting that the Internet would alter the traditional value chain model by rendering obsolete various types of channel intermediaries, such as distributors and wholesalers, and that in the overwhelming majority of industries consumers would buy products directly from the producer or manufacturer (Hanson, 2000, p.379). However, as the Internet became more and more popular and e-commerce matured, it turned out that this change did not occur as predicted. In contrast, a new class of intermediaries was born on the online marketspace at first. These were performing the functions of wholesalers or distributors but were different actors than earlier (Turban, 2008, p.54). Later on, along with the consolidation period of e-commerce (2000-2006) big companies and traditional intermediaries learned to play the online game and became slowly again part of many value chains, undoing this disintermediation. As a result, final end product prices did not drop as was predicted but stayed close to their original levels (Farhoomand and Lovelock, 2001, p. 18-19, p. 553-554).

There are also other changes the Internet brought to the traditional value chain theory. Farhoomand and Lovelock (2001) argued that in the world of electronic commerce, information is not merely a support function in the value chain, as it was presented in Porter's (1990) original value chain model. Instead, they claim it has a value of its own. Thus, information management has two purposes in the value chain: the first of these is disintermediation through bypassing some stages of the traditional value chain, and the second purpose is being a variable in the value-adding process itself, converting the linear value chain model into a more complex matrix. This matrix consists of an array of potential inputs and outputs that are accessible and can be distributed through a wide range of different channels (Rayport and Sviokla, 1995).

Creating value in this new matrix model, or the virtual value chain model, happens through five stages: gathering, organizing, selecting, synthesizing and distributing information. Also, every phase in this model enables the development of new customer relationships. (Rayport and Sviokla, 1995)

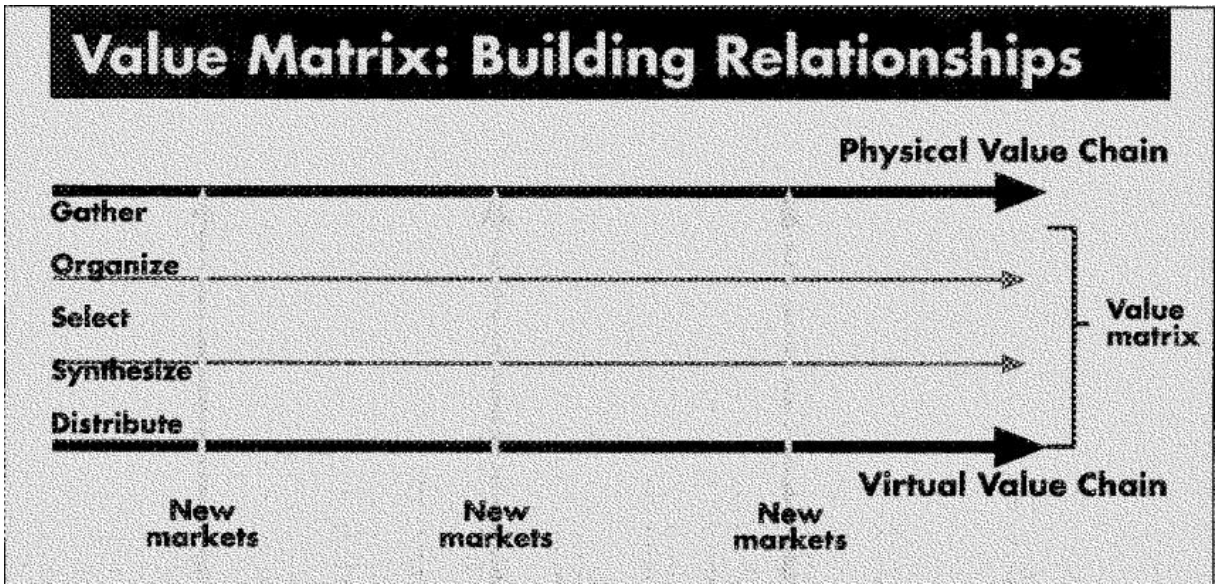

Figure 6. The Value Matrix. (Rayport and Sviokla, 1995)

According to Farhoomand and Lovelock, a firm must undergo three stages in order to transform their value chain from a traditional, physical value chain into this new matrix model of a virtual value chain. These stages are 1) managing physical operations more efficiently, 2) creating a parallel value chain, and 3) using the information for new customer relationships. Rayport and Sviokla (1995) call these three stages visibility, mirroring capability and new customer relationships.

In order to manage their physical operations more effectively, companies need to integrate their value chain in the best possible way (Farhoomand and Lovelock, 2001, p.14). This can be done with the aid of various management information systems (MIS), such as customer relationship management (CRM), enterprise resource planning (ERP) and other similar tools. Then, companies can replace some or all of the physical value chain activities with virtual activities and in this way create a parallel value chain. Ultimately, the information created through these processes can serve as a resource in creating new customer relationships. This happens primarily because the managers are able to utilize the new virtual value chain's information flows and offer value to customers in new, unprecedented manners (Rayport and Sviokla, 1995).

According to the Farhoomand and Lovelock, (2001) as well as Rayport and Sviokla, (1995), the results of all this are twofold. Firstly, the firm will be able to apply new information in each of the five activities in the matrix of a virtual value chain, and 2) the value chain will become more customer-focused instead of the traditional, more production-focused value chain model, where customer is only seen at the end of the chain. This embraces the co-creation view of consumer or

customer participation mentioned earlier (Wikström, 1996; Prahalad and Ramaswamy, 2000 & 2004; Helm and Jones, 2010).

However, for the purposes of this study we do not need to consider all the three stages involved in transforming the company's value chain from a physical to a virtual one, since this study focuses on global online-based microenterprises that do not have a physical value chain. Thus, only the last stage of these three stages – using information for creating new customer relationships – is relevant for this study.

The five-phase model (Farhoomand and Lovelock, 2001; Hanson, 2000; Rayport and Sviokla, 1995) of gathering, organizing, selecting, synthesizing and distributing information is still relevant also for global online-based micro-enterprises that only have a virtual value chain. To some extent, this could be argued to be the model through which all digital products and services are produced.

Rayport and Sviokla (1994) approach the value chain question also from a value proposition perspective. As mentioned earlier in the section about business models and value proposition, they suggest that a value proposition consists of three elements: content, context and infrastructure. They suggest that in the traditional (physical) value chain these three elements are rather inseparable, whereas in the virtual value chain (marketspace) each of these elements of a single value proposition constituting a product or service can come from a different provider. One of their various examples of such a product is Time Warner Company and the movie Terminator 2.

In the physical value chain, or marketplace, Terminator 2 is sold in a videocassette format. The product in this case is essentially a branded and packaged videocassette. The movie on the cassette can also be coined as the content element of the value proposition. This movie is then advertised by Time Warner and its channels who bring the product to the consumers. These channels can consist of video rental stores and media retailers who sell the cassette, but they all are intermediaries of Time Warner. In this model, the customer interface is not operated and controlled by the producer (Time Warner) but by the channel intermediaries who bring the product to the customer. The customer's loyalty to the seller is dependent on each separate product offering, or each individual movie. Therefore, the marketing mix for videocassettes is very similar to that of other physical consumer products, like books or clothing. (Rayport and Sviokla, 1994)

According to Rayport and Sviokla (1994), the value proposition changes significantly when the marketplace product, a videocassette version of Terminator 2, is replaced with a cable TV version of the same movie. The transaction happens in the marketspace (virtual value chain), not in the marketplace (physical value chain) and the marketing mix differs from the traditional consumer product marketing mix. In Rayport and Sviokla's example, customer orders the movie through a pay-

per-view system provided by a cable TV subscription channel like Home Box Office (HBO). In order to see HBO, the customer needs to have proper cable system infrastructure in place, which can be operated by Time Warner or another multiple system operator (MSO). The MSOs deliver HBO and other premium subscription channel services to consumers.

Therefore, in the marketspace transaction, the content is the cable TV broadcast of Terminator 2, the context is the cable channel HBO's pay-per-view interface, and the infrastructure is the cable system in place, which is operated by Time Warner or some other MSO. From the consumer's point of view this is not such a different transaction from the marketplace transaction, but from the vendor's point of view it is radically different. In the marketspace, the company can control the customer interface directly in both the content and context element of the value proposition. This gives the company better chances for differentiation and also for developing customer loyalty. Rayport and Sviokla argue that the customer loyalty has to be developed on the context level, because once the customer has loyalty to a certain context, the firm can develop new content with that same context. In order to control and deliver the context, though, the firm has to have control of – or at least access to – the infrastructure.

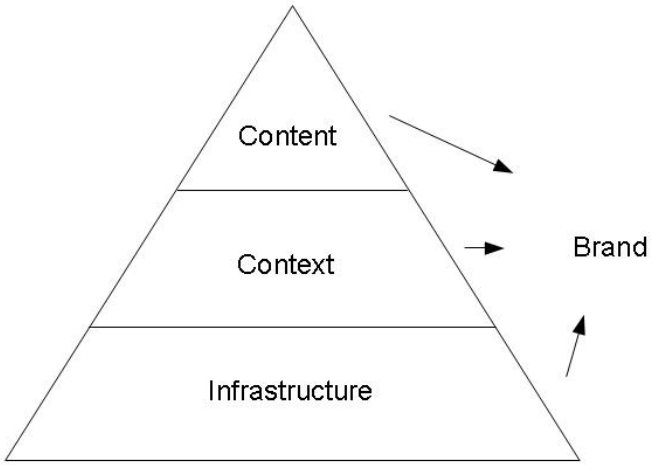

Figure 7. The elements of a virtual value proposition. (Rayport and Sviokla, 1994)

Of course this example is somewhat outdated as it goes back to nearly 20 years from today, but the idea is clear. Nowadays, in the most modern households the cable TV system as the infrastructure element has been replaced with or accompanied by high speed Internet connection and a smart TV, and the context with which the content is delivered is often Netflix or equivalent streaming application instead of a cable channel.

On the Internet this three-element structure of a value proposition still makes sense: the infrastructure

is the Internet infrastructure, the computers, servers, cables, wires, and Internet connection. The context can consist of a user interface of either a desktop application, a mobile application or simply a web site or a web application viewed with a web browser such as Google Chrome, Mozilla Firefox or Microsoft's Internet Explorer. The content, then, can be more simple content like blog articles, or something more complex, such as e-books, video, podcast or other audio files or even a computer application. All of these are just different forms of information, for all virtual value chains offer value to the customer through information, like Rayport and Sviokla noted (1994).

Rayport and Sviokla (1995) also lay out five rules or principles for businesses that need to be taken into account when considering virtual value chains. These principles are 1) the law of digital assets, 2) new economies of scale 3) new economies of scope 4) transaction-cost compression and 5) re-balancing supply and demand. These principles may seem self-evident, but ultimately affect strongly the formation of value in the online world. The law of digital assets infers that digital assets do not have marginal costs, meaning that they are not consumed when sold and thus can be sold an infinite amount of times. New economies of scale refer to the fact that a large customer base can be served even if the firm was a small company, because in the virtual value chains small firms can leverage the low unit costs while serving a large market. New economies of scope translate to the possibility to draw information from the existing customer base and synthesize new value, offering new products or services in unprecedented manners, as depicted in Figure 6 of this thesis. Transaction-cost compression means that companies can now more than ever afford to keep, store and take advantage of information about individual customers and transactions. Re-balancing supply and demand refers to the already mentioned phenomenon of the value creation process becoming more customer- rather than production-oriented, as also suggested by the co-creation literature (Wikström, 1996; Prahalad and Ramaswamy, 2000 & 2004; Helm and Jones, 2010).

2.4 Theoretical Framework

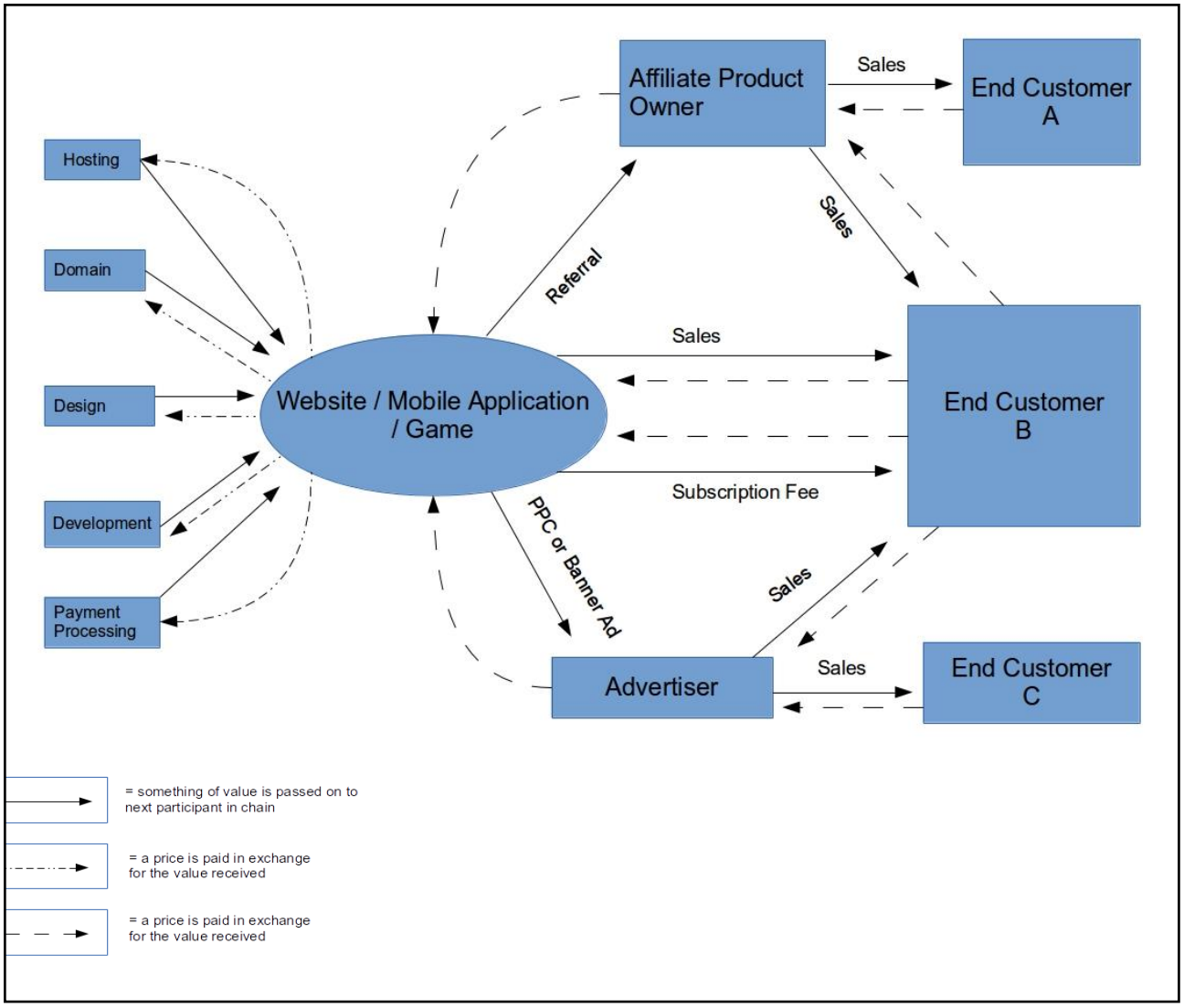

Figure 8. The potential value chain of an online microenterprise.

Figure 8 presents a potential value chain structure for a hypothetical online microenterprise. The continuous lines represent value that is passed on forward in the chain. The dotted lines, in turn, represent payments in exchange for that value.

In the center of the figure there's the so called lead firm, or the firm that is the online microenterprise studied. Its main product can be a website, a mobile application or a mobile game or an online, web-based game. Even though the lead firm probably has a significant role in the value creation of its own ”product”, there are, however, different companies also upstream in the value chain from whom the lead firm has to contract services.

The firms earlier or upstream in the value chain have to do with the infrastructure utilized by the lead firm. Most likely the firm has to buy hosting and a domain name from other companies, such as

Bluehost or Godaddy. A blog or other kind of website always has to be hosted somewhere, and usually it makes sense to contract the service from an external firm. In addition to hosting and domain name registration, the website or web application has to be designed and developed by someone. Design has to do with all the visible elements of a site or an application, or the so called user interface. Development refers more to the ”behind-the-scenes-coding” that provide the core functionalities of the site or application. Depending on the firm, design and development can either be done in-house, in which case they would not appear as separate actors in the value chain as they do in Figure 8. However, they can also be outsourced to an external company or the website can be set up and used with a content management system such as Wordpress or Joomla. In this case, the lead firm likely customizes the look and feel of the website. Especially in mobile games design and development are very likely to be done in-house since they are seen to be an integral part of a gaming experience.

In addition to design, development, domain name and hosting there is one more firm belonging to the upstream firms in the model and that firm is the payment processor. It could be argued that its correct place in the figure would be right next to the customer since the customer actually pays the money to the payment processor and not to the other firms as depicted in Figure 8. Indeed, in the case of gaming firms the distributor, as mentioned a few paragraphs later, usually processes payments and takes also the place of a payment processor. However, for simplicity's sake payment processor is categorized as one of the upstream service provider firms. This is so also because of the fact that the payment processor's role is relatively small in the chain in terms of value created.

Crucial to the value chain is of course the end customer. The money ultimately comes from the customer who pays the lead firm either a subscription fee in exchange for accessing valuable content or buying directly something from the lead firm, such as an audio book, ebook, an application or an in-app purchase. In-app purchases are purchases made inside a mobile application. This can mean buying imaginary building materials for a house in a farm in a farming game or supplies for the customer's army in a mobile strategy game.

After the upstream firms providing infrastructure services and the lead firm creating the website/web application/mobile application/game there are the advertiser and the affiliate product owner. The existence of these kind of actors is one of the biggest differences between the online microbusiness value chain and the traditional manufacturing business value chain. These firms make it possible to develop multiple revenue streams and not just one, because the customers might not buy anything directly from the lead firm, but on the other hand they may buy the product advertised or recommended in the lead firm's website or application. Therefore, in addition to the direct sales or subscription fees from customers, the lead firm may gain revenues from referral fees or advertising

fees.

The firms that have their product or service advertised or recommended by the lead firm function accordingly: they have a clickable banner advertisement or a pay-per-click (PPC) advertisement on the lead firm's webpage or in the mobile application, and the customer is taken from that advertisement to the advertiser's website or elsewhere where their product can be bought. The advertiser then generates revenue from product sales. The lead firm charges the advertiser on a weekly or monthly basis (banner advertisement) or based on the amount of clicks the advertisement has received (PPC). In fact, often the pay-per-click advertisements are not directly operated between the lead firm and the advertiser, but through an intermediary called an advertisement network. An example of this kind of an advertising network is Adwords/Adsense by Google. In the case of PPC advertisements, Google also takes their share of the revenue and only a part goes to the lead firm. Contrary to PPC advertisements, the payment for a banner ad is usually made only between the advertiser and the lead firm.

Separate from the advertiser is the affiliate product owner. This is a company that sells some kind of a product, usually related to the content of the lead firm's website or mobile application. The lead firm places a special affiliate link to their website or application, so that whenever a customer buys the product the lead firm is affiliated with, the whole event can be traced and attributed to the lead firm's recommendation. Unlike in the case of banner advertisements or pay-per-click advertisements, affiliate links are often embedded in the text along with other content and links. The product owner then pays the lead firm a predetermined percentage commission of the price paid to them by the end customer.

Similarly to advertisements, affiliate links can also be operated between only the lead firm and the affiliate product owner, but a more common practice is to rely on affiliate networks, or intermediary companies that provide both the infrastructure needed for trackable links and payment processing and an abundance of companies willing to place affiliate links on one's site. Examples of these kind of networks are Clickbank and Commission Junction.

In Figure 8, the customers are depicted to buy products only from one source, customer A from the affiliate product owner, customer B from the lead firm and customer C from the advertiser. This is only for simplicity's sake, and in reality the any of the customers might be buying from whoever of the three companies, or they might be making purchases from any combination of the firms.

In addition to the abovementioned advertising networks and affiliate networks, the figure could perhaps need also one step more – distributor. This holds true especially in the case of mobile applications and games, which are largely distributed by Microsoft (Windows Store), Google (Google Play), and Apple (App Store), depending on the mobile platform. Were this step added, it would take

place between the lead firm and the end customer. This is important because the distributor is the actor in the chain that makes the application available to a global mass of potential customers, and also because the distributor naturally takes their share of the revenue.

3. METHODOLOGY

As this thesis is conducted as a multiple case study, it is appropriate to provide some background information and definition of what a case study constitutes.

The choices the research strategy, in this thesis, the strategy of conducting a case study, affects, are many. These include deciding upon the purpose or initial motive of the study, sampling decisions, boundary setting, data collection, data analysis, and the quality criteria for assessing the final work.

This methodology section aims at addressing each of those decisions. First, the philosophical foundations of scientific methodology and methodological choices are being discussed, after which follow sections on theorizing, sampling, quality criteria, boundary setting,, data collection, and data analysis. In the following sections the prevalent alternatives and practices are briefly introduced and then the choices for this particular thesis is presented and justified appropriately.

The methodology section of this study is organized as follows. First an array of methodology topics is being discussed, followed by the presentation of the methodology choice for this study, justifying the use of the chosen alternative with a logical link to the current study.

3.1 Case Study as a Research Method in IB Research

Case study is one of the most used research strategies in international business literature as it has become a common method in many scientific disciplines (Piekkari et al. 2009; Dubois and Gadde, 2002). In IB it has been used to study a wide range of phenomena, such as internationalization processes of firms, their international strategies, international growth, market entry modes and multinational corporations in general (Fletcher and Plakoyiannaki, 2011).

Piekkari et al. (2009) define the case study "to be a research strategy that examines, through the use of a variety of data sources, a phenomenon in its naturalistic context, with the purpose of 'confronting' theory with the empirical world". They go on noting that they prefer to call case study a research strategy instead of research method due to the fact that it comprises more than merely the choices regarding method for data collection or analysis.

There are various reasons why case study suits international business as an academic discipline. According to Fletcher and Plakoyiannaki (2011), case study enables researchers to achieve a profound cross-cultural understanding of investigated phenomena, minimizing ethnocentric assumptions and cultural bias, when compared to survey instruments. Yin (2003) notes that case study research strategy suits best "how" and "why" research questions and as international business is a field that

investigates complex relationships and multi-faceted phenomena, it provides for an abundance of research topics with questions of this nature. Dyer and Wilkins (1991) praise the case study for its ability to provide new, paradigm-challenging theoretical insights, question old theory, and provide "deep understanding of particular social setting" (Dyer and Wilkins, 1991, p. 614). Dyer and Wilkins (1991) also claim that theory born of this kind of insights is more accurate and appropriately tentative due to the need of taking into account the nuances of a specific context. Furthermore, they mention that case study offers a good opportunity to tell a good story and provide a rich description of a phenomenon, so that the readers of the case have no difficulty in seeing what are the main issues, topics, and relationships in a given case. This enables the reader of a case study to remember the main takeaways of a case longer and understand them in a more complete way.

3.2 Philosophical Foundations of Methodology and Methodological Choices

In order to set the stage thoroughly for the reader of this thesis, it was thought appropriate to offer a brief explanation of the philosophical underpinnings of scientific methodology. This helps in stating the philosophical position of the thesis more explicitly which helps in understanding the choices and assumptions underlying various decisions and questions in the study.

There are three major philosophical components to each scientific paradigm or research approach, such as positivism and interpretivism. These are ontology, epistemology and methodology. Ontology defines the nature of reality that the researchers investigate, whereas epistemology is or defines and describes the relationship between the researcher and that reality or – put in other words – how can one acquire information about that reality. These two components have their impacts on the third component, methodology, or the tools and techniques researchers use to investigate reality.

As presented above, ontology is concerned with the nature of reality. According to positivism, science quantitatively measures objective facts and that the reality is "out there", independent of the researcher. Thus reality and data do not change when observed. As a result, positivism is the dominant approach in much of quantitative research.

Interpretivism, which is mainly used in more qualitative research and in social sciences involving complex human phenomena, takes a different ontological stance, claiming that reality is not objective and independent of the human element, but bound to the people experiencing it and therefore subjective in nature. According to interpretivism, truth is a "particular belief system held in a particular context" (Healy and Perry, 2000, p. 120). Interpretivism therefore inquires the ideologies

and values that lie behind a finding so that reality actually consists of "multiple realities", each human actor having their own, and that these realities all together form the whole picture.

As a result of the ontological stance of positivism, its epistemological assumption entails that the researcher is a detached observer of the reality and therefore the data collection and its analysis are seen to be processes independent of the researcher, or "value-free", and independent of the researcher, as described by Healy and Perry (2000).

In contrast to the positivistic objectivity of both data and the researcher, interpretivism or social constructivism sees that there is no other reality, data or observations than what is perceived by the researcher (or the objects of study, such as interview respondents). This means that the researchers are seen as an attached part of their research, and therefore interpretivism is seen as a subjective approach. As Guba and Lincoln (cited in Healy and Perry, 2000, p. 120) put it, "researching this constructed reality depends on interactions between interviewer and respondent, that is, the researcher has to be a 'passionate participant' during his/her fieldwork".

The epistemological differences between positivism and interpretivism radiate onto many sections of how research should be conducted, and we come back to the effects of this difference in the following sections.

Methodology encompasses the means or techniques with which a researcher can investigate reality, and as a result of the differences described above, the positivist and interpretivist approaches also have their differences when it comes to methodology. The positivist methodological tools are mainly quantitative ones, such as surveys and statistical analysis of data, whereas interpretivist methodology relies more on a wide range interviews and other means of acquiring data that is qualitative in nature. This highlights the fact that positivists are cold and detached observers of reality while interpretivists subjectively influence the research process itself, often using probing questions according to their own view of what subject or topic is important or interesting and worthy of further investigation.

In international business case research, all of these ontological, epistemological and methodological approaches proliferate, some more than others. Piekkari et al. (2009) found out that a disciplinary convention exists, and that the convention regarding international business research methodology is dominated by exploratory, interview-based multiple-case studies with positivistic assumptions and cross-sectional designs.

It would be easier for all to simply conduct a case study following the aforementioned convention, and even more so were the convention aligned with the current theoretical ideal of a case study as recommended in the methodological literature. However, Piekkari et al. (2009) found that this was not the case and that in effect the convention in IB research deviates from the path suggested by some

of the leading (positivist) authors, Eisenhardt (1989) and Yin (2003). Moreover, this lack of pluralism resulting from the convention in international business research is also perceived to be a potential hindrance for innovation and faster advancement in new theories (Piekkari et al., 2009).

3.3 Theorizing from a Case Study

The two main approaches, positivism and interpretivism, hold inherently very different views on how case studies can be used for theorizing purposes.

In positivism, the theorizing approach is more interested in the variables that can be extracted from a case study, and investigated as if they existed in a vacuum. This approach aims to seek causal laws and cause-effect relationships that are applicable universally regardless of context, as long as the desired variables are present. The purpose of case studies in the positivistic sense is therefore primarily theory-building (Eisenhardt, 1989) or as Yin (2003) puts it, exploratory purposes. The case is thus only a tool for extracting variables, forming causal relationships and building theory from rich, qualitative evidence. The theory built this way is later to be tested by deductive studies, which end the so-called positivist cycle (Piekkari et al., 2009).

The interpretivist view on theorizing is quite different. Stake (2005) argued the goal of case research ought to be a study of the particular more than the ordinary. Piekkari et al. (2009) also note that for Stake (1995, cited in Piekkari et al. 2009) this means understanding the human experience, not providing causal explanations, is the grand purpose of theorizing from case research. Stake also emphasized (2005) the importance of designing the case study to optimize understanding of the case rather than to generalize beyond it. According to him, an intrinsic case study is valued too little, and even that can be seen as a step toward generalization (Stake, 2005). However, instead of the value a sole case study brings in form of generalizable findings, Stake (2005) encourages us to appreciate learning about the specific context that the case is about.

The (tentative) theorizing goal of my thesis can be stated to be rather interpretivist in nature. Micro businesses that sell digital products online are a novel phenomenon and even though there exists some established theories on internet marketing and e-commerce, the phenomenon of these kind of businesses are little researched. Thus it is seen as a lucrative goal to explore this topic more with the focus on the intrinsic value and proprietary idiosyncrasies of the case itself. Using Yin's (2003) terminology, the theorizing goal can be said to settle between exploratory and descriptive.

3.4 Sampling Decisions

3.4.1 Number of Cases Included

Another area of difference in the two paradigms or approaches to case research is the number of cases included per study that is considered ideal. The positivist authors (Eisenhardt, 1989; Yin, 2003) hold it important to have multiple cases per study. According to Eisenhardt (1989), 4 to 10 cases are supposedly enough for allowing sufficient analytical generalization. The logic behind this is that having many cases contribute to the reliability and robustness of the findings and the ability to cross-analyze patterns across cases. Yin (2003, p.53) claims that "chances of doing a good case study will be better than using a single-case design", even with only two cases. He justifies this by explaining that single-case studies are "vulnerable" and that the analytical benefits of having two cases or more are substantial. He goes on citing the possibility of direct replication, more powerful analytical conclusions and greater external generalizability. Thus, Yin argues that if one is to conduct a single-case study, one ought to be prepared to have strong arguments to justify having only one case. However, it is to be noted that this logic does not mean the same as statistical sampling, often confused with having many cases per study. Yin (2003) emphasizes that the logic of sampling is to be theoretical instead of statistical, which is also mentioned by Eisenhardt (1989).

Contrasting the recommendations of Eisenhardt and Yin are those of the interpretivist authors, according to whom studying multiple cases (more than one) makes it too difficult to provide for rich descriptions and deep contextual insights, which are at the heart of a traditional case study's contributions (Dyer and Wilkins, 1991). According to the interpretivist view, it is better to concentrate fully on a single case, which Dyer and Wilkins call the "deep" or "classical" case study (Dyer and Wilkins, 1991). This enables capturing the deep and thick description of the phenomenon, allowing for a a better opportunity to reveal its complex dynamics and thus have the capacity to be "paradigm creating" or "paradigm challenging" instead of simply building upon existing theory, as Dyer and Wilkins (1991) claim the positivist approach does. Fletcher and Plakoyiannaki (2011) acknowledge, too, that one case is enough to generalize to theoretical propositions (analytical generalization) and they also note that already a single case is enough to prove that a certain phenomenon exists.

As Fletcher and Plakoyiannaki (2011) point out, applying a methodology that combines features from both single and multiple case study designs may demand an extensive amount of resources, both expertise and time. Taken into account the limitations of this thesis with regard to both of these resources, only multiple case study methodology is employed in order to provide for a consistent, coherent and clear piece of research.

The sampling choices are not without their contradiction. On the one hand, it is supposedly "easier" (from the positivistic point of view, mainly) to have only one case per study, and the grounds for choosing this option should be particularly strong and explicitly stated. On the other hand, the interpretivist view suggests that a single case study ought to provide a good story and a rich, deep description on the case at hand. This kind of rich and deep description is likely to demand interviewing more than two people per case and gather an abundance of other data, such as documents and newspaper or online articles about a company.

However, as this thesis ought to investigate the phenomenon of online microenterprises selling digital products (mobile games), it proved difficult to reach more than one or two people in each firm, since these firms tend to employ only one to ten people. Even more challenging was to obtain in-depth confidential information about any specific firm. Thus the motives for the decision over the number of cases stem from necessity, not preference, therefore leading to a multiple cases study design, with one interview per case, and not so thick descriptions but rather superficial ones. Nonetheless, the *desired preference* for this study would be a single case study. As the phenomenon of microenterprises selling digital products online is novel and not yet well-researched, it would have been preferable to be able to concentrate fully on a single case and to understand that case fully, with all its context-specific intricacies. The findings probably resulting from this kind of study would then hopefully offer various ideas for further theory generation with possible later research with multiple case study designs. Hopefully the conducted superficial multiple case firm interviews can also be useful towards a similar purpose.

3.4.2 Motives for Multiple Data Sources

Both research approaches, positivist and interpretivist, agree that one of the strengths of the case study strategy is the ability to employ various data collection procedures and obtain data from various sources via triangulation. (Stake, 2005; Yin, 2003) The rationale behind this is not shared between the two approaches, however, and the difference stems from the philosophical difference mentioned earlier that positivism seeks a single, coherent and objective truth or reality, while interpretivism holds that there are multiple truths out there, each constructed subjectively by various actors that are involved in a case.

According to the positivist view, the "most important advantage" of different sources of data that thanks to these various sources it is possible to draw a converging line of a single coherent reality (Yin, 2003). This view has been challenged by the interpretivist view that triangulation not only validates the findings but also allows for clarifying meaning be revealing different ways the phenomenon is being seen (Stake, 2005). Therefore the goal of an interpretivist case study does not have to be that of presenting a single, convergent truth, but presenting various, diverse views and

meanings on the research subject as perceived by the people involved. Interpretivism thus underlines the role of multiple voices and perspectives.

For this thesis it makes sense to highlight the multiple voices heard within a case, but in my opinion it does not have to be thought contradictory from the converging truths rationale of positivism. Rather, both are equally valid and valuable as motives. During the interviews conducted, there were multiple things said by the interviewees that confirmed what another interviewee had also mentioned. Nonetheless, there were also points in which the truth about the matter seemed rather subjective in nature, as two interviewees had a diverging view on some topic.

3.5 Quality Criteria for Assessing Methodology

In order to be able to evaluate the quality of a case study, a certain criteria has been developed to judge the quality of a research study. These criteria differ depending on the philosophical stance one takes in a study.

Yin (2003) lays out a criteria that has become a convention in the evaluation of positivist case studies. This quality criteria consists of four components or "logical tests", as Yin puts it: construct validity, internal validity, external validity, and reliability. These criteria comprehend the whole span of the research, starting from research design and ending in data analysis. Construct validity tests whether the researchers have indeed studied what they were ought to study, and this is achieved by developing a "sufficiently operational set of measures". (Yin, 2003; Healy and Perry, 2000)

Construct validity, according to Yin, is achieved by first selecting and justifying the issues to be studied and then demonstrating that these same issues were actually studied while conducting the research. Yin presents three tactics of increasing the construct validity of a research. The first of these is using multiple sources of evidence, so that converging lines of inquiry are obtained. The second tactic is establishing a chain of evidence and the third tactic is having the key informants review the initial case study report.

Internal validity only applies to causal or explanatory case studies, and it addresses the validity of making a causal suggestions or claims. There are four main tactics to increase the internal validity of a case study, and those Yin (2003) identifies as pattern matching, explanation building, addressing rival explanations and using logic models. As this thesis is not explanatory in nature, internal validity concerns are not relevant for this study.

External validity, as it name suggests, addresses the problem of whether the findings of the case study are generalizable beyond that specific case study where the results or findings were obtained. Instead of statistical generalization to larger universe, as is done in survey studies, the generalization of case

study findings is supposed to be analytical in nature and the results are generalized into a broader theory. This external validity test then has to be completed with sufficient replication in other cases. An appropriate number of replications is two or three different cases. (Yin, 2003)

Yin's fourth test is that of reliability. The main aim of the reliability test is to be sure that if the exact same study was later conducted by other researchers, they would a) be able to perform all the steps taken in the previous research and b) obtain the exact same results. This requires that the study be extremely well documented to ensure that no unintentional alterations are made to the research design and execution. In other words, the goal is to eliminate or minimize errors and biases in the study. (Yin, 2003)

As noticed, the quality measures used in positivist case study research are more concerned with the research design; an explicit plan or blueprint has to be prepared in advance and that blueprint is to be followed as carefully as possible.

As a result of its somewhat different ontological and epistemological stance compared to positivism, interpretivism does not share the same quality criteria with it. According to Healy and Perry (2000), the quality assessment criteria of an interpretivist case study include the following: "truth value" or credibility, neutrality or confirmability, consistency or dependability and finally applicability or transferability. These are largely different from the criteria of positivist research, again due to the fact that the philosophical underpinnings differ greatly. As there is no "reality out there" in interpretivism, but a combination of subjective, socially constructed realities, the quality assessment of such research is not concerned with whether the research design is air-tight or flawless, but rather how well the researcher has interacted with the people involved, how (how fully) the story of the case is told and what can be learned from the case.

A recurring theme in the differences between the two research approaches is that they largely stem from the dissimilar starting point, the ontological and epistemological stances of the two views. Eventually, both kind of studies are needed in IB case research in the different stages of theorization, and in order to have sufficient amounts of both scientific rigor and new and innovative insights.

This thesis is more interpretivist in in its philosophical stance and therefore the criteria provided by Healy and Perry (2000) is a more sound option to utilize. According to Guba and Lincoln (1994), from whom Healy and Perry borrowed the interpretivist criteria, credibility corresponds to the internal validity in the positivist terminology, and therefore, as mentioned earlier, is not a relevant concern in this paper as the study does not have an explanatory purpose. Dependability refers to whether, if replicated in the exact same manner, the case study would have exact same results. The questionability of this criteria is apparent, as in semi-structured interviews there are always some

probing questions and interviewer effects cannot be avoided. However, the main results would likely be same. Neutrality as a criterion translates to the researcher being free of biases that could potentially affect the way in which the data is collected and findings are being interpreted. There is likely always some bias, as all humans, including me as the interviewer interpret the world through their own lenses. However, I would state that as the research conducted does not aiming at providing causal explanations and as I do not work in the industry or have any ties other than pure interest to the industry being researched, neutrality is most likely achieved. Transferability is achieved, as similar results are present in many details of the findings, as can be noted from the converging findings among the studied firms.

3.6 Boundary-Setting

Drawing the boundaries of the research, as so many other thing, is dependent on the philosophical stance and the ultimate purpose of the research. What is the unit of analysis, both theoretical and empirical? How many people to interview? Are there other aspects that we do not yet know about the case but that can prove to be so relevant that they have to be included in the study, even if they were not supposed to be included? Should we study more literature as the case goes forward and new topics, questions or details emerge?

These are all questions that are related to the boundaries of the study. In positivism, the boundaries are more likely set beforehand when crafting the research design (Yin, 2003; Eisenhardt, 1989), contrasting interpretivism that follows the so called emergent logic, where the boundaries are iterative in nature and the initial research design is merely a tentative plan that can be mended if the case requires (Dyer and Wilkins, 1991; Stake, 2005; Piekkari et al., 2009).

Along the course of progress of the research the thesis can be said to have followed an emergent logic in boundary-setting, as much of the literature was already reviewed and a great portion of also other sections, such as methodology, was written when the interviews and therefore case firms were finally confirmed.

The theoretical unit of analysis is a single product value chain of each of the studied mobile game microenterprises. The empirical unit of analysis are the firms studied. One pre-determined boundary initially was that the firms ought to have a maximum of 10 employees, but an opportunity to interview the CEO of a firm of approximately 20 people, I decided to take advantage of the opportunity.

3.7 Data Collection

This section addresses data collection suggestions in the literature and the decisions regarding this thesis and methods for collecting data.

Eisenhardt (1989) in her step-by-step approach to case research provides useful information also on the data collection phase of a case study. She highlights the importance of field notes and noting every impression that occurs during the empirical research phase, whether thought useful or not. Other recommendations she makes are pushing one's thinking during the research by asking oneself questions such as "What am I learning?" and "How does this case differ from the last?" (Eisenhardt, 1989, p. 539). She also encourages researchers to already begin data analyzing during the data collection phase, justifying that it gives a head start on analysis and allows for flexible data collection. These all seem sound advice and was followed during the course of the data collection phase of this thesis. These adjustments can be adding interview questions, adding informants and adding cases, among other things. As this thesis follows more of an emergent logic (as opposed to design logic), the aim was to recognize opportunities for improving the data collection methods during the course of the empirical phase. As a result, one firm outside of the predetermined boundaries was included in the study and some interview questions were left out and added after the first interviews.

The traditional perception seems to be that positivism is more associated with cold and hard data sources such as surveys and questionnaire data, while interpretivism is linked with using interviews, observations and more "soft" data sources. However, it was found by Piekkari et al. (2009) that in international business case research, interviews have been the conventional and dominant source of data, both in positivist and interpretivist studies.

Therefore, it could be argued that the main difference in the data used between the two approaches compared is not the type of data used (at least not in IB case research) but how it is used. Positivist researchers tend to follow the research design prepared in advance, and only gather and analyze data that is perceived to be relevant to the design. Interpretivist researchers, however, are more flexible in both data gathering and analysis, and allow for novel topics and issues to emerge, recorded and analyzed. (Stake, 2005; Dyer and Wilkins, 1991)

As the main empirical data consists of interviews, we now look at issues regarding interviewing.

3.8 Qualitative Interviewing

According to Patton (2002), there are three main interview strategies to choose from. These are 1) the informal conversational interview, 2) the general interview guide approach, and 3) the standardized open-ended interview.

Of the three, the informal conversational interview is the most relaxed and unstructured. In fact, this strategy does not imply any predetermined questions or themes, but the topics of the interview ought to flow naturally from the casual interaction between the interviewer and the interviewee. This strategy is most used during observational fieldwork. Its strengths are flexibility and allowing the interviewer to "be highly responsive to individual differences and situational changes", increasing the depth and concreteness of the interview (Patton, 2002, p.282). The weaknesses of the informal situational interview are that it demands great amount of interview time to collect systematic data, and it is more affected by interviewer effect, due to its implicit need of higher amount of interpretation and interaction skills than the other approaches. Also, the information collected from these interviews are not easy to process and analyze. (Patton, 2002)

The second interview strategy, the general interview guide approach, is mix of flexibility and structure. It means essentially having a list or guide of questions to ask or topics to address during the interview. The interviewer can (and ought to) explore the themes and ask further questions and probes when he or she feels appropriate. The strength of the interview guide approach is that it allows for pertaining to the conversational style and flexibility to investigate emerging issues, while ensuring that at least the predetermined questions are asked. The interview guide functions as a framework; it does not determine all questions in advance, and the interviewer is free to make more detailed questions, but should not embark on topics that are completely novel to the guide. (Patton, 2002)

The standardized open-ended interview is the most rigidly structured of the three approaches.

"For the conduct of basic research, when one is attempting to understand the holistic world view of a group of people, it is not necessary to collect the same information from each person. The political credibility of the data collected is less an issue under basic research conditions. However, when using qualitative data-collection procedures for evaluation purposes, it can be helpful to minimize issues of legitimacy and credibility by carefully collecting the same information from everyone who is interviewed."

-Patton, 2002

As the nature of this study pertains more to what Patton calls "basic research, when one is attempting to understand the holistic worldview of a group of people", rather than "evaluation purposes" it makes sense to not choose the standardized open-ended interview as the interview method of this study. On the other hand, this interview approach is extremely useful when there exist fixed time constraints to the research, such as limited access to the interviewees and limited time to analyze the obtained data, or writing the results of the study. Such is the case with this thesis.

Variation among interviewers is another theme when choosing the interview strategy. The less formal the interview is, the more variation there is likely to be, according to Patton. Therefore, in order to minimize the interviewer effect in the research, a standardized open-ended interview strategy ought to be chosen. However, the question of interviewer variation itself is minimized in this research, as the same person is conducting all the interviews. Nonetheless, if a standardized open-ended interview strategy is not chosen, there is likely to be at least some variation, as the interviewer is a student, not an experienced social scientist. Then again, if the purpose of this research is to explore and describe a phenomenon, such as the value creation process of the micro enterprises in question, variation in interview data should be a minor issue. On the contrary, it can actually be beneficial for gaining new insights and a more holistic picture of the phenomenon.

Finally, for the purposes of this thesis, it seemed a practical and relevant choice to follow a general interview guide approach, since it ensures that certain topics are always covered but also makes probing and further investigation possible.

All in all, five interview guide approach interviews were conducted as the data-collection method for this thesis. All the five people interviewed work in significant roles in their respective mobile game development firms, three of them as CEOs and two of them as lead programmers, having nonetheless somewhat equal decision-making power in the firm as the CEO. One of the interviews was conducted via Skype video chat software and recorded with a compatible call recording software, whereas the four other interviews were conducted face to face and recorded with my smartphone's recording application. Largely speaking, the interviews varied in length from hour to one and a half hours. The interviews were all conducted in Finnish, but the original interview guide was devised in English. The interview guide questions can be seen in appendices section in the end of the thesis.

3.9 Data Analysis

Data analysis is often considered an enormous task, and not without reason. After the data collection phase there is likely to be hours of transcribed material as well as notes and documents to analyze. It is also perhaps the phase in the research process where the least instructions are available (Eisenhardt, 1989).

Eisenhardt (1989) divides the process into within-case analysis, searching for cross-case patterns shaping hypotheses and finally comparing the emerging findings or theory to the existing literature. Her approach is oriented towards theory-building, however, and therefore does not seem completely relevant as such, as this thesis aims to describe and explore a phenomenon without further immediate theorizing objectives.

Another approach is that of Attride-Stirling (2001) who basically provides a detailed and practical step-to-step guide for analyzing qualitative data. In Attride-Stirling's approach, the text is first coded using a specifically devised coding framework, after which various themes are identified from the coded text segments. After the themes are abstracted and refined, they are arranged according to similarity to achieve groups of similar themes. These themes are called basic themes, the lowest-level themes. These basic themes are then rearranged around higher level themes which are called organizing themes. From the organizing themes, global themes are finally deduced. They are the highest level of themes, forming the center of the thematic network. Once all themes are organized and deduced, they are presented as a thematic network, which are then verified and refined. Finally, the thematic networks are described, explored and summarized, after which the patterns that have emerged are interpreted.

The strength of Attride-Stirling's approach, thematic network analysis, lies in its level of detail. The guide is more profound than found elsewhere in the literature. However, it is better suited for a research with no clear themes and multiple cases with more detached concepts.

As the topic of value creation in online-based microenterprises, is quite well defined, no specific analysis framework is employed in this thesis, but the topic is analyzed part by part after the findings section.

4. FINDINGS

The purpose of this sectionn is to present the main findings of the qualitative semi-structured (interview guide approach) interviews. The section is organized on a per-firm basis, meaning that each individual firm is addressed in their own subsection. The subsections are in no specific order. Later on, in the analysis chapter of the thesis I will discuss topics that were recurring in the interviews, and compare the findings to the literature.

Due to anonymity reasons two of the five firms will be referred to as firm A and firm D.

4.1 Firm A

Firm A is a company of five people, started in 2012 in the Finnish capital area. The main product, a music recognition game for the Apple iOS platform, is a result of an innovative insight the founder had already many years before the firm was founded.

Currently the organization employs the two founders who act as CEO and CTO. In addition there are people responsible for content development, graphic design and marketing. The CEO of the company is the person who was interviewed. He is responsible for various business development activities and marketing activities, while the co-founder and CTO (chief technical officer) is responsible for the development of the mobile application or game, or the actual programming of the game. The content developer creates new musical content for the game in the form of different songs and albums. At this point the company is still dependent on non-copyrighted musical content, because it has not had intellectual property agreements that would allow it to use copyrighted music in its musical game application. This, however, is likely to change in the future, as negotiations on the matter are ongoing. As a result, the musical content has thus far largely consisted of folk music and classical music. The other employees are the graphic designer, who takes care of the visual appearance of the application, and the marketing person, who implements the firm's social media campaigns.

The product of the firm is quite simple, yet innovative in nature. It is a mobile game in which the player hears a piece of music and then guesses which song is being played. There are various forms of guessing, such as choosing a correct answer from four alternatives or playing the song with the touch controls that are part of the user interface of the game. The main idea of musical pattern recognition is patented so the product is well protected, at least in the countries that enforce intellectual property laws.

The revenue model of this music guessing game is free-to-play (F2P), which means that the mobile

application in itself is free to download, but one can thereafter buy additional music content for a fee. The content purchases are charged directly from the player's credit card, so no virtual money or virtual currency is at use, although according to the CEO the firm is planning to implement virtual money in the future. In addition to virtual money, the firm is also planning to incorporate various other types of content to purchase other than music, referring to different kinds of power-ups and boosting elements like the ability to play different instruments, or the ability to remove some of the false answers in the multiple choice mode. One downloadable item (album or other) costs EUR 0.89 / USD 0.99, and therefore the price of the content is available at the second-lowest price category of Apple's App Store. The lowest price category is free, so actually the EUR 0.89 / USD 0.99 price is the lowest price which actually costs anything.

In the sequel of the game studied the revenue model is the so called premium model meaning that the actual game also has a price of 0.89 euro of 99 dollar cents. There are also plans for expanding to B2B markets with various institutional customers, but since this thesis concentrates on the one product, those applications are out of the scope of this study. This is so, because the product itself would have to be modified in order to suit the other purposes.

The product in itself does not have direct competitors, and the CEO admitted in the interview that at first it was difficult to identify who the competition is, because the idea of music song recognition in a mobile game is quite unique. There are competitors, however. The interviewee mentioned as competitors at least a game called Songpop by Freshplanet. In Songpop a song is being played and the player has to guess which one of the presented four alternatives the song is. Songpop, does not, however, have the active element of playing the music. The interviewee mentioned that the closest competing product might be an ocarina playing application by Smule, a California-based app developer firm. In their application, the player can blow the microphone of the smartphone and in this way play the virtual ocarina, which the app represents. In addition to the aforementioned music application, there are various quiz apps that can be perceived as competitors, although they do not necessarily incorporate the interactive gaming and music elements.

When asked about the product's target market, the interviewee mentioned recalling from somewhere that roughly half of the world population likes music. In his opinion, therefore, the target market is mainly limited by smartphone usage than the idea of the game. Another factor that perhaps limits the expansion to further markets the most is, according to the CEO of the firm, content of the game and copyright issues. Up to this date the firm has only been able to offer copyright-free content such as folk songs and classical music, which is not the most typical music for smartphone users. When the correct copyright agreements are in place, the firm will be able to offer such content as modern pop and rock songs, and other genres provided by major record labels. After acquiring international music

content rights, the firm can also expand more easily outside of Finland. Another issue affecting expansion is localization. Localization means that the content has to be meaningful and relevant to the target audience, and in this case localization would entail probably language support in the app itself as well as musical content that is meaningful not only to Finnish consumers but also to Korean schoolgirls and even to Argentine gauchos. There is an enormous amount of content to be covered in the app, and in the end it is a question of resource allocation.

The near-future plans of the firm entail expanding targeting a young audience with major record label songs. Names like Justin Bieber, Katy Perry and Lady Gaga were mentioned, for example. A major strength of the product is the user interface; the application is so simple to use that it has been tested successfully even on toddlers and elderly people up to 90 years of age, so the age points are not a limiting factor with regard to target market as long as the musical content is relevant to its audience.

What comes to marketing the product, the firm has been active mainly in the social media such as Facebook and Youtube. The firm has a person dedicated to marketing, and some outside marketing consulting services have also been hired to work on the marketing aspect and campaigns.

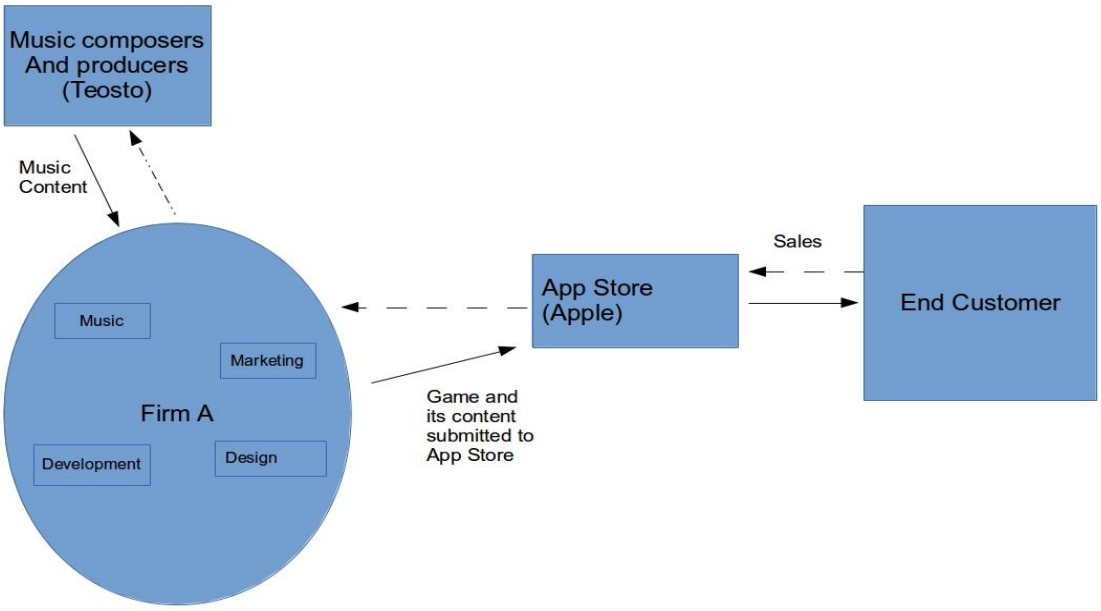

Figure 9. Value chain of the game of firm A.

During the interview with the company CEO, the components of the product value chain were largely identified. At the center of the value chain is the firm itself, who developed the actual product. The product has three main components of value: the music content, the pattern recognition software and algorithms that make the game possible, and the graphical user interface, which is extremely simplified and therefore can cater for a wide range of audiences. Currently the firm does not contract services from outside the firm, but marketing campaigns and other activities are contracted on a

project basis. Also the initial programming of the application was done by a contracted iOS developer, but currently large part of the code is developed in-house. Between the firm and the customer of player there is Apple, through whom the product is distributed in Apple's App Store for iOS devices (iPhone and iPad). Therefore an external publisher is not currently in use, and the value chain is extremely simple, currently comprising only the firm studied, Apple and the customer. The value chain might later consist also of other distributors, such as Google with its Google Play, which is the application store for Android smartphones and tablets, as well as Microsoft with its Windows Phone and Windows devices and the corresponding Windows Store. Apple charges 30% share of the revenue that the application produces, and that is the only identifiable cost on the basis of the interview. Also Google, if incorporated in the future, would charge 30% for the distribution in Google Play.

4.2 Cornfox & Brothers

Cornfox & Brothers is a small Helsinki-based game development firm founded in 2010. The firm consists of three people who are also the co-founders of the company. I interviewed Jukka Viljamaa, who is one of the three founders and works with game development in the firm. The other employees are the lead programmer and the creative director of the firm. The firm firm does not adhere to strict hierarchies, which is depicted by the fact that there is no formal CEO.

The main product of the firm is called Oceanhorn: Monster of Uncharted Seas. It is an adventure game published for the Apple iOS platform. In the game, the player is a young boy setting out to a quest, looking for his missing father and defeat the creature called Oceanhorn. Unlike with the case of the previous firm, Oceanhorn is not based on a unique and novel innovation. Simply put, is it just a really good and high quality game. The graphics and the story of the game have been praised by critics, and the music for the game is composed by two of perhaps the most known game composers in the world. The game was carefully developed, over the course of approximately two years, which is a rather long time for developing a mobile game, as pointed out by Viljamaa.

A big distinction compared to many other indie games is that Cornfox could fund the development of this game with the income from their previous project, and that the firm also got a foreign publisher, which could provide Cornfox with funding, marketing and some help also in product development. Having an external publisher has helped the success of the game a great deal, for example by localizing the game to various languages. Currently the game is available in English, French, German, Italian, Japanese, Korean, Portuguese, Russian, simplified Chinese and Spanish.

Because the game was intended to make very good from the beginning, Cornfox decided to employ the so called premium game revenue model, in which the income comes from only selling the game,

meaning that there are no ads nor in-app-purchases (IAP) in the game itself. The game retails at EUR 7.99 or USD 8.99 in Apple's App Store, which makes it quite expensive for a mobile game. However, as Mr. Viljamaa mentioned during the interview, even this price is not really that much money if we speak in absolute terms. With the relatively high price the firm also wants to position the game right next to the other more expensive iOS games developed by big gaming studios and communicate that this game equally competes with them in quality. When asked about competition, Viljamaa told that one of the reasons for making Oceanhorn was that there were not this kind of games in the market, or if there were, the people at Cornfox knew they could make a better one.

The firm does not have a very specific target market, but during the interview it became clear that this game, due to its price and quality, is more targeted to the so called hardcore gamers rather than just casual gamers who would download the game for occasional short gaming session at the bus stop. According to the Apple Game Center, the game has about 600 000 registered players. This does not correlate exactly with the amount of downloads or purchases but the amount of purchases is likely to be somewhere below the 600 000. This is partly because of piracy issues and partly because many family members can be registered players with the same purchased game. Nonetheless, the game can already be said to be quite of a success.

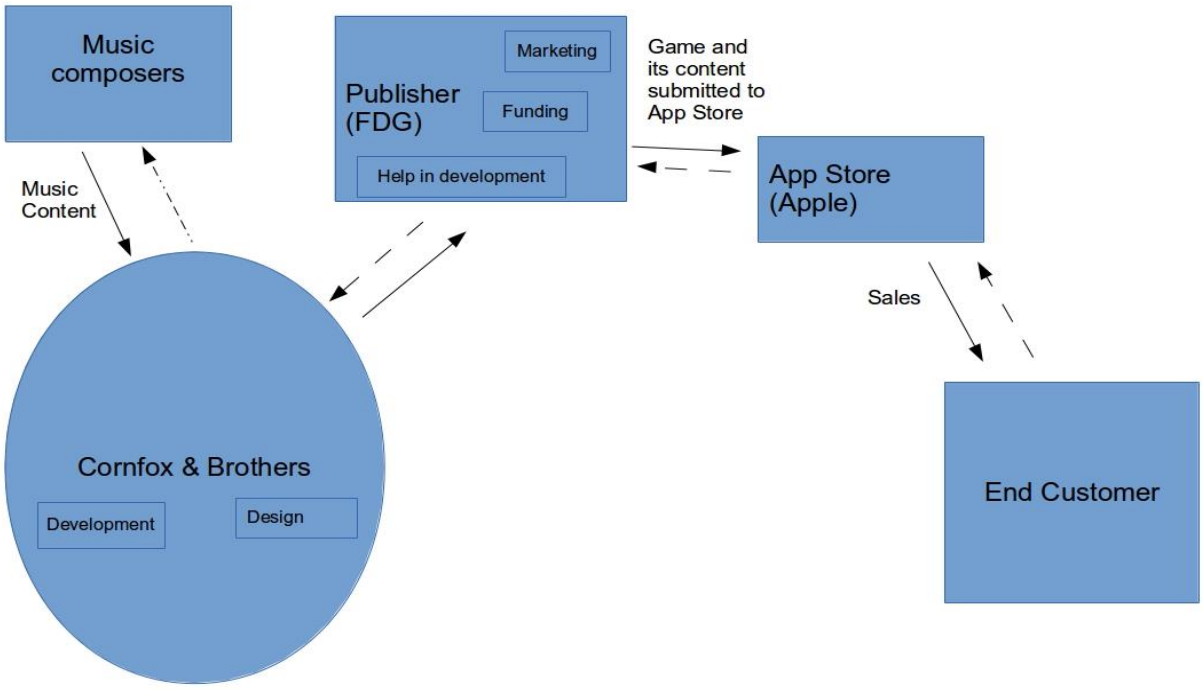

Figure 10. Oceanhorn value chain.

If we look at the value chain of Oceanhorn: Monster of Uncharted Seas, we can see that the main actors are the sound and music composers, Cornfox, the publisher, Apple, and the customer. Largely

speaking, the sound and music composers make the audio elements of the game, while Cornfox develops the functional and graphical elements in it. The publisher mainly does marketing and other daily business activities, but it also gave funding to the project and helped in product development. In a way, it is difficult to draw a clear line between Cornfox and the publisher, since Cornfox also does some grass root level marketing activities and since the publisher helps with the product development.

Mr. Viljamaa stated the the game development, or production of the game, is the most important activity in the chain. He admits, that marketing activities, and especially the help from an external publisher has probably been crucial to the game's success, but on the other hand, it all starts with making a great game. Without the game being so promising, the firm probably would not have raised the interest of the publisher or the famous composers. The publisher has also been valuable in the sense that it has freed time for the people of Cornfox to concentrate on the product development by taking care of many marketing and other business activities. In this way, each part of the chain can be of maximal use. The interviewee mentioned that he is the person in the firm who works the most with so called business activities, and even he dedicates roughly 90% of his time to game development.

Throughout the interview it was recognized that more business activities ought to be conducted, but on the other hand it is also one of the core values of the firm to keep the team as small as possible to facilitate collaboration and therefore remain extremely productive. Another value seems to be that the team should be able to concentrate as much as possible on the game development itself, because that is the work they enjoy doing.

However, he recognizes that if the firm is to grow in the future, in a medium-long term time horizon a more business-oriented person would be beneficial to have in the firm. According to Mr. Viljamaa, this person would need to have good networks in the industry as well as good knowledge of the marketplace and demand, as well as the game production and validation process. As an example of these business-kind of activities he mentions maintaining and updating the developing blog. According to the interviewee, having the blog has probably had some positive impact on the success of the game, and he is content with creating the blog, but on the other hand it has been a non-core activity outside of the actual game development work. Creating the game and managing the whole firm at the same time has been challenging, because one needs to allocate resources to product development and other activities in a balanced way.

The product is distributed through the publisher, who takes care of submitting the game to Apple's App Store. The game is not available for other mobile platforms at the moment. Apple takes 30% of the revenue, whereas the publisher takes also their percentage – the amount of which was not

disclosed during the interview. However, for the purposes of this thesis it can be assumed that the publisher probably takes something between 40 and 60 percent of the revenue share that is left after Apple's commission, which is a typical number in the industry.

4.3 Ifelse Media

The third person interviewed is Timo Moisio, who works as co-founder and lead programmer in Ifelse Media. Ifelse Media is a small mobile game development firm based in Tampere, Finland. Currently there are three people working in the firm, who are also the co-founders. In addition to the interviewee, there are a graphic designer and a CEO in the firm. Two of these three people are working part-time. The interviewee told that he is mainly responsible for game development and programming, while graphic designer takes care of the visual side of the games and CEO focuses more on the business aspects of the operations. In reality, however, there are also overlapping tasks in the roles. For example, the CEO takes an active role in developing the stories for the games. The company was founded in 2011 and its main product currently is Sword and Glory, a sword-fighting adventure game.

Sword and Glory is available for iOS, Google Play and Samsung Apps, which is Samsung's own application store for Samsung's Android devices. The game is available for free on each of the three platforms, and it employs the so called F2P or free-to-play revenue model, so the player can make in-app purchases (IAPs) to facilitate progress in the game. In the case of Sword and Glory, the player can purchase so called epic points, which serve as currency in the game itself. According to Moisio, the gaming mechanics are quite simple, but since the game is centered on a story, the player has to make many decisions throughout the game. These decisions, then, largely shape the player's character and the direction the plot takes. Thanks to a numerous amount of stories and decision trees, the game content feels novel for a relatively long time after starting with the game. The interviewee mentions that currently the amount of content is almost equal to written novel in overall length.

This feeling of novelty is further enhanced by the so called permadeath feature of the game. Permadeath means that once the player dies, the player has to start the game from the beginning. The player's progress in the game is saved as the player plays on, and player can quit and continue playing at a later point in time, but once the player dies, the saved points are automatically wiped empty. This also builds a psychological aspect: the players have to live with the decisions they make until they die and start over. In-app purchases help also with this; they can accelerate the progress in the lower levels or player can skip some of the lower levels once they start again. This helps players skip what is probably the most mundane part of the game for most players. These epic points the players can

purchase can also be obtained by playing and defeating enemies, so it is not necessary to spend money in order to move forward in the game.

The game itself has received good reviews in various websites, and Moisio mentions that the game has been able to attract a steady fan base. There are also some online forums where the game has been discussed. He attributes this popularity to the compelling game design which makes the game feel newer than it is, and also to the tactical element in the battles. There are many elements and features in the main character and the opponents that affect the battles in the game and success in the game demands a lot of thinking.

For some reason, however, the game has not been downloaded in a similarly impressive fashion. The interviewee suspects that marketing is perhaps the product value chain's weakest link and that the company could be doing better in that aspect. All in all, the game has been downloaded about 80,000 times – an aggregate number combined from the three marketplaces. The retention statistics about the game are impressive and support the idea that once the game reaches its player, it is rather compelling. After the first day, approximately 50 % of the players still play the game. After the first week the percentage is still 27% and after 30 days still 16% of the players at least launch the application in their mobile device. Moisio explains that these are clearly above the average figures of a typical mobile game.

One way the firm could have improved its marketing, according to Moisio, is either hiring a dedicated marketing person or learning more about mobile games marketing inside the firm. Moisio admits they made some false assumptions in the beginning of the project and that they have learned a lot, but have yet to find a working formula for their marketing. One of these false assumptions, he mentions, was thinking that there would be a surge in the amount of downloads in the beginning, but that shortly after releasing the game the amount of downloads would decline after this initial ”spike” in downloads. This turned out to be quite the opposite; the amount of downloads have grown slowly but steadily from the release date. Some things the interviewee mentions they could have done are putting more effort in the marketing, and pushing the product more to the consumers' consciousness.

The firm has, for example, bought mobile advertising for the game, but Moisio notes that the return of investment is not good with mobile display ads. In addition, the effectiveness of those advertisements is hard to track, since there is no software-based tracking solution.

An important but perhaps not always so obvious way to market the product is simply to engage in interaction with the players, according to Moisio. Sword and Glory has clearly obtained a fan base and for example setting up a simple discussion forum dedicated to the game would have helped a lot in reducing the amount of email traffic and also fostering a sense of community. The way in which

the company has communicated with the players has been through other forums and via email.

Moisio emphasized couple of times during the interview how technical abilities are not perhaps such crucial success factors. Instead, he expressed that game design and marketing are more important. In Moisio's opinion, technical skills related to coding and graphic design can be learned rather easily if one works hard and is motivated. In contrast, he says, game design itself demands more artistic vision, and this cannot necessarily be so easily obtained. He also emphasizes the role of marketing. In Moisio's words, it does not necessarily mean traditional marketing but only reaching the players consciousness, making them aware that this kind of a game is now available.

In addition to marketing efforts, Moisio notes that it also helps if a game is really good. This can be misleading, however, because a good mobile game does not necessarily need to be a gorgeous spectacle in a similar fashion that, say a good console game. Moisio highlights the fit for the customer's needs. A mobile game can be really popular and good even if it is simple, if it serves the market and fills some need of the player.

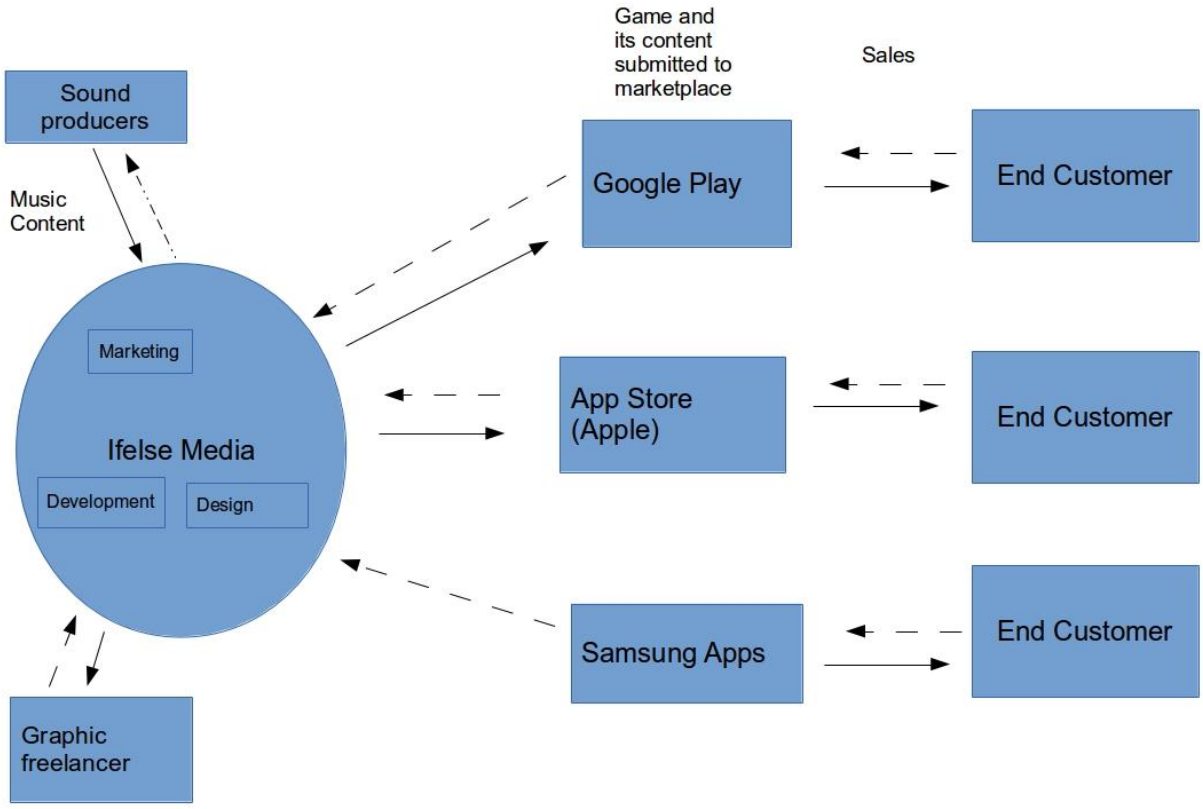

Figure 11. Sword and Glory value chain.

If we look at the value chain of Sword and Glory, it is relatively straightforward. The most important parts are contributed by Ifelse Media, as the story development, game development, and graphic design are all conducted in-house, except for some part of the graphics, for which an outside

freelancer was hired. Music and sound effects for the game were bought from outside the firm. These freelancers have been paid a fixed sum so no revenue goes to them. Between the consumers and Ifelse Media there are only the distribution channels, which are represented by Apple, Google and Samsung and their respective mobile application marketplaces. Apple and Google charge a 30% commission of all the revenue generated in their app stores, whereas Samsung offered a special arrangement for indie developers in which Samsung's share of the revenue was initially 0% and slowly over time has increased to 10%. After Apple, Google and Samsung come the consumers who bring the money to the value chain in form of in-app purchases. Ifelse Media also thought of generating revenue by showing advertisements in the game, but abandoned this idea partly due to relatively small volume of downloads and partly because it would not suit the strong and simplified visual style of the game, according to Moisio. When asked about which part of the chain produces that most value or is the most important part, Moisio states that marketing and game design are the two most important parts. He elaborates that Ifelse Media would have benefited a great deal by getting help in marketing from an external publisher. A publisher could have raised more awareness of the game, and help in address customer contacts. On the basis of all the interviews I conducted for the thesis, a publisher can make a big difference in the success of a game, but they also take their share of revenue, which is quite high. In typical publishing contracts the publisher charges 40-50% of the revenue of the part that is left after the distributor's share.

4.4 Firm D

The fourth firm interviewed for the thesis is a mobile application development firm of five people, based in Helsinki, Finland. The company was founded in 2008 and initially it made also other kind of games but currently the firm is specialized in mobile gaming only. The firm has many products, mainly in Apple's iOS platform. I interviewed the firm's CEO about their most recent product and the related series of games. As mentioned, there are five people in the firm, including CEO. These five are three programmers, who develop games in a semi-independent fashion, one graphic designer, who produces graphical asset to the games, and the CEO, who manages other aspects, such as marketing, investor relations, getting people to test the games, to name a few tasks. The firm's most recent game at the time of the interview is a casual game where the player directs a balloon that is rising higher up in the sky, meanwhile there are birds trying to break the balloon. The idea is then to evade the birds and rise as high as possible.

The revenue model of the game is based on advertisements. The CEO does not disclose any revenue figures since the game is relatively new but according to him the advertisement fees in mobile advertising vary significantly, depending on the type of ad. Some banner ads may generate one dollar

per a thousand ad impressions (a thousand times an ad is shown to someone), but a full-screen pop-up advertisement might generate as much as 20 dollars per impression.

On the basis of the interview it is more useful to not only look at the revenue model of this game in isolation but to look at this game as a part of the firm's overall strategy. Due to high risks in the mobile gaming industry, the CEO explains that the production processes of the games have to be as short as possible so that the risk is lowered. He elaborates that if a game has been developed for nine months and it does not become popular, a lot of resources go to waste. Therefore the firm is now releasing games in quick cycles of about couple of weeks only. These games serve multiple purposes; first, they are monetized with advertising revenue, and second, they build up the firm's product family. The games are similar in style and design, so the firm aims to later be able to employ cross-over marketing across their games. This means that their games will display advertisements to the firm's other games. A third purpose is to build a steady user community around the games, so that the games are easier to market also in the future.

According to the CEO games with in-app purchases are problematic to make with this kind of strategy, since they normally require more time to be developed, and more resources. A publisher could be used with an in-app game, but the problem with an external publisher is that they usually hold on to the customers, so that the developer firm cannot market their new games to the old customer base directly.

Meanwhile, the firm is also developing a more extensive game, which is planned to be monetized with in-app purchases. There is a bigger risk of failure along with the bigger developing efforts, but as the firm is building their customer base and revenue stream with the smaller and simpler games, the risk of failure is reduced.

When asked about the marketing efforts for the most recent game, the CEO notes that marketing and product development cannot be addressed as separate concepts in mobile gaming, but that the product development has to be very customer or user oriented. In his opinion, a good game must have two qualities: it has to be simple and intuitive enough for everyone to use without written instructions or tutorials, and it has to bring joy to the player. This game, for example, does not have written tutorials, but only a few icons to show how to direct the main character in the game. The game is targeted for casual gamers all age groups, and it has been tested with toddlers as well and with elderly people. The firm aims at testing their games in realistic user environments as soon as possible, for in-house testing is too biased to be useful. The firm might film a testing session to investigate how objective players perceive a game, or the firm might go outdoors and ask strangers to test a game on iPad. However, the CEO reminds that the firm cannot listen to the players and their feedback too blindly,

but that the developers have to trust also their artistic view and gut feeling.

There is one part of marketing that the CEO highlights: getting the game to the Apple App Store ”featured list”. According to him, it is crucial for this kind of generic and casual games to be found easily, because it is not a mind-blowing game so much as to arouse wide interest without initial visibility. When I asked the interviewee how the firm can improve their chances of getting the game to this list, he explained that there are certain factors Apple looks at that can improve one's possibilities of getting featured.

According to the CEO, Apple has certain agenda with their devices and ecosystem, and if the features of a game are well aligned with this agenda, their likelihood of being featured increases. Some examples mentioned during the interview were how well the game takes advantage of the technical capabilities of the devices like the gyroscope or accelerometer, how well the game takes advantage of the features of the operating system, iOS, if the game is exclusively available on iOS or not, and whether the game utilizes Apple's proprietary iAd advertising network. In addition to this ”agenda” that makes perfect business sense, the CEO mentions that Apple appreciates good design and therefore is likely to favor a game with good design over another game with more modest design.

Another route to get featured, according to the CEO, is that one can only make an extremely good game that is very successful. If a game gains popularity among the users, Apple is likely grant it visibility.

When asked about the value proposition of the game, or what makes the people want to download this specific game, the CEO highlights clarity of their value proposition. According to him, they promise that the game will not cause any extra costs, that there are no in-app purchases, nor are there any kind of requirements to share the game on Facebook or other social media in order to keep playing. This is important to note, as many freemium games require the player either to wait for some time, or share the game on social media, or pay something in order to keep playing the game and avoid the built-in waiting periods that appear at certain intervals.

If we look at the value chain structure for the balloon game mentioned earlier, the firm is in the center, and upstream there are investors and some freelancers.

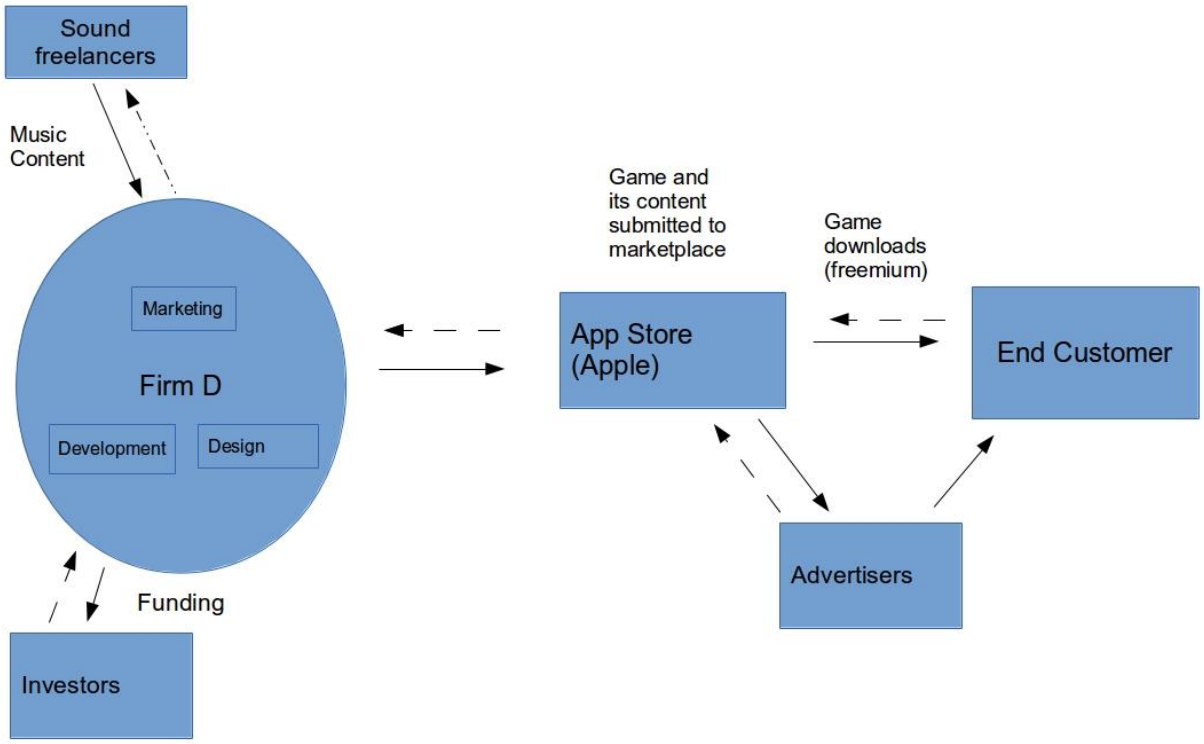

Figure 12. Firm D's balloon game value chain.

The firm hired some freelancers to make the sounds of the game, and these are often employed temporarily on a project basis. The actual development is done in-house by the three developers and the graphic designer of the firm. The CEO mentions investors as a part of the value chain, unlike in many previous interviews of this same thesis. According to him, the operations would not be possible without the investors, for the firm has five full-time employees and a dedicated office. There are some private investors and also some public funding. In addition to funding, it is also mentioned that two of the investors have their offices in the same building, so a communication channel with investors is constantly open. The interviewee also highlights the importance of having a community of startups around the firm since there are various start-up firms, albeit from different industries, working in the same building.

When looking at the downstream part of the value chain, there are only the distributors and the consumers. Currently the firm only distributes its product via Apple, but Google Play and the Android platform are probably also catered for in the future. The balloon game investigated does not have a separate publisher, as does not any game in the related series of small games, but the firm might later look for a publisher for a bigger game. In addition to the core parts who are directly involved in the production of the game the CEO highlights that media also plays a role in the marketing of the game. Media in this context may mean for example different bloggers and game review websites, or other

technology websites. Then there are the customers or the players in the end of the chain.

The interviewee is hesitant to name any specific part of the value chain that creates the most value or that is more important than the other parts. He recognizes that the marketing has to be good, for otherwise the game will not get a fair opportunity to reach the users if for example the game does not reach Apple's ”featured” list. On the other hand, if the game itself is not good enough, it will not become a success no matter how much marketing there is. He finally states that the key to success from the value chain point of view is that the small resources are spent optimally and in a balanced way so that all parts of the value chain are covered sufficiently. He also notes that as there are so few people working together, everyone has an important role in the firm, and that every employee has to work with passion to produce the game so well it can become a success.

4.5 Mobilive

The fifth firm interviewed for the thesis is Mobilive Entertainment Ltd. Oy. I was able to interview the CEO and the major shareholder of the firm, Hasan Alkara. Mobilive was formally founded in 2005 but the operations with mobile games started only in 2010. Currently the firm employs around 20 people, so it is questionable if the firm can be counted as a microenterprise, but since the firm is developing mobile games and the interview produced a great deal of important information, I decided to include it in the study. The work is divided among the employees in the following manner: there are 5-6 developers or programmers, around 10 graphic designers, two producers, two socia media marketers and sound and audio crew, so unlike in other firms of this study, also sounds and music for the games are produced in-house. The CEO is responsible for business development and outside collaboration negotiations and other things alike. Financial administration is outsourced.

The game that was discussed in more detail during the interview is called Death Golf. It is a golf game, published exclusively on the Apple iOS, where the player plays a game of golf, and also moves the golf player around the golf course. In the golf course, there are various hindrances and monsters that the player has to avoid.

The revenue model employed in Death Golf is a mixed model; it is a premium game in the sense that it costs EUR 0.89 or USD 0.99 to download in the App Store. However, there are also in-app purchases, although Alkara says that the revenue mainly comes from the sales of the game itself. Exact percentages are not known. When asked what makes the game attractive, Alkara suggests that the main assets of the game are the challenge it presents, and the lucrative graphics. I also asked about the possible competition, to which Alkara elaborated that there is no mobile game that did not have competing products. However, he continued, all games are usually reproduction of some older idea.

There are also various firms in the mobile industry that copy other games in a straightforward manner, and this, according to his experience, happens especially in China and Russia.

Death Golf has proved to be relatively successful; according to Alkara it has been downloaded some tens of thousands and the game has been featured in Apple's App Store. The game was published around nine or ten months ago, and is still being downloaded in a stable rate. Currently the firm is already working on other projects, and it is not yet decided whether Death Golf will be developed further or not.

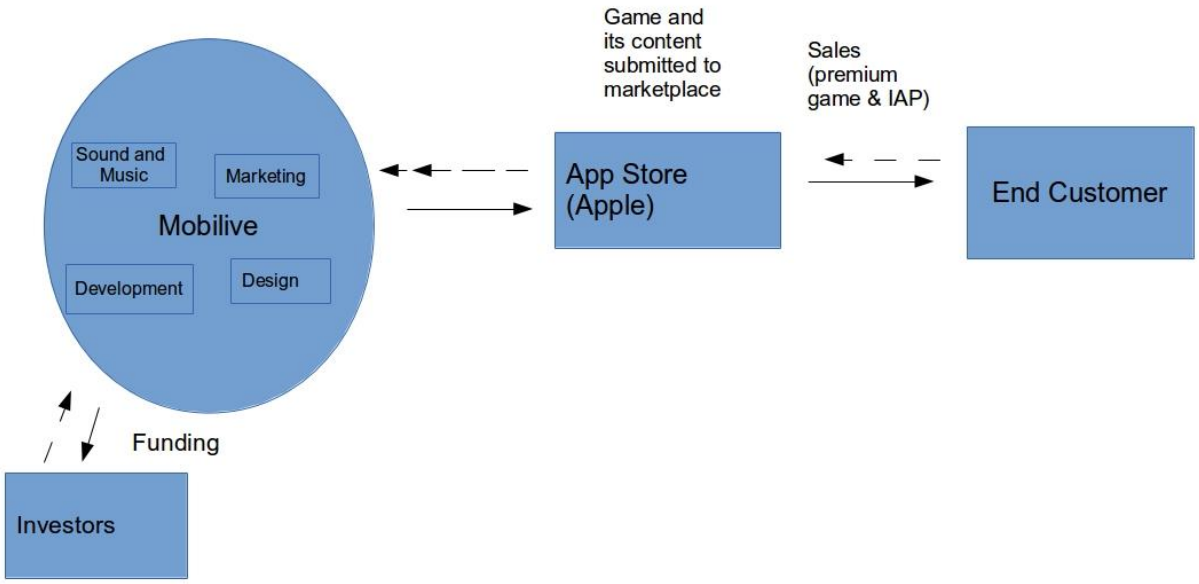

Figure 13. Death Golf value chain.

The value chain of the game is rather straightforward not unlike in the previous games in this thesis. Funding comes from previous projects and their cash flow, as well as from private investors, Alkara himself being the major shareholder. Game development, graphic design, sounds and music are all produced in-house. There is an external publisher, who does most of the marketing, although Mobilive also does marketing through social media and other channels. The publisher is Ayopa Games LLC, a publisher based in the United States. In addition to marketing, Ayopa also handles the distribution of the product through Apple's App Store. The last part in the chain is the consumer who

buys and plays the game.

Value is divided in the following way: Apple charges 30% commission of the sales price and all in-app purchases, whereas the publisher gets something between 30% and 50% of the income that is left after Apple.

When asked about the value formation and about the most important parts of the chain, Alkara brings up the professional skills of the team. The team needs to really good at what they do, be it coding or designing graphics, music or the actual game itself. In addition to the core skills he emphasizes the role of teamwork itself. According to Alkara, there needs to be teamwork that works seamless so that everyone is on board in whatever the team is working with. For the game itself to be good, good team is not enough, but the team also needs to generate innovative insights about what might work and what not. This is often not easy, Alkara explains, as the mobile game industry can be unpredictable. At times the team might think some game does not have any appeal, but once it is put in the App Store, it gains popularity against expectations. Then, on the other hand, Alkara gives the example of Amazing Alex, a game Rovio published after Angry Birds that never took off. Another example Alkara gives about high expectations and below-expectations commercial performance is Supernauts, a game published by Grand Cru, another Finnish mobile games firm.

To test their products, Mobilive employees might go out and test the games with regular consumer, or it might arrange events where people can play a game in a supervised (filmed) environment and later asked for constructive and honest feedback.

Alkara acknowledges that the other half of the value creation and success, in addition to product development, is marketing. He suggests marketing is the biggest challenge in mobile gaming. According to Alkara the best way to make a game known is to succeed in making such a good game that it ”goes viral” as the saying goes. This means that it spreads through social media and word of mouth simply because it is something interesting enough to the general public. Of course there are other ways, and he notes that investing heavily in marketing also works, that is what Supercell did with their hit game Clash of Clans. All in all, Alkara concludes that without significant marketing efforts it is extremely difficult for a mobile game to stand out in the mass due to the sheer volume of games that are being published.

Alkara mentions that a publisher can help a lot with the marketing side, especially because there are so many different medias who to communicate with. He estimates that there are between 100 and 200 online media channels who to inform about a new game. Another important benefit that is important in a publisher is, according to the interviewee, the publisher's relation with Apple. Ideally, the

publisher ought to be in such good terms with Apple that a good game published by the publisher has good chances of being featured by Apple in their store. There are also downsides to having an external publisher, however. Alkara wants to acknowledge that there exist cases where the publisher is not willing support the developer firm after it has gotten enough return for its investment in the form of some success. In these situations, where the game could still be developed and marketed further, but the publisher is not helpful, the developing firm is left in a weak position.

5. ANALYSIS & DISCUSSION

Overall the five interviews were very fruitful and plenty of insights into mobile microenterprises and their value chains, in this case, the value chains of Finnish mobile gaming firms were obtained. This section will highlight the most interesting and relevant findings of the interviews, accompanied with contemplation and comparing with the literature when possible and/or relevant.

5.1 Business Model Analysis

Although also other aspects, such as competitive environment and value proposition were discussed during the interviews, it is the revenue models that seem to provide the most food for thought and also decisions affecting the whole value creation process. The products or games offered by the interviewed firms were downloadable either against a fee (premium game) or for free (freemium game). In addition to the download fee of premium games, firms interviewed monetize mobile games in advertisements or in-app purchases. On the basis of the interviews, advertisements and in-app purchases are usually used more frequently in freemium games, although in some occasions (e.g. Death Golf of Mobilive) IAPs are also employed in a premium game.

The choice of revenue model affects the whole value creation process in a fundamental way. In-app purchases, according to the CEO of Firm D, is a very demanding revenue model, and requires a lot of attention in the product development phase. The game has to be designed with certain built-in ”catches” so that players really want to make purchases instead of simply abandoning the game. Also, a game with IAP revenue model has to be, by definition, something more extensive and more substantial than a small freemium game with advertisements. This demands that significantly more resources, both time and money, are dedicated to the product development process. As many, if not all, interviewees agree, each game is inherently a gamble in terms of success and popularity before it is launched. Therefore directing great amount of resources into a single game can be seen as a big risk. Also, not all firms have the resources such as funding to develop such as game. Therefore they may prefer smaller games with advertisement revenue model. However, the smallest firms in the study, Cornfox and Ifelse Media, both firms of three people, employ revenue models other than advertising, so a straightforward deduction cannot be made. Firm D, on the other hand, has probably bigger resources than for example Ifelse Media, but nevertheless Firm D chooses to develop a big number of games with advertisement revenue model and combine this approach with IAP, by developing also a game with IAP with a longer time span. Also, as brought up by Alkara, IAP can be seen by some as ethically suspicious, as there have been cases in the recent past with children

spending thousands of euros with their parents' credit cards that are linked to the mobile gaming account. On the other hand, Alkara reminded, IAP also presents a great opportunity if a game becomes popular and people want to spend money in the game, because the revenue per customer is not limited by a single download fee, but by the psychological aspects and depth of content of the game. For example, the biggest Finnish mobile gaming firm at the moment, Supercell, makes most of its revenue with in-app purchases in its two most successful games, Hay Day and Clash of Clans. The CEO of firm D noted that in order to succeed with an IAP game, finding a publisher is especially crucial, because the higher risk can be mitigated to some extent with the increased marketing power of publishers, and because IAP games are lucrative to publishers due to their high revenue potential and the revenue sharing agreements that are common in the industry. All in all, all interviewees agree that the trend in mobile games today points towards in-app purchases and of the firms interviewed Firm A, Ifelse Media, Firm D and Mobilive are either using this revenue model or planning to use it in their coming productions.

Advertising revenue model, on the other hand, is not so lucrative for the publishers, explained the CEO of Firm D. This is because of their lower revenue potential and their lower quality or lack of depth in general. On the other hand, advertisements are suitable for even simple games with not so much content of long stories. Games with ads as the revenue model do not have to be designed thinking about integrating revenues into the game, which makes product development easier. Advertisements can, technically speaking, be used in all kind of games. However, there are some cases, such as Sword and Glory by Ifelse Media, where the firm does not want to employ ads, as the game has a strong and authentic visual style and the ads would undermine the visual look of the game, as Moisio put it. Also the CEO of firm D mentioned that placing a full-screen advertisement undermines the gaming experience. According to Firm D CEO, this kind of full-screen advertisements can pay the firm as much as 20 dollars per thousand impressions. A more typical revenue, however, is somewhere around a dollar per thousand impressions. The term to measure the price or cost of advertising is ECPM (=effective cost per mille). Firm D CEO also explained that as not all the advertisement networks target all players, a firm ought to implement various networks simultaneously. The CEO called this a cascade model: if the primary ad network does not have any advertisement targeted to this player, the secondary ad network is activated, and so forth. There are, in the words of Firm D CEO, many ad networks, and they may pay the firm in different amounts and logics. Ads are often not used in premium or IAP games, although there might be combined model in place, in which advertisements are shown until the player purchases the ad-free version (premium game) or make in-app purchases (IAP game).

Premium games are games that cost a fixed sum to download and install. From the game studied in

this thesis, Oceanhorn by Cornfox and Death Golf are premium games. According to Viljamaa, there is an inherent demand for higher quality in a premium game compared to other games, as the customer is from the start expecting value for money. This works also in the opposite way: Viljamaa mentioned that as their team wanted to make a great game and nothing less, the premium model was a logical revenue model choice, because they wanted to create a game while not concentrating on the money making aspects in their product development, as would have been the case with an IAP game. Premium model was a good choice as the high price of the game also communicates high value of the game to the potential customers. On the other hand, a premium game has to be good enough to earn its value.

As a summary, various aspects such as firm's resources and interests and also the type size of game that is planned affect the choice of a revenue model, and the revenue model chosen also affects the game design and other aspects of the value chain.

5.2 Value Chain Analysis

In the beginning of the thesis I set out as the main research question: ”how is value created in online-based microenterprises that sell digital goods”. In the additional questions, I wanted to find out the main value activities in the product value chain of the products studied, the main actors in the chain, and how the value is distributed among the participants of the value chain. The interviews gave a lot of answers and here the interviews are analyzed in the order of the value activities.

The first part, although not often considered as part of the value chain in the traditional sense, is funding. Funding or investors was mentioned by at least CEO of Firm A, Viljamaa, CEO of Firm D, and Alkara. Some of the firms have private investors providing funding, while others get founding through public organization such as Tekes. Some firms do not have any external funding, but get by with the money the owners themself invest in the firm. Funding makes it possible to operate with better resources and have a more complete team to create value more effectively and efficiently. For example, Firm D CEO mentioned that it is extremely important to have the funding for otherwise the operations could not have been started with the same scale.

After the funding there can be identified product development, which can be divided into game design, game development (programming), graphic design, and music and sounds production. Game development and game design are usually the most ”core” activities and in none of the firms these were outsourced. Game design and development were usually done by the same people, the developers or programmers, with the exception of Ifelse Media, where the CEO also participates in game design to a significant extent. CEO of firm D highlighted, that to him it is important to have the

designers and programmer working in the same space to facilitate collaboration. This might be a key reason why development and design are rarely outsourced. In game design, all the interviewees held important that the game ought to be tested with people outside the firm while iterating it and implementing changes and new features, although it was also mentioned that the tests should not dictate the direction of development but rather used as a tool to spot self-evident things that the game makers have become blind to (Alkara, Moisio) and to wake up the developers with some new thoughts (Viljamaa).

Graphic design is something the firms studied tend to do in-house, although some graphic design was also purchased as a service from freelancers by Firm D as well as by Ifelse Media. Music and sounds to the games were the part of product development outsourced most often; only Mobilive of all the studied companies produce their own audio in-house.

Following the product development there is marketing followed by distribution. Marketing of mobile games is a wide subject and probably the scope of this thesis is not enough to cover all aspects of it, but it would make a good subject for further research. Many of the interviewees (Firm A, Cornfox, Ifelsemedia, Mobilive) admit that one of the weakest points in their value chain is marketing. This is partly due to small resources (Firm A, Ifelse Media) or priorization (Firm A, Cornfox) and partly because it is ”just so difficult” as Alkara from Mobilive mentioned. Indeed, there are no universal best practices in marketing mobile games, and developing a new game is always a gamble to certain extent, but a number of practices or factor were identified, however.

Firm D CEO mentioned, that in mobile games, product development and marketing cannot really be separated, but they have to be addressed as overlapping function. The product-development has to be extremely customer-centric and that makes the game more enjoyable and more addictive, which directly affects marketing. This is a two-way relationship; from the marketing side it was already mentioned in the business models section that the selected revenue model has a great impact on how the game is designed. This two-way relationship is also recognized in recent literature about game design and marketing by Hamari and Lehdonvirta (2010). All in all, the consensus at large among the interviewees seems to prevail that testing games as early as possible with authentic, objective players, without educating or instructing them about the game beforehand is an extremely valuable method. Alkara mentioned that in addition to filming this testing, it is important to ask for constructive and honest feedback from the test players. Testing is an easy way to validate the product, but almost all the interviewees (Viljamaa, Moisio, Firm D CEO, and Alkara) highlight the need to be better able to validate game design decisions and move forward to one direction or another.

Key elements in marketing that were identified, in addition to customer-centric product development, are getting to the App Store's ”featured games” list, advertising via other mobile games, developing

a brand, localization, creating a community, and contacting the relevant industry-specific media, such as bloggers and online review sites.

All the interviewees agreed that for a game's visibility in the marketplace it is very important to get featured by Apple. This means that the game will be shown in the correct category screen of App Store, where the products are being bought. If the game is not shown here, it has to be searched using the search function, of it has to be found through some other website that is mentioning the game. CEO of Firm D elaborated, that aligning the game's features with Apple's iOS agenda is important in order to get featured. This means that the game's chances are improved, if it takes advantage of the newest features in Apple's gadget's (iPhone and iPad) and operating system (iOS). Also using Apple's iAd advertising network in the game may help, as well as making a game with good design, as Apple is known as a firm that appreciated design a lot. Of course, as noted by many interviewees (Alkara, Viljamaa, Firm D CEO), if the game is extremely good in itself, it has good chances of getting featured. Additional way to get featured (mentioned by Alkara and Firm D CEO) is using a publisher who has good relations with Apple.

Publisher is mentioned by most interviewees and it can be seen as an important part of the chain if present. Due to small resources of mobile game firms, an external publisher can handle the marketing aspect of the operations to a large extent, as has happened for example with Cornfox and their game Oceanhorn. Oceanhorn is able to focus almost fully on the product development side as their publisher FDG Entertainment takes care of marketing and distribution. Oceanhorn was also localized to many languages other than English by the publisher, which as further boosted the game's popularity for example in Russia and Korea.

Advertising was a somewhat controversial topic among the interviewees. Some value it more than others, but it can also be money spent with low return on investment as was the case with Ifelse Media and their game Sword and Glory. There are various ways to advertise, but all forms of advertising discussed were variations of advertising in other mobile applications. CEO of Firm D elaborated the different options in the following way: an external publisher might advertise the game in the other games they publish, or the firm can spend money on advertisement *per se*, but there are also advertisement networks where a game exchanges referral with other games in the network. An additional option is to do crossover marketing in the firm's other games. For example, Firm D is planning to advertise their small games in their own games.

Distribution is one of the most straightforward parts of the chain. There are three main platforms to publish a game: Microsoft's Windows Phone, Apple's iOS, and Google's Android. Windows Phone is still a marginal platform (Alkara) and therefore is does not make sense to stretch a small firm's already thin resources by publishing for Windows Phone. Alkara also argued that Apple's App Store

in the iOS operating system works far better in business sense than Google Play, which is the app store on Android devices. This, and the commonly known fact in the industry that iOS users tend to generate more revenue leads to the prevalent situation where the first priority is usually iOS platform, and if there are resources and demand, a game may later be published on Android. Of all the five games studied, only Sword and Glory has been published also on Android.

Possible after-sales service and support is operated typically via an email address that ought to be provided in the game's download page in App Store or Google Play. In case there is an external publisher, it usually takes care of player support (Viljamaa, CEO of Firm D).

Something that is not covered explicitly by the value chain figures but that is still an important part of the ”big picture” in the value creation process is the media. Media such as online review sites, influential bloggers and even traditional media such as TV, newspapers and magazines provide a two-way communication channel among all the participants of the value chain and can affect the value formation process in numerous unpredictable ways.

What comes to value distribution in the chain, exact sales figures are difficult to obtain, as firms are not too willing to disclose information. For the value distribution purposes, however, useful information has been obtained, as value is distributed in a relatively transparent way in the chain. Apple and Google charge 30% of the retail price of the games and of any in-app purchases. Therefore, the firm get 70% of the sales revenues should it not have an external publisher. If there is a publisher, it usually takes somewhere between 30% - 50% of the revenues that are left after Apple's or Google's share (CEO of firm D, Alkara). If there are any freelancers, they are usually paid a compensation that is not linked with the amount of revenues the firm gains. If the game is monetized with advertisement revenues, a more detailed breakdown of revenues is difficult to provide as the advertising fees vary by networks. Usually in these cases there is no external publisher, as mentioned earlier.

Now that the research questions have largely been addressed, it is time to also link some of the findings with the literature. As large part of the existing value chain and e-commerce literature does not address online micro-enterprises, this proves to be difficult. However, Rayport and Sviokla's (1994) value proposition decomposition into content, context and infrastructure can also be said to apply in the mobile games industry. Apple is able to capture a large part of value (30%) by practically owning the infrastructure (iPhones, iPads and iOS) and context (App Store) of the industry. Of the five revenue models recognized by Laudon and Traver (2011), advertising and sales are applicable to the case firms, and subscription, transaction fees and affiliate revenue are not present. In a way, however, Apple and Google could be stated to be utilizing the transaction fee model, as they play the part of an online marketplace. Hamari and Lehdonvirta (2010) highlight the symbiosis of game design and marketing, which was confirmed also by the interviewees. Virtual item sales (in-app purchases)

seem to be an important revenue model as part of the sales model, which is aligned with Lehdonvirta's research (2009).

To conclude the analysis, I want to note that an enormous amount of data was produced by the interviews, and therefore part of the findings and analysis are overlapping, but not everything. There is still a lot of valuable information that was obtained in the interviews, but did not fit on the paper. This does not diminish the value of the empirical work, however.

The following part concludes the thesis and summarizes what has been discussed on the last 80 or so pages, and provides a summary of the main findings, theoretical and managerial implications as well as limitations of this study, and finally, some suggestions for further research.

6. CONCLUSIONS

Main Findings

The main findings of this study are more practical than theoretical. In this study I identified the value creation activities that are involved in the creation of digital product, specifically mobile games. The main activities are sound and audio production, graphic design, game design and development, marketing through various channels, and distributions. The main actors are various freelancers in the upstream of the value chain, in-house operators in terms of game design, development, graphic design, business development and marketing, and downstream actor in the form of publishers, Apple or Google and finally the end customer. It is also important the role of various media such as game review websites and blogs.

Also business models and especially revenue models of mobile games were identified. They are freemium game, in-app purchases, advertising, and premium game.

The value is captured in following proportions. Apple or Google captures 30% of a games retail price and in-app purchases, whereas a potential publisher captures approximately 30% - 50% of the revenue that is left after the distributor, which translates to 21% - 35% of the total revenue. The rest is captured by the mobile game development firm, which has to subtract salaries and other operating expenses.

Theoretical and Managerial Implications

The theoretical implications of this study are twofold. On the one hand, no substantial new theory was created or tested. On the other hand, however, this thesis provides plenty of ideas for subjects of study in the future related to mobile games and online microenterprises in general.

The managerial implications are the following. There are no clear best practices for a successful mobile game project, but some useful activities could be identified, especially related to marketing and product development. These are more explicitly described in the analysis section, but in short they are customer-centric product development, getting to the App Store's ”featured games” list, advertising via other mobile games, developing a brand, localization, creating a community, and contacting the relevant industry-specific media, such as bloggers and online review sites.

Limitations and Suggestions for Further Research

The limitations of this study are extensive. Firstly, only five firms and five games were studied so it is questionable how far these findings are generalizable. Secondly, as no relevant academic literature has not yet been product specific to this niche, the thesis relies heavily on the empirical findings and my own understanding of the mobile games industry. Thirdly, as the research problem and questions were formulated using gap-spotting rather than problematization, specific and concrete utility of this thesis is not necessarily as high as it could have been were problematization used in research problem formulation.

What comes to suggestions for further research, there are plenty of options and alternatives. Many of the interviewees mentioned mobile game validation processes as something they need more information about. Perhaps this is not the domain of business studies, but some other discipline. However, mobile games marketing is one topic that is largely not researched yet, and many firms could use academically produced information on mobile games marketing, specifically formulas of what kind of marketing strategies suit what kind of products and firms. Also the revenue models of mobile games provide an interesting ground for exploration. If we keep the focus on value creation and value chains, value distribution could be studied more accurately, but this requires access to company-specific financial data. Also a mixed methods study would probably be welcomed, perhaps relating to mobile games advertising and the advertisement revenue value formation and value capture.

The existing value literature concentrates on measuring value generation with purely financial measures, such as revenue, costs, profit, and value added as a function of these. However, with online business it can be rather problematic to use only financial measures, as what generates the revenue is often only a certain product or service being offered by the firm. This forms the *exchange value*, as coined by Bowman and Ambrosini (2000). Nonetheless, customers often also enjoy other benefits from the firm, such as free content offered on their website, or a trial version of a software, or some other piece of value the firm has produced. They might not even buy anything, but might get familiar with the products offered and then recommend the products to their friends of family. This was already noted by the interviewees, since some of them acknowledged the need to build a brand and therefore offer free games (Firm D CEO).

This implies including the user or customer perspective on value. How, then, can this be done in reality? At first, it appears a rather distant aspiration to be able to measure the use value of an online product or service. After all, use value is perceived, entirely subjective and ever-changing along with the customer's mind.

Fortunately, there exist some methods for doing this. The time a user spends on a single web page, or playing a mobile game, is something that can be measured. This can be done by various web analytics tools, such as Google Analytics, or mobile analytics tools such as Flurry (Alkara, Moisio, Firm D CEO).

Additionally, in online business the volume of products sold and thus also revenue can change rapidly with minor changes – either internal and intentional done by the firm or external – to some details: marketing, sales page of the product being offered, advertising, free online content offered on the firm site or somewhere else on the web, publicity on other sites or offline, such as in TV or the newspaper, and so on.

These changes often contribute either negatively or positively in the overall user / customer experience instead of the actual product being sold, as termed by the market-oriented and co-creation view (Helm and Jones, 2010; Prahalad and Ramaswamy, 2000 and 2004). Therefore, it can be stated that these kind of changes to details other than the product being sold affect the *(perceived) use value* of the product, and not always directly to the *exchange value,* using Bowman and Ambrosini's (2000) terminology.

Consequently, I argue that a more holistic approach ought to be employed when researching the value creation and distribution of online (micro) businesses. An external, rather than internal value chain analysis should be conducted (Crain and Abraham, 2008).

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APPENDICES

Appendix 1. B2C e-commerce business models.

Business Model	Variations	Examples	Description	Revenue Model
Portal	Horizontal / General	Yahoo, AOL, MSN, Facebook	Offers an integrated package of content, content-search, and social network services: news, email, chat, music downloads, video streaming, calendars, etc. Seeks to be a user's home base	Advertising, subscription fees, transaction fees
	Vertical / Specialized (Vortal)	Sailnet	Offers services and products to specialized marketplace	Same
	Search	Google, Bing, Ask.com	Focuses primarily on offering search services	Advertising, affiliate referral
E-tailer	Virtual Merchant	Amazon, iTunes, Bluefly.com	Online version of retail store, where customers can shop at any hour of the day or night without leaving their home or office	Sales of goods
	Bricks-and-Clicks	Wal-Mart, Sears.com	Online distribution channel for a company that also has physical stores	Same
	Catalog Merchant	LLBean.com, LillianVernon.com	Online version of direct mail catalog	Same
	Manufacturer-Direct	Dell.com, Mattel.com, SonyStyle.com	Manufacturer uses online channel to sell directly to customer	Same

Business Model	Variations	Examples	Description	Revenue Model
Content Provider		WSJ.com, Sportline.com, CNN.com, ESPN.com, Rhapsody.com	Information and entertainment providers such as newspapers, sports sites, and other online sources that offer customers up-to-date news and special interest how-to guidance and tips and / or information sales	Advertising, subscription fees, affiliate referral fees
Transaction Broker		E*Trade, Expedia, Monster, Travelocity, Hotels.com, Orbitz	Processors of online sales transactions, such as stockbrokers and travel agents, that increase customers' productivity by helping them get more things done faster and more cheaply	Transaction fees
Market Creator		eBay, Priceline	Web-based businesses that use Internet technology to create markets that bring buyers and sellers together	Transaction fees
Service Provider		VisaNow.com, xDrive.com, Linklaters BlueFlag	Companies that make money by selling users a service, rather than a product	Sales of services

Business Model	Variations	Examples	Description	Revenue Model
Community Provider		Facebook, MySpace, Twitter, iVillage	Sites where individuals with particular interests, hobbies, common experiences, or social networks can come together and "meet" online	Advertising, subscription, affiliate referral fees

Source: Laudon and Traver, 2011.

Appendix 2. Interview Guide Questions

Organization

Could you briefly introduce yourself and the firm?

How many employees are there in the firm?

What are their roles?

Where are the employees situated geographically?

Business Model

Could you tell me what your game is about?

Where does the money come from?

Value proposition: what makes the customer download the game instead of competitors' games?

What is your target market and how large is it?

What kind of experience do you think is required from the employees of the firm in order for the game to be successful?

Value Chain

If you start from scratch, which players or entities are involved in the production, marketing and distribution to the customer?

What parts of the value chain / which functions are done in-house, and which are outsourced?

How does the product development process work in this game?

How are the customers taken into account in the product development process?

How is the game being marketed?

How is the game being distributed?

What support or after-sales functions do you utilize?

Which parts of the value chain product the most value in your opinion?

Which parts of the value chain are irreplaceable? Which cannot be taken away?

What would you like to find out about the subject yourself? What do you think would be important to study related to this research topic?