

# How to emerge as a digital platform leader?

## Envelopment and business model innovation at eBay and Amazon (2006-2011)

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### ABSTRACT

How do organisations such as eBay and Amazon emerge as digital platform leaders over time? Although, platform markets have existed for many years, recent developments, such as the extensive rise and evolution of technology, led to changes in business landscapes from being determined by inter-network instead of traditional inter-firm competition, giving rise to fierce strategic and operating conditions, increased time to market pressures as well as hyper-competition. The following paper aims to provide theoretical background on platform markets in general, platform markets and envelopment as well as BM innovation in the matter of changing value propositions at eBay and Amazon from 2006 to 2011.

*Keywords: Multi-sided platforms, two-sided markets, business model innovation, platform envelopment, value propositions, eBay, Amazon*

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"The difficulty lies not in the new ideas, but in escaping from the old ones."

(Keynes, 1936)

# 1 INTRODUCTION

The following paper provides theoretical background on platform markets in general, platform markets and envelopment as well as BM innovation in the matter of changing value propositions at eBay and Amazon from 2006 to 2011.

The following paragraphs present an introduction by highlighting the successful rise and positioning of digital platform markets in today's highly competitive economies. In order to maintain and strengthen one's position, related business practices such as business model innovation (platform envelopment) are recognised as necessary differentiating factors for pursuing further growth.

## 1.1 The power of platform markets

Platform markets have existed for centuries and are therefore not stated to be a new phenomenon; Nevertheless, recent developments, as the extensive rise and evolution of technology (dot-com-boom starting in the 1990s), led to changes in business landscapes from being determined by inter-network instead of traditional inter-firm competition, giving rise to fierce strategic and operating conditions, increased time to market pressures as well as hyper-competition (Eisenmann, Parker & Van Alstyne, 2010; Suarez & Cusumano, 2008; Sambamurthy, Bharadwaj & Grover, 2003; Tan, Lu, Pan & Huang, 2015). As a consequence, organisations' agility, the "ability to consistently detect and seize market opportunities", and absorption capacity, the "ability to withstand market shifts", are claimed to be important determinants of business success (Sambamurthy et al., 2003, p. 238; Sull, 2009, p. 79). Sull (2009, p. 79) even claims that a combination of both, agility and absorption ("agile absorption"), may help organisations a) to survive but also b) to thrive as business leaders in uncertain times. In order to effectuate business success, organisations are therefore investing heavily in information technology (hereinafter referred to as IT), regarded as "strategic differentiator", (e.g. web sites, web services, data warehousing technologies and so forth) to be able to "leverage [...] functionalities of these technologies in shaping their business strategies, customer relationships, and extended enterprise networks" (Sambamurthy et al., 2003, p. 238). Hence, it is claimed that especially web-based platforms experienced rapid growths during the last decade (Sriram, Manchanda, Bravo, Chu, Ma, Song, Shriver & Subramanian, 2014).

### 1.1.1 Platform markets as intermediators

As argued by Cusumano (2010, p. 32), "[...] companies in the IT business are often most successful when their products become industry wide platforms". The term *platform* finds application in several different contexts and may therefore be difficult to be defined in a universal manner. In general, by "revolutionising the global competitive landscape", platforms are defined as intermediators or providers (hereinafter referred to as

providers), bringing together different parties for facilitated economic value exchange, where at least one party is likely to affect others via direct and/ or indirect externalities (Eisenmann et al., 2010; Rochet & Tirole, 2006; Sriram et al., 2014; Tan et al., 2015, p. 248). Platforms provide a foundation, e.g. in terms of core technologies, for product and service variations, served by a broad spectrum of *complementors* (products and services by different organisations or different departments of one organisation, which are bound through formal contracting or symbiotic relationships) (Pierce, 2009). The platform's value to its users is therefore highly reliant upon the usage of offered complementary products and services (Cusumano, 2010; Gawer & Cusumano, 2002; Gawer & Cusumano, 2008).

### 1.1.2 The innovation of business models

Indicators for digital platform establishment and implementation are today's most successful and influential organisations, such as eBay.com Inc. (hereafter referred to as eBay) and Amazon.com Inc. (hereafter referred to as Amazon), dominating platform battlegrounds by "[binding] together [multiple], distinct groups of entities in [...] business [networks]" (Gawer & Cusumano, 2008; Pierce, 2009; Tan et al., 2015, p. 249). Being positioned within a highly dynamic environment, characterised by constant, incremental change, organisations may compete by realising various short- to medium-term advantages through various strategic activities (Pierce, 2009; Sambamurthy et al., 2003). Consequently, providers' business models (hereinafter referred to as BM) are also liable to adjustment and reorientation (Chesbrough, 2010). Therefore, in contemplation of enabling the delivery of future value, BMs need to be innovated e.g. by commercialising new ideas and technologies or expanding existing portfolios (Chesbrough, 2007; Chesbrough, 2010; Paik & Zhu, 2013).

Throughout academia, BM innovation is recognised as necessary, inevitable, potentially deciding upon success and failure of an organisation (Chesbrough, 2010; Shafer, Smith & Linder, 2005; Teece, 2010). As the capability and activity characteristics of an organisation are elementally committed to its BM, a successful BM does not only generate profit; but also enables an organisation to offer compelling value propositions to its customers over time (value creation, value delivery and value capture) (Chesbrough, 2007; Gambardella & McGahan, 2010; Teece, 2010). Consequently, Teece (2010, p. 186) argues that, "of course, this makes management, entrepreneurship and BM design and implementation as important to economic growth as is technological innovation itself".

### 1.1.3 Platform Envelopment

As indicated by Eisenmann et al. (2010), one scheme of BM innovation is (platform) envelopment; "Through [platform] envelopment, a provider in one platform market can enter another platform market, combining its own functionality with the target's in a multi-platform bundle

that leverages shared user relationships” (Eisenmann et al., 2010, p. 1). The activity of envelopment has also been recognised throughout academia; on the one hand it is stated that envelopment generates platform success as the offered variety is increased as well that it aids in overcoming industry specific barriers e.g. switching costs (Müller, Kijl & Martens, 2011). On the other hand, besides eviction and displacement, platform envelopment may lead to potential exclusion of (financially) weaker *envelopment targets* (‘complements’, ‘weak substitutes’, and ‘functionally unrelated’), explained in further detail in *1.2 Problem statement & research question* (Eisenmann et al., 2010, p. 3; Suarez & Kirtley, 2012).

Evidence for the existence of envelopment can be found at eBay, the American online auction shopping website, founded in 1995, and Amazon, the American electronic commerce and cloud computing company, founded in 1994. Starting with e-commerce (C2C, B2C), eBay has enveloped into areas of online money transfer (via PayPal), into classified advertisements (via eBay Classified, Kijji and Craigslist), online ticket event trading (via StubHub) and video chat/ voice call applications (via Skype) (Our Other Businesses, 2015). Starting as an online bookstore, Amazon enveloped by also selling DVDs, CDs, videos (via Amazon Video), offering downloads/streaming, software and web services (via Amazon Web services), video games (via Amazon Games), electronics (via Consumer electronics), apparel, furniture, food, toys and jewellery (Amazon.com Investor Relations: Annual Reports & Proxies).

## 1.2 Problem statement

Gawer & Cusumano (2008, p. 33) state that platform companies evolve in two different ways, either by “coring” (concentration approach) or “tipping (spread approach). The key to tipping is to build momentum across adjacent markets and to expand the company’s platform by bundling and tying technical features. ‘Tipping’, also termed ‘tying’ or ‘bundling’ has widely been recognised to be one of the most important drivers for the acquisition of adjacent market share (Gawer & Cusumano, 2008; Eisenmann, Parker & Van Alstyne, 2006).

As envelopment is growing in importance, Eisenmann et al.’s envelopment attack typology, (as a starting point), suggests three different envelopment targets namely videlicet complements (I), weak substitutes (II) [focused envelopment approach], as well as unrelated platforms (III) [diversification, spread envelopment approach]. Furthermore, motivations, such as strengthening one’s own position, the elimination of threats and challenges, increasing economies of scope and so forth are stated (Eisenmann et al., 2010).

Even if contemporary literature deals with envelopment activities/ strategies as well as accompanied BM innovation (such as Eisenmann et al. (2010) or Zhang & Duan (2012)), academia lacks explaining the dynamic nature of envelopment activities exercised by today’s most successful providers (Visnjic & Cennamo, 2013).

## 1.3 Research question

This paper strives to add to the previous efforts of Müller (2015), Paramsothy (2015), Heikkilä (2015) and Auracher (2016) attempting to answer the fundamental question regarding envelopment activities’ occurrence in relation to value creation: *How do digital platform companies, such as eBay and Amazon, envelop their value proposition over time to pursue growth and market influence in terms of revenue and market share?*. The overall objective of this paper is to plot eBay’s and Amazon’s envelopment journey to determine whether envelopment can be perceived as major driver for organisational survival, growth and accompanying success or if other (strategic) differentiators may be equally/ more relevant.

Along, the constant, and necessary, revolution, change and adaption of BMs is discussed by emphasising how digital platform companies may use envelopment as a strategic tool over time. Precisely, the *envelopment evolution* at eBay and Amazon along with the innovation of their BM/ value propositions is being presented by means of an inductive comparative analysis. The period from 2006 to 2011, perceived as a highly dynamic and competitive one, has been chosen to be analysed. This may help in understanding the need for BM innovation as well as value proposition evolution. Relevant information has been gathered through press releases, blog posts and information retrieved from eBay’s and Amazon’s websites. To be able to determine the impact of envelopment in terms of market share and organisational success relevant information will be connected to revenue figures.

## 1.4 Case company eBay

Originating in Silicon Valley, California, eBay can be seen as representative for a successful iconic global platform in the ICT industry, which “changed commerce forever” (eBay at 20: Past, Present and Future, 2015). eBay is therefore chosen to be investigated, first, to emphasise its success story, and second, to highlight its innovative journey before the background of platform envelopment as a form of BM innovation (eBay at 20: Past, Present and Future, 2015). It is expected that envelopment activities (e.g. introduction of new value propositions) are majorly responsible for increases in revenue and profitability.

## 1.5 Case company Amazon

Amazon ranks, according to Fortune and Forbes Magazine, as 4<sup>th</sup> amongst the *World’s Most Admired Companies 2015*, 29<sup>th</sup> on *Fortune’s 500 2015* and 8<sup>th</sup> on *Forbes The World’s Most Innovative Companies 2015* (World’s Most Admired Companies, 2015; Fortune 500, 2015b; The World’s Most Innovative Companies, 2015). The “e-commerce giant”, generating approximately \$88.99billion in revenue in 2014 (sales growth of 19.52%), is stated to be a “creative force” and it’s Amazon Web Services (hereinafter stated as AWS) leader in the public cloud (Annual Financial for Amazon.com Inc., 2015; World’s Most Admired Companies, 2015). Amazon, avant-garde in

achieving incomparable service to customers, which impresses with its “ability to structure its business model in unexpected ways”, is therefore also chosen to be investigated ([How Amazon's Unconventional Business Model Changed Me From Hater To Customer For Life, 2012](#)). Likewise, it is expected that envelopment activities (e.g. introduction of new value propositions) are majorly responsible for increases in revenue and profitability.

## 1.5 Research Gap

As outlined beforehand, contemporary literature accomplishes to address the application of (envelopment) strategies, tactics, BMs and BM innovation from a rather static perspective; nevertheless only to a certain degree, as concepts are not clearly defined and often used unknowingly and interchangeably, in theory as well as in practice ([Shafer et al., 2006](#); [Teece, 2010](#)). Furthermore, academia mostly pursues a focus on frequent industry characteristics and their impact on firm performance, failing to incorporate dynamic approaches towards value propositional innovation through envelopment activities (e.g. [Eisenmann et al., 2010](#)). Besides, academia lacks explaining of how certain envelopment patterns impact measures of financial growth and success (e.g. revenue) and other growth and performance related indicators. Therefore, in order to answer the research question, focus lies on potentially addressing the above-mentioned gaps. In doing so, this analysis is expected to be significantly conductive to the understanding of envelopment practices at ICT platform companies.

## 1.6 Significance

Since BM innovation has gained "increased economic importance [...]", this paper aims at serving deeper and more comprehensive insights for researchers as well as decision-makers about how envelopment and associated BM innovation may be utilised to generate further (economic) platform growth ([Tan et al., 2015, p. 249](#)). Particularly, by correlating envelopment activities to firm performance, the question of how value is created at digital platform companies may be satisfied ([Visnjic & Cennamo, 2013](#)). Furthermore, as most of organisations, aspiring to get and/ or maintain their dominant position in the market, fail due to unsuitable decision-making, this research adds value by deriving at distinct managerial implications for the application of envelopment activities and their impact on (sustainable) platform growth. Likewise, before the background of the suggested case study (eBay and Amazon), practitioners are able to “learn from reality” to (positively) impact a platform’s financial success, growth and performance.

## 1.7 Outline of the thesis

The paper is arranged as follows: Subsequent paragraphs will provide theoretical background on platform markets in general, platform markets and envelopment as well as BM innovation in the matter of changing value propositions. Additionally, methods for analysis are being presented in

the methodology part of this paper. Moreover, a comparative case study (eBay and Amazon) is being executed. Building on findings presented in the analysis part, a conclusion and a discussion will incorporate theoretical and practical implications for further research and decision-making.

## 2 THEORETICAL FRAMEWORK

In the following paragraphs, the main theoretical frameworks and concepts regarding digital platform envelopment and BM innovation are being presented.

### 2.1 Platform markets

Platform markets ease the commerce of products and services by concentrating different user groups in two- or multi-sided platforms. Furthermore, by providing infrastructure, rules and additional support services, the different user groups’ interactions are facilitated. The option of revenue collection and cost allocation can therefore be executed, apart from traditional approaches, to two or more sides, mostly in triangular structure, aided by prevailing externalities such as network effects ([Eisenmann et al., 2010](#); [Gazé & Vaubourg, 2011](#); [Muzullec, Ronteau & Lambkin, 2015](#); [Rochet & Tirole, 2004](#); [Rochet & Tirole, 2006](#)). As claimed by Müller et al. (2011) platforms may be described as a combination of different elements of physical and operating nature. Rochet & Tirole (2006, p. 645) define platforms as "markets in which one or several platforms enable interactions between end-users and try to get the two (or multiple) sides ‘on board’ by appropriately charging each side”. As the above definitions may comprehend a wide range of products, services as well as organisations/ platforms, the following sections will exclusively concentrate on digital platform markets, also in order to answer the research question properly.

Recently, according to Haigu & Wright (2015) attention has been drawn especially to digital platforms largely due to the increasing impact of IT, as ”the development and [advancement] of platforms[...] reflect the main feature of [IT]” ([Zhang & Duan, 2012, p. 51](#)). Examples of modern platforms include online music platforms such as Apple’s iTunes, Apple’s AppStore, Google’s Email service Google Mail or Android OS; for a more comprehensive list, see e.g. [Eisenmann et al. \(2006\)](#), [Parker & Van Alstyne \(2005\)](#) and [Weiller & Pollitt \(2013\)](#).

Today, platforms such as eBay and Amazon count as the biggest and fastest growing organisations of the past decades enjoying great market power ([Haigu & Wright, 2015](#)). Entry barriers, which restrict the number of platforms in an existent market, may be a challenge for new providers. New entrants are therefore defined to be only successful when providing substantial improvements to existing platforms, absorbing switching costs and shifting user expectations ([Eisenmann et al., 2010](#)). Moreover, [Weiller & Pollitt \(2013, p. 5\)](#) claim that “a

platform must allow for innovation in complementary services, products, or business models”.

Further, the following sections ‘2.2 Platform markets & envelopment’ as well as ‘2.2.1 Typology of envelopment attacks’ and ‘2.2.2 Concentration (I, II) versus Spread (III)’ offer an outlook about digital platform markets and Eisenmann’s (2010) envelopment types in order to understand the nature of large digital platform envelopers and their surrounding ecosystems.

## 2.2 Platform markets & envelopment

Platform competition and survival is determined by (direct, indirect) network effects, as well as switching costs and reputation. Even if the presence and influence of such (challenging) conditions differs between industries and digital platform organisations, the proposed conditions are recognised as more important to digital platform organisations in contrast to other e.g. physical markets (Eisenmann et al., 2006). To be able to overcome these, digital platform organisations engage in platform envelopment activities. Also proposed by Eisenmann et al. (2011) as well as Weiller & Pollitt (2013), platform development does not necessarily build on Schumpeterian innovation, as platforms may evolve through the (re)configuration of existing services and technologies in combination with new services and technologies; this is called platform envelopment or bundling.

Envelopment implies the ability and entry of a new or existing platform (also called enveloper) into another’s market by bundling and enlarging its functionality. In doing so, interaction ecosystems may be created having positive effects e.g. on the customer’s value of the platform (Eisenmann et al., 2010). Furthermore, as the actual size, functionality and interconnectivity increases, economies of scope, shared user relationships and common components are of advantage for large digital platform envelopers. Innovation in platform markets is therefore perceived to be achieved incrementally through advanced development of complementary products and services and BM innovation. For example, by launching its Windows Media Player (WMP) in 1998, Microsoft enveloped into RealNetwork’s media platform, also allowing users to download WMP free of charge. In contrast to RealNetworks, Microsoft also bundled its streaming media server software free of charge as a feature of their Microsoft New Technology (Windows NT) server, a kernel used by Microsoft (Eisenmann et al., 2007; Microsoft vs. RealNetworks, 1999). In order to achieve and keep ‘platform status’, relationships with other ecosystems and platforms must be enhanced (Gawer & Cusumano, 2002).

In order to understand the nature of such large digital platform envelopers and their innovation of ICT products, Fransman (2010) defines four hierarchically categorisation layers, namely Layer 1) *Network elements* (hardware/devices: servers, routers, PCs, phones and so forth), Layer 2) *Converged communication and content distribution networks* (middleware: products attempting to connect

with items from layer 1), Layer 3) *Platform, content and application* (software: requiring Layer 1 and 2 as a necessary condition to create a platform), and Layer 4) *Final consumers* (Layer 1 to 3 are being offered to the final consumer) [Figure 1, Fransman (2010) *Four layer model*]. Layer 1 and 2 mainly comprise physical elements, whereas envelopment activities commonly take place in Layer 3. To be able to assess growth initiating layers, Kijl & Visnjic propose the subdivision of Fransman’s model into 6 layers, namely Layer 1) *Devices* (Access points), Layer 2) *Operating system*, Layer 3) *Network*, Layer 4a) *Platforms*, Layer 4b) *Content*, and Layer 4c) *Applications* [Figure 4, *Adapted layer model*].

Layer 1	Network elements
Layer 2	Converged communication and content distribution networks
Layer 3	Platforms, contents and applications
Layer 4	Final consumers

Figure 1 Fransman (2010) *Four layer model*

Furthermore, Zahavi & Lavie (2009) have proposed a typology for software products (Software Product Classification) conducive to distinguishing software product market segments [APPENDIX A].

### 2.2.1 Typology of envelopment attacks

I	Envelopment of ‘complements’
II	Envelopment of ‘weak substitutes’
II	Envelopment of ‘functionally unrelated’

Figure 2 *Types of Envelopment (Eisenmann et al., 2010)*

Eisenmann et al. (2010, p. 3) argue that “the success of an envelopment strategy will depend on the aggregate level of bundling benefits of all types, which in turn is determined by the functional relationship between two platforms”. Platforms, as determined, “must be related in one of three ways: they must be complements, substitutes, or functionally unrelated” (Figure 2, Eisenmann et al., 2010, p. 12).

Type I: Aiming to facilitate the “profitable entry into platform markets”, envelopers may be platform and network providers in one network while being supply-side user or component supplier in other networks (Eisenmann et al., 2010, p. 12). Referring to eBay, which serves as its own platform and network provider, e.g. its component supplier PayPal served as additional, complementary platform for its payment network. Enhanced by increasing economies of scale, monopolistic market characteristics may be found most commonly as the complementary platform’s value adds to the enveloper’s platform (Eisenmann et al., 2010). Furthermore, due to the “positive correlation of user valuations for complements”, a high degree of symmetrical user base overlap can be generated (Eisenmann et al., 2010, p. 12). Hence, by platform complements being reciprocally specific to each other, this envelopment type can be distinguished to enhance core platform activities while adding additional value from others (reduction of power, appeal of other dominant

platform markets); (“Proposition 1: Given the target platform market sheltered from standalone entry, an entrant that bundles a complementary platform is most likely to succeed when the platform’s user overlap is significant. User overlaps facilitate share gains through tying at a bundle price that approaches the sum of the optimal prices for the platforms sold separately” (Eisenmann et al., 2010, p. 13)).

Type II: As weak substitutes rely on different technologies, serving different user needs, bundling of weak substitutes may create value for envelopers. Even though overlapping user bases may only be reached to a certain extent and the difficulty to price “a pure bundle at the sum of the optimal prices for the platforms sold separately” (discount affordability) prevails, the generation of economies of scope is possible, thus, the opportunity for the enveloper to add value (Eisenmann et al., 2010, p. 14). Hence, this envelopment type can also be distinguished to enhance core platform activities while adding additional value from others (elimination of potential threats); (“Proposition 2: Given the target platform market sheltered from standalone entry, an entrant that bundles a weak substitute platform is most likely to succeed when bundling offers significant economies of scope. These economies make affordable the deep discount (relative to the sum of the optimal prices for the platforms sold separately) required to sell a bundle when platforms have partially duplicated functionality” (Eisenmann et al., 2010, p. 14)). Amazon’s attack in 2003, targeting Goodreads, now a part of Amazon, can be seen as an example of successful weak substitution envelopment. Incorporating the Goodreads experience into Amazon’s famous Kindle e-reader reaching millions of readers and authors worldwide has been stated to be a “textbook example of how modern internet monopolies can be built” (Amazon purchase of Goodreads stuns book industry, 2013).

Type III: In case of two platforms being functionally unrelated to each other, value adding envelopment may still be conducted as similar, employed components reflecting potentially high user overlaps signify the basis for economies of scope. Hence, this envelopment type can be distinguished to diversify core platform activities while adding additional value from others; (“Proposition 3: Given a target platform market sheltered from standalone entry, an entrant that bundles a functionally unrelated platform is most likely to succeed when the platforms’ users overlap significantly and when economies of scope are high” (Eisenmann et al., 2010, p. 15)). eBay’s envelopment attack in 2005, targeting Skype, can be seen as a successful envelopment example of functionally unrelated platforms.

Continuatively, 2.3 *Business models & innovation* proposes decisive theoretical insights about BMs and innovation as well as BM innovation.

## 2.3 Business models & innovation

### 2.3.1 “Identity crisis” of business models

“Today, ‘business model’ [...] [is] among the most sloppily used terms in business; [...] often stretched to mean everything – and end up meaning nothing” (Magretta, 2002, p. 8). While many authors have attempted to provide a distinct, specific definition of a BM, none is identified to be ‘generally accepted’ in business and economic literature. As an example, as stated by Chesbrough (2010), a definition of BM includes the BM’s articulation of (changing) value propositions, the identification of the operated market segment, a definition of required value chains, detailing of revenue mechanisms, estimations of cost structures and profit potentials, descriptions of the organisation’s position within the proposed value network as well as the formulation of a competitive strategy. Shafer et al. (2005, p. 202) define a BM as the “representation of a firm’s underlying core logic and strategic choices for creating and capturing value within a value network”. Amit & Zott (2010, p. 219) claim that a BM “depicts the content, structure and governance of transactions designed so as to create value through the exploitation of business opportunities.” This definition will also hold true throughout this paper.

As outlined, this lack of consensus is not due to the initial concept of a BM but the disagreement from numerous perspectives and disciplines about its nature, field and scope of application as well as its distortion and past misuse in theory and practice (Hedman & Kalling, 2003; Magretta, 2002; Shafer et al., 2005; Teece, 2010; Zott & Amit, 2010). BMs are most prominently confused with ‘strategy’ and ‘tactics’ (terms are used almost interchangeably, also ‘business concepts’, ‘economic models’, ‘revenue models’ or ‘business process modelling’) and rather than providing performance/competitive dimensions, are perceived as a system or “blue print for growth” building on its successive foundation of value creation, value delivery and value capture (Amit & Zott, 2001; Chesbrough, 2010; Gambardella & McGahan, 2010; Hedman & Kalling, 2003; Magretta, 2002, p. 6); Paramsothy, 2015; Teece, 2010; Zott & Amit, 2010). A strategy however, can be e.g. a (BM) pattern, a plan, a position, or perspective (Henry Mintzberg, 1994).

Despite growing concern for the concept of BMs as well as its application, it however appears that its “identity crisis”, its ambiguous nature may also be prevailing in the future (Shafer et al., 2005, p. 200). Nevertheless, as the concept of BMs is anticipated to be essential for performance, “no organization can [and should] afford fuzzy thinking” (Magretta, 2002, p. 8).

### 2.3.2 Business Models as a source of competitive advantage

“Given the vital importance of the business model for entrepreneurs and general managers, it is surprising that academic research (with a few exceptions) has so far

devoted little attention to [the] topic [of BMs as a source of competitive advantage]" (Zott & Amit, 2010, p. 217).

Despite, a great majority of scholars agrees on the holistic nature of BMs and has come to the understanding that organisations may not only create but also deliver and capture value through constant BM innovation. In doing so, BMs have a 'triple focus on value creation' and are perceived as an important source/ determinant of competitive advantage (Müller, 2015; Teece, 2010).

As outlined by Winter & Szulanski (2001) BMs are not "perfected" at once but instead a product of evolution and qualification. As an addition, Shafer et al. (2005) state that the process of BM innovation is never completed as long as strategic choices towards BM enhancement are being considered and implemented. Furthermore it is argued that continuous efforts in innovation and competitive actions are vital for superior performance (D'Aveni, 1994; Lengnick-Hall & Wolff, 1999; Young et al., 1996).

Indicator for the rising importance and feasibility of BM innovation, as a basis for sustainable, future growth, is the high number of successful new entrants in various industries, especially web-based platforms, over the last two decades (Casadesus-Masanell & Zhu, 2011; Sriram et al., 2014).

### 2.3.3. Business Model Innovation

"As we enter the twenty-first century, ([...] e-business), with its dynamic, rapidly growing, and highly competitive characteristics, promises new avenues for the creation of ['wealth']" (Amit & Zott, 2001, p. 509). Despite the confusion, business model innovation is recognised as necessary, inevitable, potentially deciding upon success and failure of an organisation through its three successive pillars of value creation, value delivery and value capture (Chesbrough, 2010; Gambardella & McGahan, 2010; Müller, C. N. (2015); Shafer, Smith & Linder, 2005; Teece, 2010). Consequently, Teece (2010, p. 186) argues that, "of course, this makes management, entrepreneurship and business model design and implementation as important to economic growth as is technological innovation itself".

Given that Amit & Zott's (2010, p. 219) definition of BMs, "[depicting] the content, structure and governance of transactions designed [...] to create value through the exploitation of business opportunities", is held true throughout this paper, BM innovation by means of e.g. envelopment/ bundling of existing and new resources generates value for customers (Eisenmann et al., 2011). Since product and process improvements are characterised as more time consuming and resource intensive than BM innovation, the latter is perceived to be an addition to traditional ways of innovation (Amit & Zott, 2001).

Envelopment, as mentioned above, can be perceived as BM innovation as own and capabilities of others are being merged together. As a number of components and capabilities are bundled into two- or multi-sided platforms,

value propositions change. Throughout this paper, value propositions are therefore recognised as dynamic key components or rather resources of a successful/ innovative BM and accompanied value creation, or: 'The core of competitive advantage' (Busbin, Johnson & DeConinck, 2008).

By searching for new ways of capturing and creating value for an organisation over a long-term perspective, BM innovation initiates to (re)configure what is offered, how its offered, to whom it is offered as well as delivered (Mahadevan, 2004). In practice this implies the reliance on and utilisation of differentiated to uniquely operated resources.

Unfortunately, academia does not provide a distinct response to 'how' BM innovation may be effectuated, also due to prevailing future dubiety. Further, McGrath (2010) depicts, that the scale and scope of benefits through BM innovation is difficult to predict. However, scholars such as Chesbrough (2007) and McGrath (2010) assert that experimentation is central in BM innovation. Therefore it is argued that, "the only way forward is to conduct some experiments" (Chesbrough, 2007, p. 17).

## 3 METHODOLOGY

As eBay and Amazon are two of the biggest e-commerce corporations of today, both were chosen as 'real life' examples to be analysed and compared before the background of how ICT platform leaders innovate their BMs and value propositions in highly competitive markets.

In the following paragraphs, first, the research setting is presented. Moreover, data collection, and data analysis are being executed.

### 3.1 Research setting: eBay and Amazon

This research serves the purpose of extending digital platform related research e.g. from Björn Kijl on other digital platform companies such as Apple, Samsung, Google and so forth.

eBay and Amazon, most importantly their 'product introductions' from 2006 to 2011, have been investigated in this research. As both are offering a wide range of 'products' this study is assumed to generate a relatively high degree of external validity. Turning towards external validity, eBay as well as Amazon represent significant industry participants, whose actions may be considered exemplary and representative for other digital platform companies. Nevertheless, as both are originating from the e-commerce market, generalisability may slightly be reduced.

Analysing eBay is therefore expected to grant valuable insights in relation to other operating digital platform companies exercising envelopment in the period from 2006 to 2011. Moreover, it is assumed that changes in envelopment behaviour may be visible through



profitability and growth fluctuations. A short overview in terms of key figures for both companies, are summaries in APPENDIX B [Comparison Key Figures, eBay & Amazon (2006, 2011)].

### 3.1.1 eBay

eBay was found in 1995 by the French-born Iranian-American entrepreneur Pierre Omidyar, who launched *AuctionWeb* in order to assemble buyers and sellers in “an open and honest marketplace” (Our History, 2015). After Canadian Mark Fraser purchased the first item offered (a broken laser pointer), eBay immediately engaged in coordinating its fast-growing online operations. With 25 million sellers, 159 million active buyers from 190 countries and 800 million listings, eBay is today’s 10<sup>th</sup> top global retail brand and the online platform “where the world goes to shop” (What we do, 2015). According to eBay, referring to the almost infinite range of purchasable items, everything can be found on the platform, preconditioning its existence. Therefore eBay pursues a mission of being the “world’s favourite destination for discovering great value and unique selection” (What we do, 2015). In doing so, eBay facilitates the establishment of other businesses by providing not only the platform but also platform solutions and support for sellers, developers and employees.

### 3.1.2 Amazon

Amazon, or initially *Cadabra*, found in 1994 by the American entrepreneur and investor Jeffrey Preston ‘Jeff’ Bezos, is a “company of builders [and] pioneers” supporting “sellers, authors, and developers” around the world (Economic Impact, 2015; Our Innovations, 2015). Amazon has created a marketplace (of opportunities) for sellers and buyers of 189 countries by means of globalised offerings and selling tools for entrepreneurs e.g. cross-border sales (Amazon.com, 2015). Amazon’s three “pillars of success”, Amazon Web Services (hereinafter stated as AWS), Marketplace and Prime, “helped [them] to grow into a large company”; their scale and inventiveness enabled them “to build services for customers that [they] could otherwise never even contemplate” (Amazon.com, 2015). By selling approximately 1 billion items to customers in 2015, the e-commerce giant focusses not only on “[being] a large company [but] [...] also an invention machine (Amazon.com, 2015; Rao, 2016). By employing >97,000 full- and part-time employees worldwide, Amazon directs retail sites for third-party retailers, marketing, promotional services and so forth. Moreover, Amazon operates several other sites such as www.a9.com, www.alexa.com and www.imdb.com (Overview, 2015).

## 3.2 Data collection

Data has exclusively been retrieved from eBay’s and Amazon’s corporate web sites eBay.com (eBay Company Overview and History, eBay Investor Relations, eBay News and eBay Main Street) and Amazon.com (Amazon Media Room: Press releases) in terms of annual reports,

press releases, related blog posts and exclusive eBay and Amazon website articles. As no press releases could be extracted from the eBay website, as well as through their ‘Investor Relations Contact’ site, for 2006 and 2007, a different approach has been executed. In order to compensate the total number of analysed press releases and blog posts in comparison to Amazon, eBay quarterly reports from 2006 to 2007 have been analysed to filter information regarding new product offerings and envelopment activities. Duplicates or ‘irrelevant’ (for answering the research question) press releases have not been considered. Taken together, this paper’s analysis is based on 48 annual reports, 1069 press releases and 1617 blog posts and website articles regarding eBay’s and Amazon’s envelopment activities e.g. new product introductions.

2006-2011	Press Releases	Blog Posts	Financial Reports
eBay	330	583	24
Amazon	739	1034	24
<b>Total</b>	<b>1069</b>	<b>1617</b>	<b>48</b>

In order to grant the effective answering of the proposed research question, press releases, dealing with product offering changes and indicators for value proposition changes, retrieved from the websites are perceived as relevant. In doing so, it is intended to ascertain the importance of engagement into the dynamic nature of envelopment activities.

It is expected to encounter envelopment activities or rather advances as parts of BM innovation at eBay and Amazon, which have helped in establishing and maintaining its dominant position as a provider over the years.

## 3.3 Data Analysis

Data analysis is executed by means of three steps; New value propositions are sort by their ‘Classification of General Information’, ‘Classification of Product Category/ ICT Layer’ and ‘Classification of Envelopment/ Enveloped Offerings/ Software Classification’.

‘Classification of General Information’: All press releases are classified according to APPENDIX C [The columns of the MS Excel-based data collection template]. Classifications incorporate information such as [...] launch date, company (eBay, Amazon), product name, product version, product type and customer classification. The main purpose of this first step is to extract relevant, as in relevant new value propositions, press releases among all the collected.

‘Classification of Product Category/ ICT Layer’: Furthermore, new value propositions are distinguished according to ‘new product’ and ‘new version(s) of existing product(s)’, ‘launch with partners’, ‘bundling’ and ‘platform’ [APPENDIX D]. Furthermore, an ICT layer analysis has been conducted on grounds of the *Adapted Layer Model* (Figure 4; devices, operating system,

network, platforms, content and applications) [APPENDIX E]. The main purpose of the second step is to presort ‘innovations’ according to their configuration as well as intended purpose and use.

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

Figure 4 Adapted layer model

‘Classification of Envelopment/ Enveloped Offerings/ Software Classification’: In the final step, the whole body of acquired information is analysed before the background of how eBay and Amazon ‘enveloped’ their offerings and whole platforms from 2006 to 2011. Also, software products are differentiated correspondent to Zahavi and Lavie’s (2009) *Software Product Classification* [APPENDIX A]. In respect thereof a conclusion is provided.

## 4 STRATEGIC ENVELOPMENT

Findings suggest the application of BMs and competitive strategies in digital platform companies to be spread across numerous markets instead of only a single market. Also, taking the development of offerings into consideration, one may find that envelopment aids digital platform companies in entering various adjacent and even remote markets. This is mostly due to the consideration and implementation of supplemental sometimes experimental competitive actions and BMs in remote markets. Advantages of the occupation of adjacent markets whereas include the ability to benefit from overlapping consumer bases and the general utilisation of similar product components (Eisenmann et al., 2010).

### 4.1 Concentration (I, II) versus Spread (III)

Proposed by Visnjic & Cennamo (2013, p. 3), BM innovation is driven by certain choices towards the “attainment of network effects and enhanced user experience within a single market”. In a second step, platforms expand their core by complementarily enveloping into adjacent markets facilitating cross-platform development. As the envelopment of platforms (automatically) leads to the envelopment into adjacent markets the establishment of supra-platforms through converging neighbouring markets is advantaged (Visnjic & Cennamo, 2013).

Envelopment types I and II, with attacker’s and incumbent’s components/ platforms being (partially) functionally related (shared affiliates), support and facilitate the setup of the enveloper’s core market by also (partially) developing the incumbent’s (core markets may be the same); e.g. shared user base with needs for the attacker’s and incumbent’s offerings; attackers following these typologies pursue a ‘concentration strategy’.

Hence, following a concentration strategy most likely leads to the build-up of the original core market as well as the enveloped markets; ‘Core markets’ perceived as markets, in which the quantity and quality of offerings is prevaillingly strong, and which are contiguous to the original core market. One example for the envelopment of component providers (type I) is Amazon’s acquisition of Audible in 2008, including approximately around 80,000 programs (e.g. audio books) (Amazon to buy Audible for \$300million, 2008). By aiming to expand their audio download offerings, Amazon has enlarged its digital music library to be able to compete with Apple’s iTunes store. Moreover, Amazon has enveloped into the market of digital books by acquiring Stanza in 2009, which is perceived as the killing of free competition to their own Kindle e-reader.

Contrasting, type III, aims at enveloping functionally unrelated platforms (with or without shared affiliates) in an experimental way. It is therefore important that the need for extra functionality when enveloping into unrelated markets is granted; attackers following this typology pursue a ‘spread strategy’. An example for the envelopment of unrelated providers (type III) is eBay’s acquisition of the internet-based video phone service Skype in 2005. The idea behind the acquisition was that eBay users could communicate in real time via Skype so that transactions may become easier and quicker. Nevertheless, at that time, eBay users did not feel the need for ‘video chatting’ in the context of eBay transactions, which led to the selling of most of its ownership to private investors (CEO’s need to abandon bold strategies for Life on the Edge, 2016).

So, by pursuing a spread strategy, core markets are seldom build up. Nevertheless, quick market penetration of a variety of markets may lead to increased economies of scope. Thus it may be claimed, concentration envelopment pursues a rather gradual build-up (incremental innovation), whereas spread envelopment focuses on a quick penetration strategy (radical innovation).

Respecting the earlier paragraphs, it should be considered that an organisation may (very probable) bear a potential or rather imperative for growing beyond its original core market. This implies a distinction between the envelopment strategy and the envelopment scope: An organisation could therefore execute a concentration envelopment strategy but would inevitably result in a spread envelopment scope. Organisations executing a spread envelopment strategy, as indicated in theory by Eisenmann et al., (2010), most importantly seek the realisation of economies of scope. However it may also be stated that economies of scope are an important, underlying driver for all three envelopment types, for type III it’s the most prominent one. By diversifying, organisation pursuing the latter envelopment type, may eliminate major challenges e.g. by overcoming entry barriers. In almost the same manner, an increasing receptiveness for aspects of “dominance battles”/ “winner-takes-it-all battles” or “get big fast” ideas may show, that motivating drivers for pursuing spread envelopment cannot

only be limited to growth or financial incentives (Eisenmann et al., 2010; Eocman, Jeho & Jongseok, 2006; Suarez, 2004, p. 271).

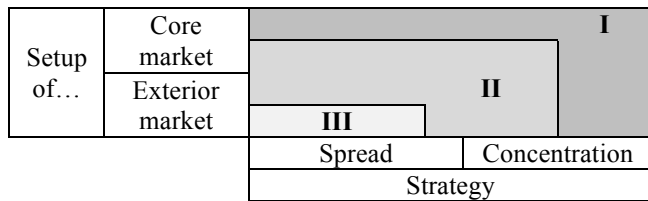


Figure 3 Envelopment types: Setup of markets and related strategies

## 4.2 Envelopment at eBay & Amazon

By answering the following question, *How do digital platform companies, such as eBay and Amazon, envelop their value proposition over time to pursue growth and influence (e.g. in terms of revenue and market share)?*, observing eBay and Amazon as ‘real life examples’, this paper unveils the engagement into similar envelopment strategies over the observed period of 2006-2011. As expected, extensive investments regarding new value propositions (hereinafter NVPs) and new versions have been made by both companies; eBay intending to strengthen its platform by offering platform compatible features and applications, Amazon offering network, platform and application designated features. Both companies also engaged in the heavy utilisation of bundling.

Over the period of 2008 to 2011, eBay introduced 130 NPVs (new versions). Amazon introduced 73 NPVs (18 new versions) from 2006 to 2010. By classifying according to Zahavi & Lavie’s (2009) Software Product Classification, it becomes clear that eBay was active in more markets than Amazon until 2010. In 2011 Amazon surpassed eBay by being active in 10 different markets (Figure 5 Market entries eBay & Amazon, 2006-2011).

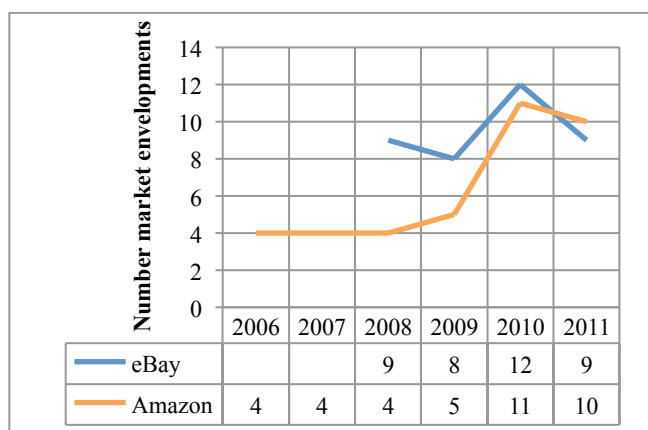


Figure 5 Market entries eBay & Amazon, 2006-2011

By analysing eBay’s and Amazon’s presence in ICT Layers (Figure 6), it becomes clear that both companies were keen in becoming active in a growing number of layers over the years. In 2010 and 2011 both companies actively engaged in 5 out of 6 ICT layers.

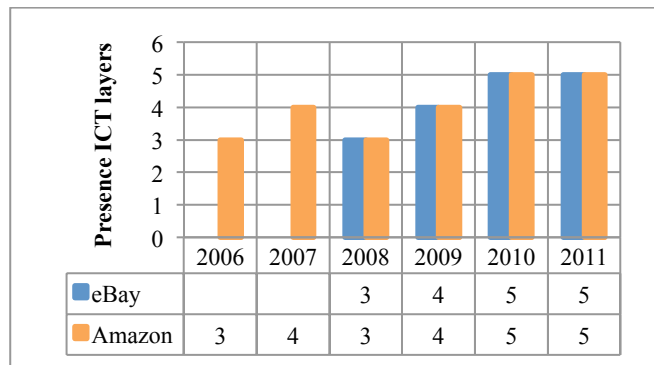


Figure 6 Presence in ICT Layers (Adapted Layer Model), eBay & Amazon, 2006-2011

As changes in envelopment behaviour are assumed to be also visible through profitability and growth fluctuations measures of revenue and gross profit are being presented. Gross profit is also taken into account to grant the accurate analysis of growth.

Figure 7 and 8 indicate what has already been indicated in 3.1 Research setting: *eBay and Amazon*, eBay as well as Amazon register a steady increase in revenue and gross profit over the period of 2006 to 2011.

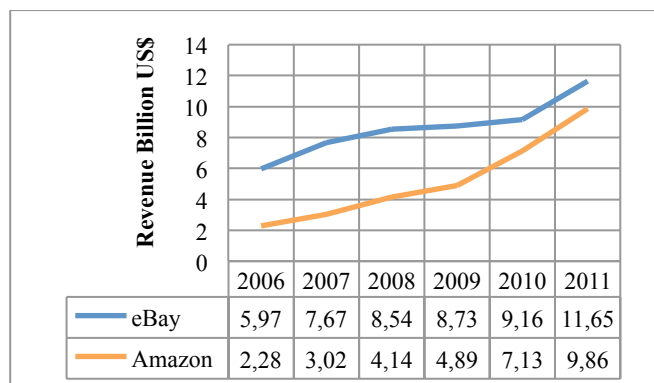


Figure 7 Revenue eBay & Amazon, 2006-2011

In 2006 eBay started with revenue amounting up to 5,97 Billion US\$ in contrast to Amazon generating only 2,28 Billion US\$. From 2006 to 2007 both companies experienced a steady increase of revenue, whereas eBay’s revenue rose more extensively from 5,97 to 7,67 (increase of 1,7 Billion US\$) in contrast to Amazon’s revenue increasing from 2,28 to 3,02 Billion US\$ (increase of 0,74 Billion US\$). It is therefore expected that eBay has been present in an equal or even greater amount of ICT Layers than Amazon. From 2007 to 2008 both companies registered a steady increase of revenue, whereas Amazon generated a greater increase of revenue than eBay in comparison to the previous year (eBay: increase of 0,87 Billion US\$; Amazon: increase of 1,12 Billion US\$). From 2008 to 2010 Amazon continued to draw near eBay’s revenue figures, by generating 7,13 Billion US\$ at the end of 2010. eBay generated 9,16 Billion US\$. It can be noted that both register a steep increase of revenue from 2010/2011 with regard to previous years, while being active in 5 out of 6 Layers.

In terms of Gross Profit, eBay held a steady pace over the whole period with a minor slowdown period from 2009 to 2010. Significantly, Amazon registered a steep increase in gross profit over the same period. From 2009 to 2011, Amazon increased its Gross Profit by 5,96 Billion US\$.

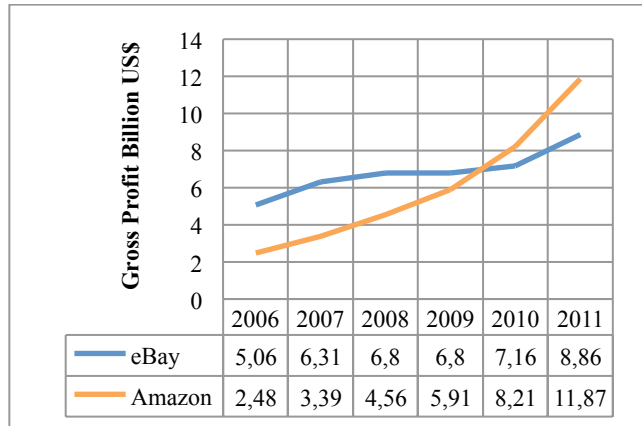


Figure 8 Gross Profit, eBay & Amazon, 2006-2011

By summarising the presented information, one may derive at two stages of envelopment at eBay and Amazon; the first stage from 2006 to 2009, characterises concentration envelopment by building-up original core market as well as enveloped markets. Both show presence in a moderate number of ICT layers (3 to 4 out of 6 ICT layers).

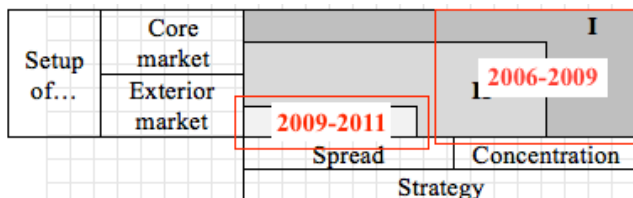


Figure 4a Envelopment types applied: Setup of markets and related strategies

*Proposition I: By pursuing concentration envelopment in early stages of development, digital platform companies may set the foundations for future sustainable growth.*

The second stage from 2009 to 2011 characterises spread envelopment by enveloping functionally unrelated platforms (with or without shared affiliates) in an experimental way. Both show presence in a high number of ICT layers (5 out of 6 ICT layers).

*Proposition II: By pursuing spread envelopment in subsequent stages of development, digital platform companies may benefit from sustainable growth.*

2009 is perceived as a phase of transition/ change, implying its application in both proposed stages of development.

### 4.3 Concentration envelopment engagement (2006-2009)

As visible at eBay and Amazon, both digital platform companies engaged in concentration envelopment in the period from 2006 to 2009. Both pursued concentrated growth (type I envelopment attacks) by supporting, defending and enhancing their core markets as well as concentrated diversification (type II envelopment attacks) by gradually developing into incumbent's markets (Eisenmann et al., 2010).

In 2006, eBay focusses its efforts on three different pillars: eBay marketplaces, eBay payments (PayPal) and eBay communications (Skype). Throughout 2006 and 2007, eBay Marketplaces, consisting of eBay, Shopping.com and other e-commerce sites, focused on strengthening its core business as well as cautiously spreading across newer businesses to expand their portfolio of adjacent businesses. In doing so, their business portfolio and long-term strategies have been reported to act towards expanding globally e.g. by acquiring Afterbuy and entering liabilities with Yahoo! Japan. eBay Payments also expanded its territory into new geographies and currencies by further penetrating top online e-commerce retailers as well as eBay Marketplaces businesses and adjacent retailers. Also eBay Communications including the Skype business aimed at providing great user experience to a remarkably growing user base e.g. by announcing its partnership with Myspace, granting millions of Myspace users access to voice communications features. In accordance with eBay's growing platform, steps towards product innovation, new product introductions and community enhancement e.g. innovations at Skype's hardware and software ecosystem likewise updated Skype monetisation implications, have been taken.

Throughout 2008, eBay continued to provide innovative changes to a diverse portfolio of businesses. For instance, PayPal focused on greater penetration into the Marketplaces business as well as the acquisition of new merchants. eBay set its focus towards further alignment and strengthening of core businesses by e.g. enabling third-party development on eBay Selling Manager, by introducing several new marketplaces such as Worldofgood.com and introducing several new apps for iPhone and iPod Touch e.g. ClickiT & Buy it on iPhone. At the end of 2008, eBay announced that it will continue to 'stay focused' by building their strengths and core capabilities prudently in 2009. Nevertheless, in 2009 e.g. PayPal was driven by exceptional performance due to a growing user base and the generation of approximately 20 Billion US\$ in total payments volume, allowing eBay to hold momentum in their core businesses as well as expanding their presence globally. eBay's introduction of the 3 Skypephone in 2009, enabling users to make Skype-to-Skype calls and chats on mobile phones, may be an example of changing strategies. The Skypephone has widely been accepted to differ from already existing mobile phones and may be seen as an attempt to envelope into the regular, already existing mobile phone market. At

the end of 2009, eBay decided to sell Skype, as limited synergies have been revealed between Skype and eBay's other businesses. By separating Skype, eBay announced that future focus lies on its two remaining core growth engines – e-commerce and online payments.

Amazon also focused on enhancing its core market by launching a series of new retail stores e.g. wheels store and products, e.g. Amazon S3, a simple programming interface and storage application for developers. Through S3, developers were provided access to Amazon's data storage infrastructure, which promoted the generation of scale benefits for Amazon and affiliated developers. In two cases innovations have been launched in collaboration with strategic business partners such as Alexa Internet, a subsidiary of Amazon. The Alexa Site Thumbnail, a web service introduced in 2006, allowed developers to directly incorporate thumbnail images from websites into various applications. Another example for the envelopment of component providers (type I) is Amazon's acquisition of Audible in 2008, including approximately around 80,000 programs (e.g. audio books) ([Amazon to buy Audible for \\$300million, 2008](#)). By aiming to expand their audio download offerings, Amazon has enlarged its digital music library to be able to compete with Apple's iTunes store. Moreover, Amazon has enveloped into the market of digital books by acquiring Stanza in 2009, which is perceived as the killing of free competition to their own Kindle e-reader.

Despite Amazon's engagement into type I envelopment attacks, type II envelopment attacks may also be unveiled for this period. In 2007, Amazon made a revolutionary move by "going beyond the physical book" and enveloping into the hardware market; after introducing Amazon Kindle, a portable e-reader for wirelessly downloaded books, newspapers, magazines and blogs, Amazon significantly enlarged its platform boundaries into adjacent markets. Also in accordance with Amazon's growing platform, new affiliate websites and platforms such as, Amazon's fashion website Endless.com including features such as free overnight and return shipping. By positioning themselves towards long-term growth in the global e-commerce market, Amazon's "obsession with customer satisfaction" holds true in their innovative, easy-to-access, and mostly fun user and developer destinations. Following, Amazon further enveloped their product-offerings by introducing Kindle DX and Kindle 2 (hardware), Amazon Virtual Private Cloud (storage) and Amazon Music (entertainment).

By engaging into type I (core market enhancement) and type II (focused diversification) envelopment attacks, both companies aim at getting-big-fast by generating network effects and growing their user bases at a fast rate ([Eisenmann et al., 2010](#)). As an example, eBay enhanced its marketplace user base from 75,000,000 active users in 2006 to 90,100,000 active user in 2009 (marketplace). Moreover, PayPal registered an increase from 29,200,000 in 2006 to 81,000,000 registered accounts in 2009 (payment) [APPENDIX F]. Following a concentration

strategy in the early stages of development is therefore argued to set the foundation for further sustainable growth.

By also taking ICT Layer analysis into account, one may find that eBay as well as Amazon were mostly active in the platform (4a) and application (4c) layer, where network effects are characterised to be of great importance. The suggested findings as well as presented theory lead to the conclusion that *proposition 1* may be supported. In contrast to eBay, Amazon nevertheless shows early signs of enveloping into adjacent businesses and ICT layers (such as network (3)). Before the background of the presented and core market enhancement, it becomes evident that eBay focuses slightly more on its core market than Amazon.

#### 4.4 Spread envelopment engagement (2009-2011)

In stage 1, both companies rather focused on core market enhancement through concentrated growth and concentrated diversification, with Amazon already starting to engage in greater envelopment scope. With the beginning of the second stage, both companies started to expand their envelopment scope e.g. eBay aiming at expanding its boundaries extensively by not solely being an online auction company anymore but a platform provider connecting millions of buyers and sellers. From 2010 to 2011 eBay announced several new technologies and product introductions, with PayPal getting even stronger, accelerations in Classifieds being achieved and advertising and entertainment being pursued through e.g. StubHub businesses. Most importantly, the power of PayPal has been highlighted, stating that it is expected to become the leading online payment platform by 2012.

By looking at eBay's and Amazon's introduction of NVPs, it becomes evident that the second stage is characterised by rather experimental envelopment activities. The experimental nature of type III envelopment attacks becomes mostly visible, as both companies tend to spread their NVPs across several new markets ([Eisenmann et al., 2010](#)). Comparing both stages in terms of NVPs and product launches, stage two is clearly dominated by a more frequent number of introductions across an increasing number of different markets as stage one is characterised by cautious innovations in a limited number of markets. Taking Amazon it may be noted that offerings from 2009 onwards have been spread widely across a growing number of markets enveloping into a total number of 5 markets in 2009, 10 markets in 2010 and 8 markets in 2011. eBay also enveloped into a greater number of markets, namely 8 in 2009, 12 in 2010 and 9 in 2011. In relation to previous years, this may be seen as a substantial increase for both companies. Amazon enveloped into areas of software application design and development, operating system enhancements as well as middleware. eBay also engaged in enveloping NVPs into unrelated markets such as integrated development environment and entertainment. Initially, both companies introduced only single NVPs per market across the first stage. In the second stage

nevertheless it becomes evident that Amazon as well as eBay continue to spread their platforms e.g. Amazon by increasing 4 NVPs in 2010 and 7 in 2011 markets.

By looking at eBay and Amazon’s presence in different ICT Layers, it may be noted that both extended their presence in the different layers from 3/ 4 during the first stage to 5 out of 6 layers in 2011. As being present in almost all ICT layers, it becomes evident that both companies have engaged into type III envelopment attacks exclusively in the second stage. The suggested findings as well as presented theory lead to the conclusion that *proposition II* may be supported.

eBay and Amazon’s experimental engagement into unrelated markets, is also recognised by Chesbrough (2010), who states that experimentation may also be seen as a form of BM innovation. By pursuing a spread strategy, core markets are seldom build up. Nevertheless, quick market penetration of a variety of markets may lead to increased economies of scope.

By recalling eBay and Amazon’s revenue over the whole period, it is rather obvious that changes in envelopment behaviour are also visible through revenue changes. By 2009, Amazon started to draw near eBay, increasing its revenue by 2,24 Billion US\$. In recent years Amazon’s revenue started to increase substantially, finally amounting up to 9,86 Billion US\$. Both increased their revenue substantially in the second stage of development.

#### 4.5 Discussion

In order to further highlight the dynamic nature of envelopment at digital platform companies, the Platform Envelopment Lifecycle Matrix (hereinafter PELM) model is presented (Müller, 2015). PELM is stated to be an addition to Eisenmann et al.’s (2010) typology by further distinguishing two stages of platform maturity, the ‘growth stage’ and the ‘maturity stage’. Each platform maturity stage is, in turn dominated by certain envelopment types. As analysed at eBay and Amazon, the initial growth stage is characterised by core market enhancement as well as focused diversification (type I & II envelopment) strengthening the initial core as well as ‘complementaries’ (Eisenmann et al., 2010). Further, by entering the maturity stage, experimental envelopment types (type III envelopment) may be more prominent to generate further growth (Eisenmann et al., 2010). During the initial growth stage envelopment is exercised in a low to moderate number of markets in contrast to the maturity stage, which is distinctive for a high number of market envelopments. Almost the same applies to digital-platform companies’ presence in different ICT layers. As proposed, companies engage in an increasing number of ICT markets, while moving from the growth to the maturity stage.

Findings from analysing eBay and Amazon can also be summarised by the PELM model.

Stages of platform maturity			
Growth stage			Maturity stage
Envelopment type	Core market enhancement	Focused diversification	Experimental
Numer of market envelopments	low	moderate	high
Presence in ICT layers	moderate	moderate	high

Figure 9: Platform Envelopment Lifecycle Matrix (Müller, 2015)

### 5 CONCLUSION & CONTRIBUTION

Concluding, it may be stated that digital platform companies may utilise the presented information by engaging into focused growth as well as focused diversification in the early stages of development. By focussing on core and adjacent markets, digital platform companies may lay the foundation for future sustainable growth as highlighted at eBay and Amazon. Once a business has been strengthened from the core, implying its user base to be extensive, as well as network effects being present, experimentation into unrelated markets during mature stages of development, driven by either innovation- or competition-driven motives, may yield further stimulation of sustainable growth. This may also be due to earlier success.

Following, the main contributions delivered by this paper and the executed case study are being brought forward; this paper reasons the failure of existing literature on value proposition evolution and BM innovation to address the dynamic evolutionary nature of digital platform companies. Therefore, until now, no comprehensive explanation regarding the evolution of digital platform organisations over time exists. By developing the existing body of knowledge, this paper provides a rather strategic but also practical approach towards the application of envelopment practices, in other terms, how digital platform companies innovate and differentiate their offerings over time.

Thus, this paper aims to indicate the evolvement of envelopment over time in digital platform organisations by adding the dynamic as well as practically related element to envelopment attacks. In doing so, press releases and blog posts by eBay and Amazon with regard to product introductions from 2006 to 2011 were reviewed and compared.

## 5.1 Theoretical & managerial implications

In the following paragraph the theoretical as well as managerial implications of this paper are being presented; this paper, mainly contributes to existing literature by adding valuable insights to Eisenmann et al.'s (2006, 2010) envelopment typology. By adding a dynamic factor, this paper can therefore be seen as an extension to the envelopment theory of Eisenmann et al. (2006, 2010). Moreover, it has been investigated how BM innovation may be achieved in digital platform organisations such as eBay and Amazon, which is still very indistinct and therefore somewhat unreliable throughout academia.

Also, a strategic approach towards the application of envelopment as a source of BM innovation for practitioners is granted. As an example, practitioners may be advised to employ concentration envelopment to strengthen their market presence and in their particular operated segment(s). Thereby, core capabilities may be generated and enhanced, benefiting the long-term management of innovative pace and the avoidance of becoming stuck. Practitioners may also be advised to employ concentration envelopment in certain combination with spread envelopment to simultaneously strengthen core and adjacent markets but also to experiment and envelop into unrelated markets. By explicitly highlighting the opportunity to execute viable, sustainable envelopment strategies, practitioners may be able to develop and shape mega-platforms through continuous efforts.

In general, a differentiated perspective like the presented, offers visions as well as a vast range of possibilities, which otherwise would not been evident and detectable through static approaches.

## 5.2 Limitations

The paper at hand underlies several limitations, which will be presented in the following paragraph; first, the presented findings are restricted to only two digital platform organisation's (eBay and Amazon) press releases and blog posts. It has been argued that internal validity is expected to be relatively high as both companies are leading digital e-commerce platforms. Nevertheless, it also needs to be taken into account that, due to the resemblance (core market, access to capital as examples) external validity may be decreased. Nevertheless it is reasoned that internal validity is perceived to be 'more important' in order to grant the comparability of realised envelopment practices and implications on BMs at different leading digital platform companies.

Secondly, this paper is restricted to the chosen time frame from 2006 to 2011. As stated by Al-Debei and Avison (2010) BMs are rapidly evolving as new stimuli appear. Therefore, it needs to be taken into account that a case study applied to eBay and Amazon at a different time frame as well as BM innovation and envelopment activities in other digital platform organisations may produce different results and insights.

In general, it may be stated that innovation, per se BM innovation, involves many different perspectives and actions, which are considered to be difficult to model and predict with traditional approaches.

## 5.3 Implications for further research

Suggestions for future research for researchers as well as practitioners are being presented in the following paragraphs; "As we are still in the early stages of understanding how common and important [industry] platforms really are" (Cusumano, 2010) (p. 34).

Given the rapidly increasing emerge of digital platform organisations throughout various industries; possibilities for further research are numerous.

As an example, eBay's BM evolution through envelopment techniques might be compared to "direct" competitors such as Alibaba.com. Furthermore, in order to test the generalizability of the proposed test results, this chosen time frame could be applied to other digital platform organisations from different industries such as telecommunications. Interesting findings may also be revealed by applying the proposed framework and analysis to emerging platform companies.

## 5.4 Acknowledgements

In the following paragraph I want to express my gratitude to my advisor Björn Kijl, for his endless patience as well as flexibility. I can image that it was not easy being my mentor.

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# APPENDIX

## Appendix A

### Software Product Classification (Zahvie & Lavie, 2009)

#### 1. Personal Applications

- 1.1. Educational/ training
- 1.2. Reference
- 1.3. Games
- 1.4. Entertainment
- 1.5. Life Style
- 1.6. Personal Productivity
- 1.7. Personal Multimedia Productivity
- 1.8. Personal Productivity Utilities
- 1.9. Business productivity
- 1.10. Utility Systems
- 1.11. Operating System Enhancement
- 1.12. Internet Communications

#### 2. System Infrastructure

- 2.1 Network Management (logical)
- 2.2 Network Management
- 2.3 Data Structuring, acc. & Manipulation
- 2.4 Integrated Development Environment
- 2.5 Software Application Design
- 2.6 Software Application Development
- 2.7 System Level Application
- 2.8 Storage
- 2.9 Security
- 2.10 Middleware
- 2.11 IT System Management Software

#### 3. Vertical Applications

- 3.1 Banking
- 3.2 Government
- 3.3 Health Care Services & Medicine
- 3.4 Insurance
- 3.5 Legal
- 3.6 Entertainment & Media Communications

- 3.7 Real Estate
- 3.8 Aerospace & Aviation
- 3.9 Agriculture & Farming
- 3.10 Apparel & Fashion
- 3.11 Automotive
- 3.12 E-learning/ Education
- 3.13 Food Services & Beverages
- 3.14 Hospitality/ Travel
- 3.15 Mapping
- 3.16 Not-for-Profit
- 3.17 Telecommunications
- 3.18 Energy/ Utilities
- 3.19 Retail & Wholesale
- 3.20 Science & Engineering

#### 4. Business Applications

- 4.1. Enterprise Resource Planning
- 4.2. Accounting
- 4.3. Factory/ Facility Management
- 4.4. Financial Analysis & Management
- 4.5. Manufacturing
- 4.6. Sales & Marketing
- 4.7. Product Design & Development
- 4.8. Logistics
- 4.9. Collaborative Applications
- 4.10. Human Resource Management
- 4.11. Data Analysis
- 4.12. Decision Support Systems (DSS)

#### 5. Packages

- 5.1. Integrated Development Environment
- 5.2. Enterprise Resource Planning
- 5.3. Office Suite
- 5.4. Integrated Accounting
- 5.5. Manufacturing Resource Planning
- 5.6. Customer Relationship Management
- 5.7. Supply Chain Management
- 5.8. Human Resource Management

## Appendix B

### Comparison Key Figures, eBay & Amazon (2006, 2011)

	eBay		Amazon	
Year of Foundation	1995		1994	
Founder(s)	Pierre Omidyar		Jeffrey Preston “Jeff” Bezos	
HQ	San Jose, California, U.S.		Seattle, Washington, U.S.	
Key competitors per industry (in 2016)	Alibaba Group Holding Ltd, Alphabet Inc, Amazon.com, Inc, Etsy Inc, Liberty Interactive Group, Mercadolibre Inc., Microsoft Corporation, Sears Holdings Corp, Wal-Mart Stores, Inc., Yahoo! Inc. <sup>1</sup>		Alphabet Inc, CaféPress Inc, CBS Corporation, eBay Inc, International Business Machines Corp., JD.Com Inc (ADR), Liberty Interactive Group, Microsoft Corporation, NEWS CORP NEW CDI NPV CLASS B (NEW), Twenty-First Century Fox Inc <sup>2</sup>	
	<b>December 31, 2006<sup>34</sup></b>	<b>December 31, 2011<sup>56</sup></b>	<b>December 31, 2006<sup>7</sup></b>	<b>December 31, 2011<sup>5</sup></b>
# Employees*	13,200	27,779	13,900	56,200
# Active Users/ Customers (in millions)**	82	100,4	na	na
Revenue (in billions)	5,97	11,65	10,71	48,08
Revenue Growth Rate (in %)**	31,1 <sup>8</sup>	27,3 <sup>9</sup>	28 <sup>10</sup>	38 <sup>11</sup>
Return on Capital Invested (in %)	9.88 <sup>12</sup>	17,02 <sup>12</sup>	12,06 <sup>13</sup>	7,60 <sup>13</sup>

\* Including temporary workers

\*\* Active users are defined as “any user who bid on, bought or listed an item on any of our eBay Marketplaces trading platforms, excluding users of Half.com, StubHub, and our Korean subsidiaries, during the preceding 12-month period. Users may register more than once and as a result may have more than one account.”<sup>4</sup>

\*\*\* International, including effects of currency changes

<sup>1</sup> <https://www.google.com/finance/related?q=NASDAQ%3AEABAY&ei=gW27VpHTKM3Ce6WDr9gF>

<sup>2</sup> <https://www.google.com/finance/related?q=NASDAQ%3AAMZN&ei=j2y7VrnDG9frsAGBkLOYAQ>

<sup>3</sup> [http://www.wikinest.com/stock/EBay\\_\(EBAY\)/Data/Revenue/2006](http://www.wikinest.com/stock/EBay_(EBAY)/Data/Revenue/2006)

<sup>4</sup> <https://investors.ebayinc.com/secfiling.cfm?filingID=950134-07-4291&CIK=1065088>

<sup>5</sup> [http://www.wikinest.com/stock/Amazon.com\\_\(AMZN\)/Data/Revenue/2011](http://www.wikinest.com/stock/Amazon.com_(AMZN)/Data/Revenue/2011)

<sup>6</sup> <https://investors.ebayinc.com/secfiling.cfm?filingID=1065088-12-6&CIK=1065088>

<sup>7</sup> <http://phx.corporate-ir.net/phoenix.zhtml?c=97664&p=irol-reportsannual>

<sup>8</sup> [http://www.wikinest.com/stock/EBay\\_\(EBAY\)/Data/Revenue\\_Growth/2006](http://www.wikinest.com/stock/EBay_(EBAY)/Data/Revenue_Growth/2006)

<sup>9</sup> [http://www.wikinest.com/stock/EBay\\_\(EBAY\)/Data/Revenue\\_Growth/2011](http://www.wikinest.com/stock/EBay_(EBAY)/Data/Revenue_Growth/2011)

<sup>10</sup> [http://www.wikinest.com/stock/Amazon.com\\_\(AMZN\)/Data/Revenue/2006](http://www.wikinest.com/stock/Amazon.com_(AMZN)/Data/Revenue/2006)

<sup>11</sup> [http://www.wikinest.com/stock/Amazon.com\\_\(AMZN\)/Data/Revenue/2011](http://www.wikinest.com/stock/Amazon.com_(AMZN)/Data/Revenue/2011)

<sup>12</sup> <http://financials.morningstar.com/ratios/r.html?t=EBAY>

<sup>13</sup> <http://financials.morningstar.com/ratios/r.html?t=AMZN>

## **APPENDIX C**

### **The columns of the MS Excel-based data collection template**

1. Full article
2. Headline and paragraph
3. Launch date
  - a. Year
4. Company (eBay/Amazon)
  - a. Partner Company
5. Product name
6. Product version
7. Product type
8. Customer classification
9. Category choice
  - a. Product launch
  - b. New version
  - c. Launch with partners
  - d. Bundling
  - e. Platform
10. Software classification
11. Platform layer (Adapted Layer Model)
12. [Software Classification (Detailed)]

## APPENDIX D

### Classification of Product Category, eBay 2006-2011

		Product category				
		Product launch	New version (of existing product)	Launch with partners	Bundling	Platform
Launch date	2006					
	2007					
	2008	17	5	3	10	15
	2009	21	12	6	6	25
	2010	22	22	7	14	28
	2011	23	8	5	8	23
Total		83	47	21	38	91

### Classification of Product Category, Amazon 2006-2011

		Product category				
		Product launch	New version	Launch with partners	Bundling	Platform
Launch date	2006	9		2	9	6
	2007	6		1	4	6
	2008	8			8	6
	2009	7	3		10	9
	2010	12	11	1	21	15
	2011	13	4	2	17	13
Total		55	18	6	69	55

## APPENDIX E

### ICT Layer Analysis, eBay 2006-2011

	1 Devices	2 OS	3 Network	4a Platform	4b Content	4c Applications
2006						
2007						
2008			1	12		10
2009			2	19	3	10
2010	1		1	13	1	26
2011	1		2	16	2	11
<b>Total</b>	<b>2</b>	<b>0</b>	<b>6</b>	<b>60</b>	<b>6</b>	<b>57</b>

### ICT Layer Analysis, Amazon 2006-2011

	1 Devices	2 OS	3 Network	4a Platform	4b Content	4c Applications
2006			1	5		3
2007	1			3	1	1
2008			1	6		1
2009	2		1	6		1
2010	3		4	4	1	6
2011	3		6	2	1	5
<b>Total</b>	<b>9</b>	<b>0</b>	<b>13</b>	<b>26</b>	<b>3</b>	<b>17</b>

## APPENDIX F

### eBay quarterly report figures, 2006-2007

		Marketplaces					Payments		Communication
		Registered users (000,000)	Active users (000,000)	Listings (000,000)	Gross margin volume (GMV, bil\$)	Stores worldwide (,000)	Total (active) payment accounts (000,000)	Total purchase volume (TPV) (in \$bil)	Registered users (000,000)
2006	Q1	192,9	75	575,4	12,5	486	29,2	8,8	94,6
	Q2	202,7	78	596	13	541	29,5	9	113
	Q3	211,9	79,8	584	12,6	573	30,9	9,1	136
	Q4	221,6	81,8	610	14,4	593	37,6	11	171,2
2007	Q1	233,4	82,9	588	14,28	632	51,3	11,36	196
	Q2	241	83,3	559	14,46	649	52,8	11,69	219,6
	Q3	147,6	83	556	14,4	520	54,8	12,22	246
	Q4	n.a.	83,2	637	16,21	532	57,3	14,04	276,3



eBay quarterly report figures, 2008-2009

		Marketplaces					Payments		Communication
		Registered users (000,000)	Active users (000,000)	Listings (000,000)	Gross margin volume (GMV, bil\$)	Stores worldwide (,000)	Total payment/registered accounts (000,000)	Total purchase volume (TPV) (in \$bil)	Registered users (000,000)
2008	Q1	n.a.	83,9	647,4	16,03	547	60,2	14,42	309,3
	Q2	n.a.	84,5	666,9	15,68	552	62,6	14,93	338,2
	Q3	n.a.	85,7	700,2	14,28	534	65,3	14,81	370,2
	Q4	n.a.	86,3	n.a.	13,64	516	70,4	15,98	405,3
2009	Q1	n.a.	88,3	n.a.	12,87	n.a.	73,1	15,85	n.a.
	Q2	n.a.	88,4	n.a.	13,42	n.a.	75,4	16,7	n.a.
	Q3	n.a.	89,2	n.a.	14,57	n.a.	78	17,68	n.a.
	Q4	n.a.	90,1	n.a.	16,33	n.a.	81	21,36	n.a.