Envelopment and Disenvelopment as a tool for profitability growth.

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ABSTRACT: In a market economy, based on the principles of free enterprise and diversity of ownership, companies tend to occupy a niche in the market and to secure a sustainable competitive advantage. The appearance on the market of new players that change the rules of the game, with new strategies and business models, as well as the development of revolutionary technologies, forced companies to seek the measures to stay competitive, and therefore a business model innovation became an essential part of the platform company existence.

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Keywords
Business model Innovation; Value Proposition, Platform Markets, ICT, envelopment, Electronic Arts, Disenvelopment, Portfolio

7th IBA Bachelor Thesis Conference, July 1st, 2016, Enschede, The Netherlands.

1. INTRODUCTION

1.1 Current situation

A special type of markets, platform markets or so-called two-sided platforms, are selected as a research subject in this study. At the first glance, any market is two-sided: on the one hand - the buyer, the other - the seller. However, a number of markets falls out of the traditional schemes and differs in that the seller in this market operates with two different groups of buyers and provides different products for each group of customers; wherein one group of customers demand significantly affect the demand from the second group, and vice versa. The seller in such market acts as a platform, connecting the two consumer groups. (Rochet & Tirole, 2004)

Currently, the literature has not formed a unified approach to the definition of "two-sided markets", scientists agree that these include for example media markets, both traditional and online auctions, the industry of payment cards; However, clear criteria according to which the market can be called two-sided is undefined.

Organizations which, through the platforms of different products, services, or networks act as intermediaries and combine groups of participants in the multilateral markets are called two-sided platforms. Platform serving the bilateral and multilateral markets are not entirely new. However, mainly due to the development of the Internet and related technologies in the ICT industry such as Google, Yahoo, Facebook and Amazon, two-sided platforms became spread phenomenon (Peitz, Waldfogel, 2012, Eisenmann, Parker, Van Alstyne, 2006).

The Scientific basis for the research in the field of two-sided platforms was established in the early 2000s by a number of European and American researchers (Thomas Eisenmann, Jean Tirole,Marshall Van Alstyne,Jean-Charles Rochet). But factors such as the significant complexity of describing the behavior of platforms and new economic and social patterns such as network effects showed that the research in this area is at its early stage. The work of Eisenmann et al, 2010 introduced a new concept – "platform envelopment", referring to one platform provider moving into another one's market combining its own functionality with the target to form a multi-platform bundle. In other words platform envelopment strategy means the expansion of market niches. User Databases of different platform companies often intersect, therefore one provayder may try to envelope another platform on order to capture the market, especially when the competitor includes the same functionality of the platform. Envelopment can be considered as successful if users of the platform that has been attacked decide that similar competitor platform side provides more functionality at a lower total cost, and attacked platform provider can not reply to offer of the compatitior.

1.2 Problem Statement and Research Question

According to Stabell & Fjeldstad (1998) platforms represent one of the elemental configurations through which firms create value. Taking into account the importance business model innovation as well as the role of the envelopment in the platform markets discussed above and lack of scientific research in this field, the goal of this research is to gain more insights and increase understanding on how envelopment occurs, when firms decide to envelop, in which markets, and what is the underlying logic of the value creation in the ICT industry.

Following the discussion the goal of this research is to answer the following question:

How do digital platform companies innovate their value proposition over time in the pursuit of revenue growth?

The value propositions of the Electronic Arts released in the timeframe from 2006 to 2011 will be analyzed in order to detect strategic decisions of the company and compare it to the generated revenue as a key performance indicator.

1.3 Why Electronic Arts?

In today's world, the creation of video games is one of the largest segments of the entertainment industry. Today the games market is the largest segment of the global market of digital content (Vogel, 2014). The company Electronic Arts Inc. (EA), is a world leader in the field of interactive entertainment software. Founded in 1982, the company develops, publishes, and distributes interactive software worldwide for video game systems, personal computers, mobile devices and the Internet. Electronic Arts markets its products under the brands of EA SPORTS ™, EA ™, EA SPORTS BIG ™ and POGO ™. Within such a dynamic industry gaming publishing company has to innovate their business model in order to stay competitive, moreover in order to keep up with the technology progress and expend their user base, envelopment can be considered to be as an essential part of the existence of such a company. Being at the mature state, generating billions of dollars in revenue each year, being able to attract a huge audience and to stay competitive within the industry for more than 30 years, Electronic Arts is considered to be a suitable case study within ICT platform companies.

1.4 Research Gap Or Relevance?

Most studies on multi-sided or platform markets (Rochet, Tirole, 2003; Armstrong, 2006; Caillaud, Jullien, 2003; Evans, Schmalensee, 2007) are aimed at identifying and solving problems such as an optimal pricing policy, address the main strategic objectives of platform organizations and discuss a set of critical mass of users necessary for the functioning of the platform. However the question of how envelopment occurs in platform companies and what is the underling logic of the value creation is still considered to be open and requires more research.

1.5 Outline of the thesis

The following sections of this work are structured as follows. After introduction, the theoretical background, whereas main concepts and theories about platform market, envelopment and business model innovation, is introduced. Further methodology in terms of how data was gathered and analyzed, company

choice, and methods of estimating growth and profitability of the company is explained. Following Analysis part will discuss type of portfolio, and how platforms changed over the time in order to archive profitability growth.

2. THEORETICAL BACKGROUND

In order to be able to answer for the research question, key concepts of platform markets, business model and innovation will be defined in the following. Moreover, envelopment has an important role in this research.

2.1 Platform markets & Envelopment

In order to study Platform companies within this research, a general definition of platforms and envelopment is required and will be discussed in the following.

2.1.1 Platform markets

Suarez, F. F., & Cusumano, M. (2009) defined a platform as a set of common components and a general design or architectural "blueprint" that supported product variations and extensions through part substitution and part extension. Later Muller et al. (2011) described platform as a combination of elements like an operating system or physical components. Furthermore, Hagiu and Wright (2011) proposed that goods and services that connect a group of users in two-sided (or multi-sided) markets are called platforms.

Such platforms provide the infrastructure and regulations to facilitate the interaction between the two groups, and may take a different shape (Eisenmann, T., Parker, G., & Van Alstyne, 2006). Two-sided markets are present in the various sectors and share market space with traditional products and services. However, they are fundamentally different from other markets. In the traditional supply chain, value moves from left to right: Left - costs Right - revenue. In the two-sided markets, costs and revenue are on the left and right, so that the platform has a special user groups on each side. The platform carries costs and can make a profit serving both groups, although one of the parties, is usually subsidized. The main condition for the existence of two-sided platforms are multilateral markets and the presence of two or more different user groups, which are servicing an organization (Rysman, 2009; Eisenmann,Parker, Van Alstyne, 2011; Hagiu, Wright,2011).

The attraction of two distinct groups together economists call network effects (Eisenmann, Parker & Van Alstyne, 2006; Rochet & Tirole, 2003). The network effect is the cornerstone of the platform development. The essence lies in the fact that the value for the consumer platforms increases with the number of customers. For each platform, there is a critical mass of users that is needed to attract users of other(s) type(s) (Parker & Van Alstyne, 2005). For example, video game developers create games only for platforms with a certain critical mass of players as compensation for the costs incurred in the programming they need fairly extensive base of customers.

2.1.2 Envelopment

A rapid growth of information and communication technologies (ICT) played a special role in the creation of a large-scale, powerful platforms such as Google, e-Bay, Amazon and etc., moreover, ICT greatly expanded the opportunities for potential applications for multi-sided platforms, and dramatically increased the availability of products and services provided by these platforms for clients (Kramer,Jenkins,Katz, 2007). Most recently, technological platforms have been found to operate within even larger networks also known as ecosystems (Adner and Kapoor, 2010).

In order to be able to analyze digital platform companies, a deeper understanding of ecosystem is required. Fransman (2010) has created a model of the ecosystem, whereby he categorized the ICT ecosystem in four hierarchical layers: 1) Network Elements, 2) Converged Communication and Content Distribution Networks, 3) Platforms,Content and Applications, 4) End Customers. Within this model, layers 1) and 2) serve as vital foundation, layer 3) is where envelopment occurs and layer 4) is seen as a final product delivered to the customer. Moreover in order to be able to classify value propositions of the digital companies more extensively, the software product classification (SPC) developeded by Zahavi and Lavie (2009) will be combined with the 4 layers framework by Fransman (2010) as proposed by Muller (2015). In the updated ICT-layer model, Platforms, Content and Aplications are recognized as independent layers. Table 1 represent the adopted ICT-Layer model.

Layer 1	Devices
Layer 2	OS
Layer 3	Network
Layer 4a	Platforms
Layer 4b	Content
Layer 4c	Applications

Table 1. Adopted ICT model.

Putting platforms,content, and applications as a self-sufficient layers will help to classify and shed the light to what kind of envelopment that caused growth occurred in the analyzed company. Eisenman at al (2010) identified three types of possible typology of envelopment attacks. which are "complements" (type I), "weak substitutes" (type II) and "functionally unrelated" (type III).

In the platform markets due to the strong economies of scale, it appears that single firm dominates each layer. Eisenman, Parker, Van Alstyne (2006). Such a firm usually holds the control over the technology and generates the greater share of the industry profits. The envelopment of compliments can be seen as an action of expansion of the dominant firm's core activity by creating value for other platforms.

"Weak substitutes" envelopment type follows the same logic as complements envelopment attack however the new product can threaten the dominant core activity to some extent but will not be able to replace it due to shared affiliates. Henderson & Clark (1990) stated that in order to overcome entry barriers, new platform providers have to offer revolutionary functionality.

Therefore opposed to types I and II, "functionally unrelated" type strives to create functionally unrelated platforms whereas affiliates can be shared or self-reliant. Such an envelopment can lead to the economies of scope, therofore can be seen as the way for the platform diversication (Eisenmann, Parker & Van Alstyne, 2011).

2.2 Business model & Innovation

In recent studies in the field of management, the business model is one of the most actively studied areas. Interest in this issue is primarily due to business's needs in a holistic understanding of its activities, the whole spectrum of mechanisms that are used to create and offer value to the consumer, as well as the extraction of income from this activity.

2.2.1 Business Model

The growth of interest in the study of business model (BM) is largely associated with the proliferation of the Internet and, more broadly, increase in emerging markets and significant growth of industries and companies in the end of XX - beginning of XXI century (Zott, Amit, Massa, 2011). Business practice not only demonstrates the active use of different business models but also requires an explanation of this phenomenon and develop appropriate criteria for assessing the success of the business models.

The business model relates to the number of new concepts of modern entrepreneurship and strategic management. Despite some progress over the past decade in understanding the concept of the business model and the growing interest in the subject, there is no common view on the definition of the term and the concept of the business model.

Summarizing the literature about business models, the one can be seen as a set of interrelated strategic decisions, which determines the creation, capturing, and delivery of value by the firm. (Stewart & Zhao, 2000, Amit & Zott, 2001; Chesbrough, Rosenbloom, 2002; Shafer, Smith, Linder, 2005).

The business model should explain how the firm generates revenue streams and profits. Revenue streams in the organization raise in exchange for the value offered by the company (Mahadevan, 2000; Shafer, Smith, Linder, 2004). The proposed value is a reflection of the characteristics of the products and services that create value for the customer, for which he is willing to pay (Porter, 2005; Amit & Zott, 2001; Chesbrough & Rosenbloom, 2002). This value proposition is not an abstract process but is aimed at meeting the needs of specific customers and specific market segment (Stewart, Zhao, 2000; Chesbrough, Rosenbloom, 2002; Mahadevan, 2000; Morris, Schindehutte, Allen, 2005).The process of the value creation is realized through defined relationships with partners and suppliers, and allocation of those activities, which the company will carry out itself, from those that will be implemented by other companies within the value network (Osterwalder, Pigneur, Tucci, 2005; Shafer, Smith, Linder, 2004).

2.2.2 Business Model Innovation

Innovative business model allows the company's management to determine the ways and methods of commercialization and implementation of their technology and ideas. The choice of a business model affects the payback elements such as the possibility of a successful return on investment, the time during which production reaches the desired volume, the volume and profitability of the distribution of income, and risks between the different actors on the stage of commercialization and implementation. There are many examples of companies from the world's practice that have successfully entered the market using innovative business models. Companies like Facebook, FedEx, Amazon, Skype, IKEA, Southwest, eBay and others did not set a goal to surpass competitors in the already mature market, but offered an innovative approach of offering similar products and services. According to Chesbrough (2007) innovative companies can no longer be based solely on technology as their development becomes more and more expensive, and the product life cycle shorter. Therefore the business model should be one of the key sources of innovations in the company. Ones of the most important components are considered to be: value proposition, target market segment, the spread value chain structure, income-generating mechanism, the company's position within the value network and competitive strategy.(Chesbrough, 2007).

3. METHODOLOGY

In an attempt to capture how value propositions have changed over the time and in order to shed the light on the envelopment as a new concept within ICT industry, it is necessary to conduct a content-based study in the form of press release analysis. In the following chosen case company, data collection, data analysis, and testing for growth and profitability will be discussed.

3.1 Case Company: Electronic Arts

Electronic Arts (EA) is an American company, which is engaged in the publishing, development and distribution and of gaming software for various gaming platforms. The company's headquarters are located in Redwood City, California. Electronic Arts was founded on May 28, 1982, by Trip Hawkins and became one of the first companies in the gaming industry. EA's portfolio of brands covers all kinds of genres (strategy, shooters, action games, simulators, racing), and includes a self-developed games (wholly owned), and acquired from third parties and distributed under license (Licensed).

The main platforms on which EA games focused are game consoles by Sony, Microsoft and Nintendo, personal computers (PC), mobile devices (smartphones, tablets, readers) and social networks (Facebook).

There are two ways how EA generates its revenue, the fist one is in the form of Packaged Goods – software distributed physically, and second one is the distribution od the Digital content- Game Downloads, Add on content, Advertisement, and Mobile applications. It appeared to be that the main development strategy of Electronic Arts is to concentrate their development and production on the sequels of the most successful series games, thereby take an advantage of already established user base and game recognition.

3.2 Data Collection

The main objective of the data collection was to capture all value propositions generated by EA in the timeframe from 2006 to 2011. By analyzing 1707 press releases, derived directly from the Electronic Arts official website, and with the help of Factiva- an online source of information that captures all press releases and blog posts, a total of 520 new value propositions were extracted and categorized. Having both internal and external sources of information lowers the probability of missing created value propositions, thereby increasing reliability.

3.3 Data Analysis

In order to be able to proceed with the gathered data, categorization was an essential step in the process.

Firstly, direct information about the value propositions have been extracted from the press releases. Such information contains, launch name, company name, product name, product version, product type and customer classification. (see appendix A)

Secondly, product/service categorization helped to determine whether value proposition is a product launch, a new version of an already existing product, was it launched with partners and launched in a platform or a bundle. (see appendix B)

Thirdly, Software Classification introduced by Zahavi & Lavie (2009) was performed. This classification is based on the extensive software taxonomy and helps to detect in which markets the company is active and to which it enveloped into. (see appendix C).

Furthermore, in order to understand the ecosystem in which company operates, updated ICT layer model based on the Fransman (2010) introduced earlier was a fourth step in the categorization process. (see table 1)

After categorization of the data was complete, all value propositions were placed in the 4c layer of the updated ICT layer model, therefore in order to be able to capture how Electronic Arts innovate their value proposition over time, and to illustrate differences and dynamics, it was decided to use gaming platforms as a more detailed classification therefore treat those platforms as more detailed classification within Fransman (2010) layers. Table 2 illustrates updated application layer.

Web	Gameboy	Xbox	PlayStation2
Mac	PC	Xbox360	PlayStation3
PSP	Nintendo DC	Wii	Android/iOS

Table 2. Updated application layer

3.4 Testing for Growth and Profitability

In an attempt to capture how innovation of the business model, by the mean of envelopment and/or dynamics in the markets served, affects Electronic arts, key performance indicators such as revenue and EBITDA margin are used. Revenue serves as a measure for growth, while EBITDA margin coefficient show the profitability and efficiency of the company. Graph 1 illustrates the revenue and EBITDA generated by Electronic Arts from 2006 to 2011.

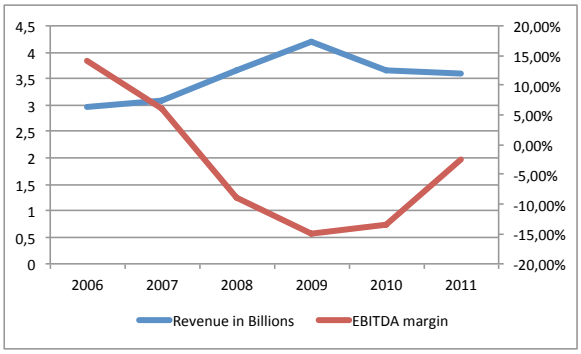

Figure 1. Revenue and EBTDA margin of EA

The growth of electronic arts is captured from 2006 with 2,951 billions and reaching its peak in 2009 with the 4,212 billions in revenue. Slow drop can be observed in 2010 and 2011 but overall company shows a relatively steady performance without strong fluctuations.

By taking a look at the figure 1, it is possible to observe a pattern: while the revenue goes up, the EBITDA margin goes down, both reaching its highest and respectively lowest point in 2009.

For Electronic Arts, being a mature company, negative EBTDA margins may signal for financial difficulties and for higher operational expenses, and therefore may indicate less successful operations performed by the company.

Furthermore, figure 2 represents EBITDA margins of the main competitors of Electronic Arts in the video game publishing industry. Electronic arts was not doing well comparing to the benchmarks established by its peers. Activision Blizzard has generated only positive margins, while Take Two Interactive was less profitable during the timeframe period. Moreover both companies followed the same pattern of fluctuations in the generated margins. For all three companies the least profitable year was in 2009 and growth can be observed for 2010 and 2011.

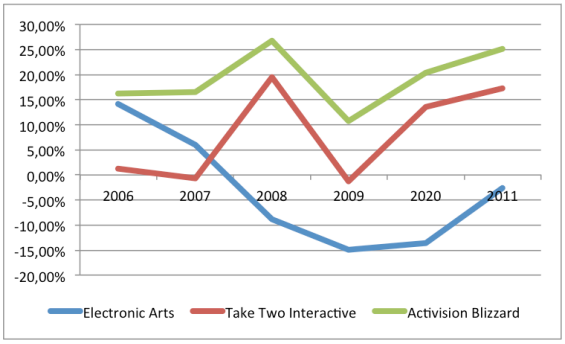

Figure 2. Profitability of gaming companies

After getting familiar with the growth and profitability indicators and the performance of the company over the years assessed upon them, the following section will try to capture an envelopment that has been carried out and how Electronic Arts has innovated their business model over time with the respect to before mentioned financial indicators..

4. ANALYSIS

4.1 Focused or dispersed, does it matter?

In the pursuit of getting more insights on how ICT companies innovate their value proposition over time, 520 new value propositions of Electronic Arts, extracted from press releases were analyzed. Figure 3 shows in how many markets EA operated, number of core markets, number of markets enveloped, and number of value propositions released respectively to years within epy set timeframe.

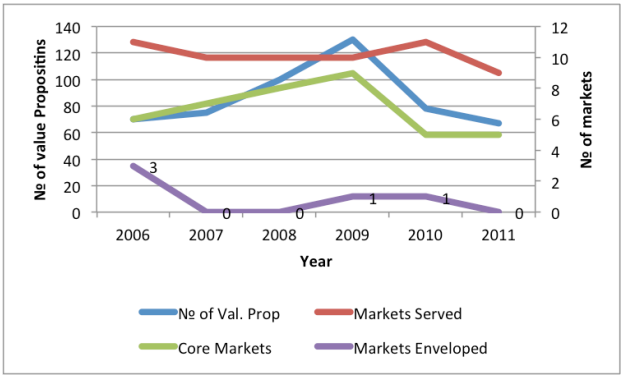

Figure 3. Envelopment, Markets served, Core markets and number of value propositions

By taking a look at the performance of the company thorough out the years, it is possible to capture the Type I envelopment, envelopment of compliments. Electronic arts enters new layers by bundling their product with existing platform, e.g. gaming platform. Company operates based on the production of games for existing gaming platforms such as Playstation, Xbox, Wii and so on, therefore, envelopment usually occurs with the introduction of new gaming platforms, which create new markets for the game developers. Envelopment is in this case is essential in order to keep up with the technology progress and by that mean stay competitive within the industry.

Furthermore analysis of the market presence can help to gain some insight behind the logic of the value creation. According to Zahavi & Lavie (2009) markets can be classified into three types – core (more than 5 value propositions per year), intermediate (between 2 to 4 value propositions), and experimental.(1 value proposition). Classification of markets will show a bigger picture about the company's strategy and will help to capture whether EA had Dispersed or Focused portfolio, and how it changed over the time. The portfolio is classified as Focused if the percentage of the core markets for the respective year is more than fifty. Correspondingly, the Dispersed portfolio is the one where the sum of intermediate and experimental markets is more than fifty percent.

In 2006 EA performed the highest rate of envelopment by brining their products to three new markets. Two of those markets are intermediate with 4 and 3 value propositions respectively, and third enveloped market considered being experimental with only one value proposition. From a total of 11 markets served whereas 55% core markets, 36% intermediate, and 9% experimental, the conclusion can be made that in 2006 Electronic arts had a dispersed portfolio.

From 2007 and 2008 there were no markets enveloped. In 2007 from a total of 10 markets there were 7 core markets (70%), 2 intermediate and 1 experimental, respectively in 2008 from the total of 10 active markets, 8 markets were core (80%) and 2 markets considered to be experimental (20%). The portfolio of the EA has moved from the dispersed to focused.

2009 was the year when EA entered a new market by launching one product for the IOS platform. By only brining one value proposition this market was experimental. Portfolio stayed focused for the respective year with 10 active markets, whereas 9 are core and 1 is experimental.

In 2010 Electronic arts also enveloped one market, creating the app for the android platform. From the total of 11 markets 5 were core (45%), 5 intermediate (45%) and 1 experimental (10%), portfolio moved from focused back to the dispersed.

2011 no envelopment was captured, presence was in 9 markets with 5 core markets, 3 intermediate, and 1 experimental classing portfolio as dispersed.

Year	Type	EBITDA	Revenue
2006	Dispersed	Growth	Decline
2007	Focused	Decline	Growth
2008	Focused	Decline	Growth
2009	Focused	Decline	Growth
2010	Dispersed	Growth	Decline
2011	Dispersed	Growth	Decline

Table 3. Type of Portfolio and Financial Indicators Representation.

After type of portfolios for the established time has been identified, the movement from focused to dispersed can be analyzed with the help of financial indicators.

Does type of portfolio matter? Based on the observation assumption can be made that the choice between focused or dispersed portfolio seem to impact the financial indicators. Dispersed portfolio might affect Electronic Arts in the positive way in terms of Profitability but slower company's growth. In the opposite way Focused portfolio correlates with the lower financial indicator, therefore decreases profitability, but can be accompanied with growth.

4.2 Leveraging layers as an underplaying logic of value creation

In the previous section it was identified that within the case company, type of portfolio seems to be related with the profitability, therefore in order to be able to generate profit and stay competitive within the industry, company has to innovate their business model and adjust to the dynamics in the markets to which they sell their product.

To gain more insights of the how platforms change over the time in order to increase profitability, the change in the dynamic of layers has been observed and analyzed. In order to be able to capture changes in the business model time frame has been

divided in two periods; a period of decline in the profitability (2006-2009) and a period of growth (2009-2011).

Figures 4-7 represent the percentage of value propositions adopted for various platforms over the time.

Figure 4 shows the dynamic of the main platforms such as Xbox 360, Playstation3, and PC. All platforms considered being the main source of revenue for the EA (ea report). Playstatioin 3 being an enveloped platform, moved from being intermediate to core market for the electronic arts and since 2006 showed a rapid and constant growth moving from 5,71% to 80,6% of all generated value propositions. Taking a look at the PC, the trend of decline can be observed from 2006-2009, during this time EA was more concentrated on the creation of value propositions for gaming consoles rather than personal computers.

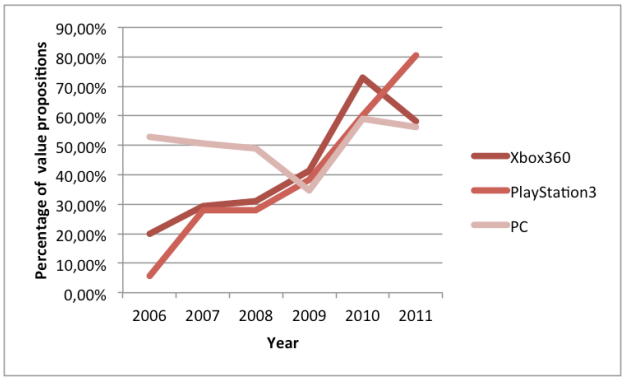

Figure 4. Percentage of value propositions Xbox360, Playstation3, PC

Next figure 5 shows how previous generation platforms like GameBoy Advance, Xbox, and Playstation 2 move from core to experimental markets and at the end eliminated from the portfolio. Such an action can be seen as platform disenvelopment referring to the one platform provider quitting another platform market. The best example to show the process of platform disenvelopment would be to take a look at the slope for Playstation2. With the introduction of Playstation 3 in 2006 EA started the process of eliminating Playstation 2 from the portfolio. In 2006 and 2007 Playstation2 still stayed the core market, the rapid drop can be observed for 2008 and in 2009 market became intermediate. In 2010 and 2011 the number of value propositions were kept to the minimum. Gaming consoles like Xbox and Gameboy Advanced showed a decrease in the value propositions and by 2009, the profitability growth period, were fully excluded from the market portfolio of Electronic Arts.

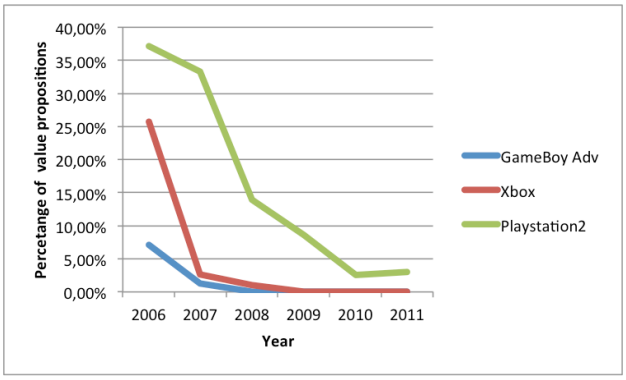

Figure 5. Percentage of value propositions for Gameboy, Xbox, Playstation2

Further, PSP, Nintendo DC and Wii platforms, represented in the figure 6, share one common characteristic. These platforms most of the times require the development of unique videogames that can not be adopted for different platforms due to specific functionality. Therefore in order to cover the cost of development and productions of such games, company has to sell a lot of created new value propositions. In the period of decline all platforms considered to be core, however they turn into intermediate and experimental during the period of growth.

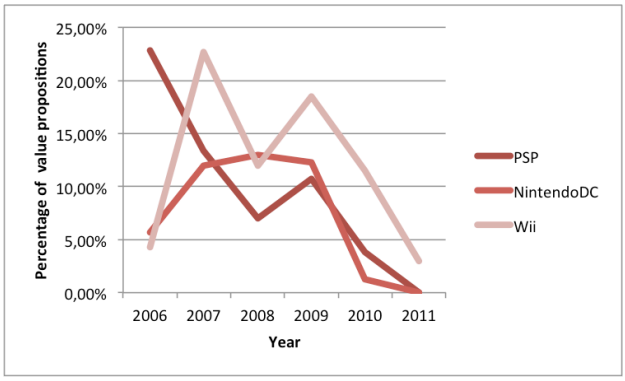

Figure 6. Percentage of value propositions PSP, Nintendo DC, Wii

The last group of platforms, illustrated on the figure 7, includes web, mac and two enveloped markets - ios and android. The percentage growth pattern is captured within the growth profitability period. EA realized importance of the mac platform and moved it from intermediate market to core, by taking advantage from Macintosh user base and low competition on the market. Also attention has been given to the creation of online games for the web platform, moving it from experimental to intermediate. By taking a look at the enveloped markets slow growth can be observed classifying them as experimental markets.

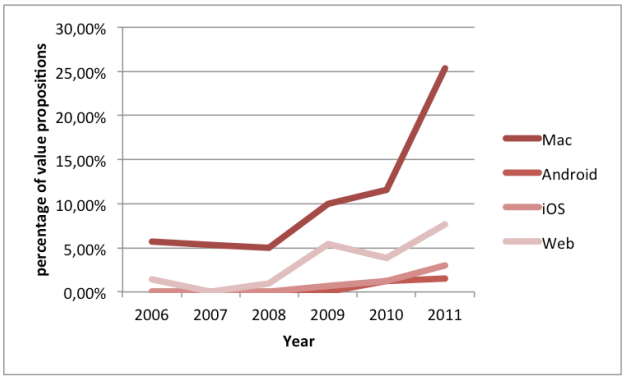

Figure 7. Percentage of value propositions for Mac, Android, iOS, Web

By bringing all gained insights together the picture of how platforms move over the time determining the logic of value creation can be constructed.

The decision of entering the market appears with the creation of new gaming platforms. These platforms can be distinguished in two types. The first type is a next generation gaming platforms such as PlayStation3 and Xbox 360. The decision of the envelopment to such platforms is based on the success of the previous consoles. If the previous generation platform was successful and had an extensive customer base, the company decides to enter the market and within a short period of time makes it core. Such envelopment carries low risks for the entering companies.

The second type is the brand new gaming platforms for instance PSP, Wii, iOS and Android. Entering such markets is a risky decision for the companies but also can bring a lot of new customers and opportunities. EA enters brand new platforms one of the first within the gaming companies, being the first mover, however, compared to the first type, envelopment occurs as an experimental market and in the case of success slowly moves to the core over the period of time.

As has been observed leaving the markets can also influence the profitability of the company. There are two main reasons for the Disenvelopment. The first reason is the appearance of the new generation gaming platform on the market. In this case, the process of development starts. The slow transition can be observed over the time by moving core market to the experimental, and, at the end, complete elimination of the market from the portfolio. The long process of quitting can be explained by the transition from the old platform to the new without losing customer base. Second reason for leaving the platform is the high cost of the game development. If the platform does not bring profits and user base decreases from year to year, there is no other way then to start eliminating the process of such a platform. In the case of Electronic arts, the examples of such platforms are Wii, PSP and Nintendo. Compared to the previous generation platforms discussed above, disenvelopment takes a little bit more aggressive approach and requires less time to the full elimination.

All in all, in order to reach the profitability growth, electronic arts had to move from focused portfolio to dispersed portfolio, by that mean only most profitable markets with the extensive customer base are set to be the core markets. Old gaming platforms have been eliminated form the portfolio. More attention is given to PC and Mac. Envelopment to the rising markets such as iOS and Android has been performed and decrease in the generated value propositions that require development of the games suitable for only one platform have been performed.

5. CONCLUSION

Brining back the research question, this paper tried to capture how do digital platform companies like Electronic Arts innovate their value proposition over time in the pursuit of profitability growth. Analysis showed that gaming companies perform type 1 of envelopment, envelopment of compliments. Electronic arts enters new layers by bundling their product with existing platform, in other words, new value proposition is created when new gaming platforms appear on the market. More over it was identified that type of portfolio might influence the profitability of the company. Dispersed portfolio positively affects the profitability, while focused portfolio, within the case study, corresponds with profitability drop. Therefore leveraging the market presence is seen as the logic of the value creation for Electronic Arts. In order to achieve a dispersed portfolio, EA had to move some markets from core to intermediate and experimental, or even abandon the market; such an action of quitting various layers has been identified as a platform disenvelopment concept. Disenvelopment was triggered by platforms that carried out high costs of production, user base drop, and the appearance of the alternative platform with the better technical capabilities on the market.

6. LIMITATIONS

The limitations of the given research fall under the single case study drawbacks. This research is constructed based on the analysis of one digital platform company, therefore, the generalizability of the outcomes of this research can be argued. Moreover, this research is also set to the specific time frame ranging from 2006 to 2011. In the field of constantly changing environment in the ICT industry, the results of the different time frames may vary.

7. FUTURE RESEARCH

Within this research, the assumption was made about the firm's choice between focused or dispersed portfolio. The dispersed portfolio might affect the company in a positive way in terms of Profitability but slower company's growth. In the opposite way Focused portfolio correlates with the lower financial indicator, therefore decreases profitability, but can be accompanied by growth. In the future research, this hypothesis can be tested by collecting the necessary information for the longer period of time and with the help of statistical tests support or reject the hypothesis.

8. ACKNOWLEDGEMENTS

I would like to express my gratitude to my supervisor Ir. B. Kijl. This work could not be finished without his endless support, constant feedback, patience and valuable advises. I would also like to thank Ir. B. Kijl for introducing me to such an interesting and novel topic as envelopment.

REFERENCES

Adner, R., & Kapoor, R. (2010). Value creation in innovation ecosystems: How the structure of technological interdependence affects firm performance in new technology generations. *Strategic management journal*, *31*(3), 306-333.

Amit, R., & Zott, C. (2001). Value creation in e‐business. *Strategic management journal*, *22*(6‐7), 493-520.

Amit, R., & Zott, C. (2001). Value creation in e‐business. *Strategic management journal*, *22*(6‐7), 493-520.

Chesbrough, H. (2007). Business model innovation: it's not just about technology anymore. *Strategy & leadership*, *35*(6), 12-17.

Chesbrough, H.W., Rosenbloom R.S. The role of the Business Model in capturing value from Innovation: Evidence from Xerox Corporation's Technology Spin-off companies // Industrial and Corporate Change. 2002. Vol. 11, No. 3, pp. 529-555.

Eisenmann, T. 2008. Managing proprietary and shared platforms. California Management Review, 50(4), 31-53
Eisenmann, T., Parker, G. & Van Alstyne, M. 2006. Strategies for two-sided markets. Harvard Business Review, 84(10): 92– 101.

Eisenmann, T., Parker, G. & Van Alstyne, M. 2011. Platform envelopment. Strategic Management Journal, 32(12), 1270- 1285.

Fransman, M. (2010). *The new ICT ecosystem: Implications for policy and regulation*. Cambridge University Press.

Hagiu, A., & Wright, J. (2011). Multi-Sided Platforms. Harvard Business School Working Paper 12-024.

Henderson, R. M., & Clark, K. B. (1990). Architectural innovation: The reconfiguration of existing product technologies and the failure of established firms. *Administrative science quarterly*, 9-30.

Kramer, W. J., Jenkins, B., & Katz, R. S. (2007). The role of the information and communications technology sector in expanding economic opportunity.*Cambridge, MA: Kennedy School of Government, Harvard University*.

Mahadevan, B. (2000). Business models for Internet-based e-commerce: An anatomy. *California management review*, *42*(4), 55-69.

Morris, M., Schindehutte, M., & Allen, J. (2005). The entrepreneur's business model: toward a unified perspective. *Journal of business research*, *58*(6), 726-735.

Müller, C. (2015). A tale of contend and conquest: leveraging market presence to grow the ICT-ecosystem: lessons learned from Google and Yahoo (2006-2011).

Osterwalder, A., Pigneur, Y., Tucci, C. Clarifying Business Models: Origins, Present, and Future of the Concept // Communications of the Association for Information Systems. 2005. Vol. 15. pp.1-43.

Parker, G. G., & Van Alstyne, M. W. (2005). Two-sided network effects: A theory of information product design. *Management science*, *51*(10), 1494-1504.

Rochet, J. C., & Tirole, J. (2003). Platform competition in two‐sided markets.*Journal of the European Economic Association*, *1*(4), 990-1029.

Rochet, J. C., & Tirole, J. (2004). Two-sided markets: an overview. *Institut d'Economie Industrielle working paper*.

Rysman, M. (2009). The economics of two-sided markets. *The Journal of Economic Perspectives*, *23*(3), 125-143.

Shafer, S. M., Smith, H. J., & Linder, J. C. (2005). The power of business models. *Business horizons*, *48*(3), 199-207.

Stewart, D. W., & Zhao, Q. (2000). Internet marketing, business models, and public policy. *Journal of Public Policy & Marketing*, *19*(2), 287-296.

Suarez, F. F., & Cusumano, M. (2009). The role of services in platform markets.*Platforms, Markets and Innovation, Edward Elgar Publishing*.

Zahavi, T., Lavie, D. (2009). Software product classification. Zott, C., & Amit, R. (2008). The fit between product market strategy and business model: implications for firm performance. Strategic Management Journal, 29(1), 1-26.

Zott, C., Amit, R., & Massa, L. (2011). The business model: recent developments and future research. Journal of management, 37(4), 1019-1042.

Vogel, H. L. (2014). *Entertainment industry economics: A guide for financial analysis*. Cambridge University Press.

APPENDIX

Appendix A:

Elements of the analyzing scheme for press releases and blog posts for Electronic Arts. Direct Extraction.

Launch Date	Company	Product Name	Product Version	Product Type	Customer Classification

Appendix B:

Elements of the analyzing scheme for press releases and blog posts for Electronic Arts. Category Choice.

Product Launch	New Version	Launch with Partners	Bundling	Platform

Appendix C:

Software Product Classification By Zhavie & Lavie (2009)

Software Product Classification by Zahvie & Lavie (2009)

*Level of Detail used in Paper: x.x (Original x.x.x)

1 Personal applications
1.1 Educational/training 110
1.2 Reference 120
1.3 Games 130
1.4 Entertainment 140
1.5 Life style 150
1.6 Personal productivity 160
1.7 Personal multimedia productivity170
1.8 Personal productivity utilities 180
1.9 Business productivity 190
1.10 Utility systems 200
1.11 Operating system enhancements 210
1.12 Internet communications 220

2 System infrastructure
2.1 Network management (logical) 230
2.2 Network management (physical) 240
2.3 Data structuring, acc. & manipulation 250
2.4 Integrated development environment 275
2.5 Software application design 270
2.6 Software application development 280
2.7 System-level application 290
2.8 Storage 300
2.9 Security 310
2.10 Distributed computing 320
2.11 Middleware 340
2.12 IT system management software 350

3 Vertical applications
3.1 Banking 360
3.2 Government 370
3.3 Healthcare services and medicine 380
3.4 Insurance 390
3.5 Legal 400
3.6 Entertainment and media communications 410
3.7 Real estate 420
3.8 Aerospace and aviation 430
3.9 Agriculture and farming 440
3.10 Apparel and fashion 450
3.11 Automotive 460
3.12 E-learning/education 470
3.13 Food service and beverage 480
3.14 Hospitality/travel 490
3.15 Mapping 500
3.16 Not-for-profit 510
3.17 Telecommunications 520
3.18 Energy/utilities 530
3.19 Retail & wholesale 540
3.20 Science & engineering 550

4 Business applications
4.1 Enterprise resource planning 555
4.2 Accounting 560
4.3 Factory/facility management 580
4.4 Financial analysis & management 590
4.5 Manufacturing 600
4.6 Sales & marketing 610
4.7 Product design & development 620
4.8 Logistics 630
4.9 Collaborative applications 640
4.10 Human resource management 650
4.11 Data analysis 660
4.12 Decision support systems(DSS) 670

5 Packages
5.1 Integrated development environment 275
5.2 Enterprise resource planning 555
5.3 Office Suite 1700
5.4 Integrated accounting 7900
5.5 Manufacturing resource planning 8600
5.6 Customer relationship management 8900
5.7 Supply chain management 9380
5.8 Human resource management 9700

Appendix D:

Key Figures for Electronic Arts.

Company Name	ElectronicArts
Founders	Trip Hawking
Year of Foundation	1982
Company HQ	Redwood City, California
Employees 2015	8,400
Revenue 2006 (millions)	$2,951
Revenue 2011 (millions)	$3,589
Key Competitors	Take Two Interactive; Ubisoft