

MSc in Economics and Business Administration

Management of Innovation and Business Development

TRANSITION PROCESS FROM CLOSED TO OPEN BUSINESS MODELS

MASTER THESIS

Student: Viktoras Sokolovas

Supervisor: Marion Poetz

Assistant Professor

Department of Innovation and Organizational Economics

Abstract

Because of the growing concerns about shortening product life cycle and raising costs of R&D, companies are searching for new ways of doing business. There is an opinion that this can be done through business model innovation which can bring companies from closed to open business model. The purpose of this study is to find out what the drivers of business model innovation process are and depict the specific ones, which drives business model from closed to open type. Literature review method is used to depict those drivers and propose conceptual model.

After literature analysis, eight drivers of business model innovation process were found. Study reveals that three of them drive business model innovation inside the current or existing type of business model and five of them drive business model innovation toward more advanced or open type of business model. This paper combines all eight drivers into conceptual model, which can be used for the future researches.

Keywords: Business Model, Open Business Model, Business Model Framework, and Business Model Innovation.

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1. Introduction and purpose

Topic of Business Models in recent years increased significantly in the number of research papers in the field of innovation and strategic management. We can see growing interest towards the phenomenon of Open Business Models and especially Business Models Innovation or Business Models Experimentation. As Henry Chesbrough states: "A mediocre technology pursued within a great business model may be more valuable that a great technology exploited via a mediocre business model" (Chesbrough H., Business Model Innovation: Opportunities and Barriers, 2010, p. 354).

1.1 Motivation and problem statement

Business Model is the means of value creation and value capture and it defines activities from raw materials to final customer (Chesbrough H. W., Business model innovation: it's not just about technology anymore, 2007). BM serves as a blueprint for the strategy to be implemented and describes the rationale of how an organization creates, delivers, and captures value (Osterwalder & Pigneur, 2010). Regarding Teece, companies use BM to "defining the manner by which the enterprise delivers value to customers, entices customers to pay for value, and converts those payments to profit" (Teece, 2010, p. 172). Effective BM is something that a company uses to fulfil the real customer needs (Johnson, 2008).

Two main functions of business models are value creation and capture portion of that value. Chesbrough is arguing that standard business models in some industries cannot create as much value for the companies as it could years ago, the two main reasons of this being rising costs of innovation and shortening life cycle of the products (Chesbrough H., Open business models: How to thrive in the new innovation landscape, 2006). A solution to both of these problems, Chesbrough says, is Open Business Models (OBM). OBM can help to reduce costs and time to market by collaborating with external players and make higher revenues from licensing, spinoffs, or sales (Chesbrough H., Open business models: How to thrive in the new innovation, or OBM, companies can exploit external ideas – "outside-in", or share unused ideas or assets with external players – "inside-out" (Osterwalder & Pigneur, 2010). "Rapid changes in technology, the competitive environment, firm strategies and other pressures are prompting many firms to seek continuing cooperative relationships with other firms. These joint efforts are seen as expeditious ways to keep pace, especially when the firm is seeking

unique and pioneering resources." (Ring & Van de Ven, 1992, p. 483). The importance of collaboration will only grow, as opportunities open up in the different markets where companies have little experience, and competition emerges from unexpected places (Astle, 2007). Based on this, we can state that the importance of OBM will only grow in future.

Business Model Framework (BMF) of Henry Chesbrough (Chesbrough H., Open business models: How to thrive in the new innovation landscape, 2006) helps companies to understand where breakthrough happens in the way from closed business models to open business models. BMF helps companies to find out current stand of BM in relation to its potential and help to plan the next steps to improve it. BMF consist of six types of BM: Type1 - undifferentiated BM; Type2 - some differentiation in BM; Type3 - segmented BM; Type4 - externally aware BM; Type5 - company integrates its innovation process with its BM; and Type6 - company's BM is able to change, and is changed, by the market. Chesbrough states that BM of Type 4 is the step towards more open BM. It means that if companies need to reduce cost of innovation and get the possibility to benefit from unused technology, they need to think of how to innovate their BM and become more open.

Furthermore, companies need to think about new business models when they need to create the new growth (Johnson, 2008), and Business Model Innovation (BMI) might be of help here. BMI can help companies not only to change the way they do business but to make the transition to more advanced or more open BM. Fundamental changes must be done in the way to OBM and businesses have to think how to explore and use external ideas and how to make benefit out of unused knowledge or assets. Some researchers are arguing that BMI is better or more effective than product and process innovation. For example, Amit & Zott argue that companies are making a lot of efforts to innovate their products and processes, but it is a time consuming and costly process and because of this, more and more companies turn to BMI as an alternative. But in order to innovate BM, companies need to experiment with it beforehand and make sure that it is worth their while to make the change. Sinfield et al explain that BM experimentation is a quick and inexpensive means to exploring alternative value creation. Furthermore, Amit & Zott say that BMI may be the source of value creation, sustainable performance advantage and a strong competitive tool, and because of that it matters to managers.

On the other hand, Chesbrough (Chesbrough H. W., Business model innovation: it's not just about technology anymore, 2007) is arguing that BM experimentation is an expensive and time-

consuming process. He explains that evidence from experiments must be gathered, managers must interpret and understand the results, the most promising directions must be detected and further experiments conducted. After that, promising BM will have to be scaled up gradually, until it reaches the level of the whole company. In addition to this, Chesbrough talks about "business model innovation leadership gap", the term, which he uses to describe the lack of authority and capability in the company for BMI. Furthermore, he says that managers are more comfortable with the old BM as they know that thoroughly. In his work with Rosenbloom (Chesbrough & Rosenbloom, The role of the business model in captring value from innovation: evidence from Xerox Corporation's technology spin-off companies, 2002) Chesbrough talks about dominant logic which serves like a filter to filter out everything that does not fit with existing BM. Resistance to change can play a major role here as well. In organizational change theory, we can find some examples of this. For instance, in his book Palmer et al (Palmer, Dunford, & Akin, 2009) explains that there is resistance to change from people in the organization and the main reasons, among others, are: lack of conviction that change is needed; believe that the specific change being proposed is inappropriate; attachment to the established organizational culture/identity; lack of clarity as to what is expected; and dislike of change.

Based on theory sources (Amit & Zott, Creating Value Through Business Model Innovation, 2012) (Sinfield, Calder, McConnell, & Colson, 2011) we can see that BMI is a faster and cheaper way of value creation and value capture, compared to product or process innovation. Another theory source (Chesbrough H. W., Business model innovation: it's not just about technology anymore, 2007) argues that BMI is a time consuming and expensive process. Furthermore, theories contradict in the matter of management involvement in the BMI process. For example, Amit & Zott state that BMI matters to managers. Although Chesbrough explains that because of the rotation of managers, lack of authority and capability as well as uncertainty, nobody in the company are willing to start such a process.

Lindgardt et al states that: "Many companies pursue BMI as a defensive move to protect a dying core business or defend against aggressive competitors. But we are convinced that BMI can be most powerful when it is approached proactively to explore new avenues of growth" (Lindgardt, Reeves, Stalk, & Deimler, 2009, p. 3). In relation to this I would like to find out what drives companies towards business model innovation and is there any specific or distinctive drivers towards open business models. The following reseach question will be addressed:

What are the drivers of business model innovation process, and which of them drivers business models from closed to open type?

By answering this question, I will be able to understand what actually drives companies to innovate their business models and which drivers help companies to reach a more advanced or more open business model type. Business model framework of Henry Chesbrough will be used as the transitional tool from closed towards open business model to help me answering my research question. I will also be using the description of business model, open business model, and business model innovation from different scientific articles to better understand what it actually is. Furthermore, I will invoke strategic management, organizational change, and management of innovation theories to help myself to find the answer.

1.2 Delimitation

The main focus of this study is the drivers of business model innovation depicted in the theory sources and scientific articles. Based on the literature analysis conceptual model will be offered. Although research is based on theoretical sources, a couple of empirical examples from scientific papers will be included. Key drivers of business model innovation process will be revealed and it can be used as the basis for future research.

1.3 Structure

My thesis consists of the following sections. Section 2 is a literature review section which introduces us to the concept of business model, open business model, business model framework and business model innovation. Section 3 describes the methodological part of the thesis. Section 4 deals with literature analysis and describes eight drivers of business model innovation process. Section 5 offers conceptual model based on the literature analysis and explains which of the drivers are essential to make the transition process from closed towards open business model type. Conclusions, limitation and further research directions can be found in section 6. The final section, section 7, lists references to theoretical sources.

2. Literature review

In this section, we will find out what is business model and open business model. Furthermore, I will describe business model framework and explain what business model innovation is.

2.1 Business Model and Open Business Model

Although Business Models and Open Business Models consist of the same elements or building blocks, there are some major differences between them. This differences stem from the imbedded logic of how a company is doing business. In this section, I will describe what are the Business Models and what are the Open Business Models in order to understand these two constructs and the main difference between them.

2.1.1 Business Model

What is a Business Model (BM)? Why do companies need it (need to be aware of it)? And what are the main elements? In order to answer these questions, I have decided to choose the works of four different authors and show the main idea behind BM (Chesbrough H. W., Business model innovation: it's not just about technology anymore, 2007), (Johnson, 2008), (Osterwalder & Pigneur, 2010), and (Teece, 2010).

<u>Henry Chesbrough</u> (Chesbrough H. W., Business model innovation: it's not just about technology anymore, 2007) explains that BM is the means of value creation and value capture. As he shows, BM defines activities from raw materials to final customer in order to create a product or service (value creation), and shows how a company captures portion of that value (value capture). Six elements (Chesbrough H. W., Business model innovation: it's not just about technology anymore, 2007) and functions of those elements (Chesbrough & Rosenbloom, The role of the business model in captring value from innovation: evidence from Xerox Corporation's technology spin-off companies, 2002) of BM are described below:

- 1. Value proposition articulate the *value proposition*, i.e. the value created for users by the offering based on the technology;
- Market segment identify a *market segment*, i.e. the users to whom the technology is useful and for what purpose, and specify the revenue generation mechanism(s) for the firm;

- 3. Value chain define the structure of the *value chain* within the firm required to create and distribute the offering, and determine the complementary assets needed to support the firm's position in this chain;
- 4. Revenue mechanism estimate the *cost structure* and *profit potential* of producing the offering, given the value proposition and value chain structure chosen;
- 5. Value network or ecosystem describe the position of the firm within the *value network* linking suppliers and customers, including identification of potential complementors and competitors;
- 6. Competitive strategy formulate the *competitive strategy* by which the innovating firm will gain and hold advantage over rivals.

Furthermore, as shown in Figure 1, Chesbrough & Rosenbloom depicts the possition of BM between technical inputs and economic outputs.



Measured in technical domain

Measured in economic domain

Figure 1 The business model mediates between the technical and economic domains. Source: (Chesbrough H. W., Business model innovation: it's not just about technology anymore, 2007)

A little bit different definition is offered by <u>Johnson</u> (Johnson, 2008). The author argues that effective BM is something that a company uses to fulfil the real customer needs. Four elements of BM, which Johnson describes, are: customer value proposition, profit formula, key resources, and key processes.

Customer Value Proposition (CVP)

- Target customer
- Job to be done to solve an important problem of fulfill an important need for the target customer.
- Offering, which satisfies the problem or fulfills the need. This is defined not only by what is sold but by how it's sold.



Figure 2 The Elements of a Successful Business Model. Source: (Johnson, 2008)

PROFIT FORMULA

- Revenue model How much money can be made: price x volume. Volume can be thought of in terms of market size, purchase frequency, ancillary sales, etc.
- Cost structure How costs are allocated: includes cost of key assets, direct costs, indirect costs, economies of scale.
- Margin model How much each transaction should net to achieve desired profit levels.
- Resource velocity How quickly resources need to be used to support target volume. Includes lead times, throughput, inventory turns, asset utilization, and so on.

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By referring to *customer value proposition*, the author explains that this is very important element as it helps to find the solution to existing customer problems.

Not less important is *profit formula* or blueprint which shows how by satisfying customer needs, the company creates value for itself. Profit formula is further dismanteled into the following elements: revenue model, cost structure, margin model, resource velocity.

<u>Key resources</u> consists of the elements or assets (people, facilities, technology, equipment, etc.) which by interacting with each other creates value first of all for the costumer and then for the company.

<u>Key processes</u> are operational and managerial interactions which create value and can increase it in scale. Examples could be training, manufacturing, budgeting, sales and so on.

Johnson says that these four elements prevail in any business as building blocks. Furthermore, he explains that any major change to one of them will affect the others. On the way to new growth creation, companies need to think about the new business models and try to understand the connection between the elements; see Figure 2.

More elaborate explanation of business models can be found int the book of <u>Osterwalder &</u> <u>Pigneur</u> (Osterwalder & Pigneur, 2010). In their work, the authors explain that: "A business model describes the rationale of how an organization creates, delivers, and captures value (Osterwalder & Pigneur, 2010, p. 14)." The authors argue that BM serves as a blue print for strategy to be implemented. They name nine building blocks that BM consists of: Customer segment; Value proposition; Channels; Customer relationships; Revenue stream; Key resources; Key activities; Key partnerships; Cost structure. Figure 3 shows all nine building blocks.

<u>*Customer segment*</u> shows groups of people, or organizations, which are targeted by the company. Here is important to make a clear cut between customer groups in order to segment them. This is necessary to better understand different segments and better satisfy different needs. Some of the customer segment types are depicted by the authors: Mass market; Niche market; Segmented; Diversified; Multi-sided platforms.

<u>Value proposition</u> is basically product and services which creates value for the chosen customer segment. It is an important part because it satisfies specific needs or solves specific problems. If a company is unable to deal with this task, then customers will turn to competitors or competitive

products or services. The main elements of value proposition can be: Newness; Performance; Customization; "Getting the job done"; Design; Brand/status; Price; Cost reduction; Risk reduction; Accessibility; Convenience/usability.



Figure 3 Building Blocks of Business Model. Source: (Osterwalder & Pigneur, 2010)

<u>Channels</u> are interface with customer through communication, distribution, and sales. Some of the Channels functions described by authors are: Raising awarness among customers about a company's products and services; Helping customers evaluate a company's Value Proposition; Allowing customers to purchase specific products and services; Delivering a Value Proposition to customers; Providing post-purchase customer support.

As depicted in Figure 4, channels have five phases: Awareness; Evaluation; Purchase; Delivery; After sales.

Channel Types		nel Types	Channel Phases					
G		Sales force						
NWD	Dire	Web sales	1. Awareness	2. Evaluation	3. Purchase	4. Delivery	5. After sales	
	¥	Own stores	How do we raise awareness about	How do we help customers evaluate	How do we allow customers to	a Value Proposition	How do we provide post purchase	
ner	direc	Partner stores	our company's products and	our organization's Value Proposition?	purchase specific products and	to customers?	customer support?	
Part	In	Wholesaler	services?		services?			

Figure 4 Channel Types and Phases. Source: (Osterwalder & Pigneur, 2010)

<u>Customer relationships</u> can start from personal and extend to automated. This is basically the type of relationships with Customer Segments a company establishes. Three types of motivations with customer relationships depicted by authors are: Customer acquisition; Customer retention; Boosting sales (upselling).

The authors also depict following categories of customer relationships: Personal assistance; Dedicated personal assistance; Self-service; Automated service; Communities; Co-creation.

<u>Revenue stream</u> is the cash from different customer segments. One or more revenue streams from each customer segment can be generated. In Table 1, the authors show different pricing mechanism which companies may use. According to the authors, two types of revenue streams can be used by BM: One-time payments; Ongoing or recurring payments.

]	Fixed Menu Pricing	Dynamic Pricing			
Predefine	ed prices are based on static	Pricing change based on market conditions			
	variables				
List price	List price Fixed prices for individual		Price negotiated between two		
products, services, or other		(bargaining)	or more partners depending		
	Value Propositions		on negotiation power and/or		
			negotiation skills		
Product Price depends on the number		Yield	Price depends on inventory		
feature or quality of Value Proposition		management	and time of purchase		
dependent	features		(normally used for perishable		
			resources such as hotel rooms		
			or airline seats)		
Customer Price depends on the type and		Real-time-	Price is established		
segment characteristic of a Customer		market	dynamically based on supply		
dependent Segment			and demand		
Volume	Price as a function of the	Auctions	Price determined by outcome		
dependent quality purchased			of competitive bidding		

Table 1 Pricing Mechanisms. Source: (Osterwalder & Pigneur, 2010)

Some of the ways to generate revenue streams depicted as well: Asset sale; Usage fee; Subscription fees; Lending/Renting/Leasing; Licensing; Brokerage fees; Advertising.

<u>Key resources</u> allow creation of value proposition, delivering it to the market, having the relationships with customers, and earning money. Resources can be owned, leased or acquired, and they can be categorized into: Physical; Financial; Intellectual; Human.

<u>Key activities</u> are the things which businesses must do in order to operate. Key activities can be different depending on the BM type that the company employ and can be categorized into: Production; Problem solving; Platform/Network.

<u>Key partnerships</u> are basically the networks of suppliers and partners. The authors describe four types of partnerships: Strategic alliances between non-competitors; Cooperation: strategic parnerships between competitors; Joint ventures to develop new businesses; Buyer-supplier relationships to assure reliable supplies.

Alliances are created to reduce risk, acquire necessary resources, or optimize BM. The authors state that there might be three types of motivations for partnership creation: Optimization and economy of scale; Reduction of risk and uncertainty; Acquisition of particular resources and activities.

<u>Cost structure</u> shows the most important costs imbedded in the company, and it may have following characteristics: Fixed costs; Variable costs; Economies of scale; Economies of scope.

In relation to cost, companies can have a different focus where distinction between the two types emerges: cost driven – where focus is cost minimization; value-driven – where value creation has higher priority.

David Teece (Teece, 2010) has very similar percepcion to BM as Osterwalder & Pigneur. Teece explains that BM is something that "describes the design or architecture of the value creation, delivery, and capture mechanisms it employs" (Teece, 2010, p. 191). In his point of view, companies use BM to "define the manner by which the enterprise delivers value to customers, entices customers to pay for value, and converts those payments to profit" (Teece, 2010, p. 172). As depicted in Figure 5, the following elements of BM design are described: Select technologies and features to be imbedded into the product/service; Determine benefit to the customer from

consuming/using the product/service; Identify market segments to be targeted; Confirm available revenue streams; Design mechanisms to capture value.



Figure 5 Elements of business model. Source: (Teece, 2010)

As we can see from this part of my work, all the authors agree that Business Model is the construct that helps to create value, deliver that value and get some portion of created value. More elaborate explanation of BM, with nine building blocks, can be found in the work of Osterwalder & Pigneur and I will therefore refer to this work when talking about Business Model.

2.1.2 Open Business Model

Open business model (OBM) is a quite new phenomenon and it is used by the companies to open up for the new opportunities such as external ideas, cost reduction, and additional revenue sources. The OBM is very similar to the BM but differs in the way companies collaborate under BM construct with external partners and capture additional portion of value. The open business model approach is broadly discussed in the book of Henry Chesbrough (Chesbrough H., Open business models: How to thrive in the new innovation landscape, 2006). Chesbrough explains that two main functions of business models are value creation and capturing portion of that value. The author is arguing that standard business models in some industries cannot create as much value for the companies as it could years ago. He points to two main reasons for this: the first one is rising costs of innovation; the second one is shortening life cycle of the products, Figure 6. The solution for both of them, he says, is open business models. OBM can help to reduce costs and time to market by collaborating with external players, and in order to make higher revenues from a product OBM allows licensing, spinoffs, or sales (see Figure 7). A good example of external collaboration is Open Innovation, a term coined by Henry Chesbrough. As this is the new phenomenon, I will discuss it in more detail.



Figure 6 Closed BM (Source: http://sloanreview.mit.edu/article/why-companies-should-have-open-business-models/)



Figure 7 Closed and Open BM (Source: http://sloanreview.mit.edu/article/why-companies-should-have-open-businessmodels/)

Open Innovation can be held as one of the antecedents of OBM. In his previous work, Henry Chesbrough (Chesbrough H. W., The Era of Open Innovation, 2003) explains what happens on the way from Closed to Open innovation. I will begin by explaining the old innovation model – Closed innovation. As described by the author, companies were using the old model (closed model) to be in better control of their technologies, Figure 8.



Figure 8 Closed Innovation Model. Source: (Chesbrough H. W., The Era of Open Innovation, 2003)

Companies were searching for innovations in their own labs by employing the best and brightest people (See Table 2). By those means, they were struggling to be "on top" and be the first to bring innovative ideas to the market. Intellectual property (IP) was playing a huge role here as breakthrough ideas and products must be protected against imitation from competitors. Such companies were making huge profits which they invested into R&D in order to make new discoveries.

Closed Innovation Principles	Open Innovation Principles		
The smart people in our field work for us.	Not all of the smart people work for us so we		
	must find and tap into the knowledge and		
	expertise of bright individuals outside our		
	company.		
To profit from R&D, we must discover,	External R&D can create significant value;		
develop and ship it ourselves.	internal R&D is needed to claim some		
	portion of that value.		
If we discover it ourselves, we will get it to	We do not have to originate the research in		
market first.	order to profit from it.		
If we are the first to commercialize an	Building a better business model is better		
innovation, we will win.	than getting to market first.		
If we create the most and best ideas in the	If we make the best use of internal and		
industry, we will win.	external ideas, we will win.		
We should control our intellectual property	We should profit from others' use of our IP,		
(IP) so that our competitors do not profit	and we should buy others' IP whenever it		
from our ideas.	advances our own business model.		

 Table 2 Contrasting Principles of Closed and Open Innovation. Source: (Chesbrough H. W., The Era of Open Innovation, 2003)

In the end of the 20th century, as Chesbrough explains, the mobility of knowledge workers and growth of private venture capital brake down these virtue cycles. Companies were unable to control their ideas and experts. Venture capital provided funding for start-ups, which were created by people whose discoveries did not get that much attention in incumbent companies. If such start-ups get successful, they were looking for outside technologies instead of reinvesting into fundamental discoveries. In this new model of Open innovation, firms commercialize

external (as well as internal) ideas by deploying outside (as well as in-house) pathways to the market (Chesbrough H. W., The Era of Open Innovation, 2003, pp. 36-37) (see Figure 9).



Figure 9 Open Innovation Model. Source: (Chesbrough H. W., The Era of Open Innovation, 2003)

An important difference between Open and Closed model is how companies search for new ideas. To show this important distinction, Chesbrough uses the terms "false positives" and "false negatives". "False positives" – are bad ideas that initially look promising. "False negatives" – are projects that initially seem to lack promise but turn out to be valuable. Closed and Open models can get rid of "false positives", but only Open model can save "false negatives".

Osterwalder & Pigneur explain that OBM is used to create and capture value by collaborating with external partners. Companies can do this by exploiting external ideas – "outside-in", or sharing unused ideas or assets with external players – "inside-out" (Osterwalder & Pigneur, 2010).

The "outside-in" pattern has impact on five building blocks, as described by Osterwalder & Pigneur.

- <u>Key partners</u>, even from different industries, can provide ready-made products, knowledge, patents, insights to internal R&D.
- <u>Key activities</u> must connect internal business processes with external entities.
- <u>*Key resources*</u> must support gateways to external networks.
- Additional <u>*Costs*</u> may be required for outside innovations, but by that means the company can deliver products to the market faster and increase productivity of its internal R&D.

• <u>Channels</u> of established companies with strong brands can be well suited here.

The "inside-out" pattern can impact <u>Value proposition</u>, <u>Key activities</u>, and <u>Revenue</u>.

- <u>Value proposition</u> some of the technologies, which cannot be used inside the organization may have a high value outside it.
- <u>Key activities</u> some intellectual property, technology or knowledge can be unutilized. The organization can focus on core businesses, and unutilized activities can be used outside.
- <u>Revenue</u> additional revenue streams can be added by unutilized activities or unused technologies.

The main distinction between Open Business Model and Standard Business Model is described by Osterwalder & Pigneur and depicted in Table 3.

	Open Business Models					
CONTEXT BEFORE	R&D Resources and Key Activities are concentrated in-					
	house:					
	• Ideas are invented "inside" only					
	• Results are exploited "inside" only					
CHALLENGE	R&D is costly and/or productivity is falling.					
SOLUTION (AFTER)	Internal R&D Resources and Activities are leveraged by					
	utilizing outside partners. Internal R&D results are					
	transformed into a Value Proposition and offered to					
	interested Customer Segments.					
RATIONALE	Acquiring R&D from external sources can be less					
	expensive, resulting in faster time-to-market. Unexploited					
	innovations have the potential to bring in more revenue					
	when sold outside.					
EXAMPLES	Procter & Gamble					
	GlaxoSmithKline					
	Innocentive					

Table 3 Open Business Model Distinction. Source: (Osterwalder & Pigneur, 2010)

2.2 Business Model Innovation – From Closed to Open

In this section, I will describe the transition process from closed to open business models and explain what business model innovation is.

2.2.1 Transition process - Business Model Framework

Henry Chesbrough (Chesbrough H., Open business models: How to thrive in the new innovation landscape, 2006) explains different types of BM's and shows where breakthrough happens on the way from closed business model to open business model. Chesbrough uses business model framework (BMF) to show this distinction. BMF consists of six types of BM, which I will describe below based on the work of Henry Chesbrough.

Type1 - Company has an undifferentiated BM

There is no distinction in type 1 BM in regards to competitors. Companies compete on price and availability, and innovation process, if such occurs, is based on copying others. There is a lack of process to manage BM. Commonly it is family businesses, cafes, barber shops, etc., which fit type 1 BM.

Type2 - Company has some differentiation in its BM

In type 2 BM, there is some degree of differentiation, companies tap different and less congested market segments with performance-oriented customers. Some level of organization appears in the innovation process, although innovation is ad hoc in nature. Furthermore, companies can feel the lack of resources in this type of BM and organizational processes are weak.

As Chesbrough explains, companies are competing to become the dominant design here and pushing new technologies into the market. Because of this, they have some technological differentiation.

Some IP is generated and defended, although IP management process is haphazard and reactive, so there is no planning on regular basis. Technology-based start-up companies can be a good example here. Such companies have to prove technological viability within the constraints of funding and that means that they have to develop their BM within the boundaries of these constraints.

Type3 - Company develops a segmented BM

In this type of BM, the company competes in different market segments simultaneously and through innovation activities seeks new segments, which it can pursue in the future. Companies are using roadmaps here to better plan what products and services will be offered at a specific moment of time.

More profit is extracted from the market as price sensitive segments provide high-volume lowcost production and high margins comes from the performance-oriented segments. Future products and processes are planned and supported by schedules and budgets.

Innovation projects are selected from the range which supports its BM and is treated as an investment into the company's future. Someone has responsibility inside the company of managing IP. Examples of such companies could be companies with good technologies to support products and processes, i.e. industrial age companies with well-earned reputations.

Type4 - Company has an externally aware BM

In type 4 BM, the company starts to use external ideas and technologies for its business. This allows for the use of significantly more resources becoming available to the company and searching widely for possibilities. Market segmentation will be supported not only by an internal source of technology but by an external source as well. This allows for breaking the line towards a more open business model. Here companies are able to reduce the cost of innovation, time to market and share the risk with other parties involved. More market segments can be served, and not only by the company's own products or services, but by integrating external items into its offerings as well. Current markets can be penetrated further and adjacent markets can become the new sources of growth.

The innovation process drives company to look outside for ideas and inputs. Internal roadmaps are shared with suppliers and customers on a regular basis, and this helps to obtain a more systematic use of ideas. Perspective of innovation shifts from product or process towards business model. This allows for the initiation of changes and not only for the reaction to changes from others. Marketing becomes part of the innovation process and helps to predict future success and reduce the risk, innovation becomes a cross-functional activity.

Budget for IP is created and the persons responsible for this are given the task to manage within this budget, so financial and organizational objectives emerges here. Cost and benefit is taken into consideration, additional revenue is created by licensing out unused technologies. Drug, food, and technology companies can be example of type 4 BM, especially those with established R&D activities.

Type5 - Company integrates its innovation process with its BM

In type 5, BM is widely understood inside the company and it is clear what the company can do. Even more, BM is shared with external parties and this helps them to understand what kind of innovation the company is looking for. Customers share their roadmaps with the company so it is easier to predict their future requirements. In type 5 BM companies look back through the supply chain and try to understand it in order to find technical change or cost reduction opportunities. Deeper or unmet needs and opportunities can be revealed by studying the customers' customers in this type of BM.

Companies collaborate on their activities with external partners and share the costs and risks, and because of this, wider market share can be searched and served with the lower cost. Furthermore, the type 5 BM can focus not only on their current business but search for the new markets and new business opportunities.

Internal and external R&D are integrated within the company's BM. Management of IP gets strategic character, licensing of it is set up as the profit center, IP becomes a financial asset. The innovation process becomes a business function, and cross-functional departments (engineering, finance, and marketing) work together on business model development and management. Examples of type 5 BM could be companies, which actively develops their BM based on external sources of technologies, e.g. IBM, Eli Lilly, P&G, etc.

Type6 - Company's BM is able to change, and is changed by, the market

In type 6 BM, the company begins to drive the BM of its suppliers and customers, by that means customers and suppliers becomes business partners and share the risk of business and technology. One of the innovation tasks becomes BMI, and it means that the company searches for new ways to innovate its own BM. An important thing here is experimentation with one or more BM variants. To do this, the company has to invest money and management time. Internal incubators, start-up companies, spin-offs and joint ventures are the means to explore alternative BM, commercialize technologies outside the current BM, and cultivate promising ideas to

prepare them for commercialization in high volume scale. Such experimentation extends to the BM of the customers and suppliers. Suppliers BM are integrated into the companies' planning process and companies BM are integrated into BM of main customers. This allows BM to become the platform and lead the industry. By that means, the companies' technology is established as the basis for the platform innovation and extends through the value chain.

External licensing, within the innovation model, becomes a part of the company's DNA. Furthermore, external technology becomes equally important to internal technology. In the innovation process, technical and financial risk is shared with external partners. Every business unit of the company is now taking part in the innovation and IP management process. In type 6, IP becomes strategic asset, and it helps entering new businesses, exiting old ones, and lining up with suppliers and customers. Examples of this type BM could be IBM and P&G.

In Table 4, we can see a short summary of all six types of BM during the transition process from closed to open.

Table 4 Changes of variables in different business model types

Variable	Business Model Framework							
	Type 1	Type 2	Type 3	Type 4	Type 5	Туре б		
Degree of differentiation	Undifferentiated	Some differentiation	Segmented BM	Externally aware	Integrates its innovation process with BM	BM is able to change, and is changed by, the Market		
BM management	Lack of management process	Some level of organization	Serves multiple segments, selects innovation projects from the range based on its BM.	Incorporates external technologies/ideas in serving current customers and can be extended to adjacent markets for new growth.	Internal and external R&D activities are integrated through the company's widely understood BM.	Company's BM drives BM of its key suppliers and customers.		
Competitive differentiation/advantage	Competition on price and availability.	Different, less congested market segment.	Competes in different market segments simultaneously and searches for new segments, which can be served in the future.	Outside items are integrated into company's offerings. Business serving cost are reduced, time to market gets shorter, and risk or new products and processes are shared. The range of segments to be addressed are extended.	BM focuses on new markets and new businesses, as well as current business, company strives to align its customers and suppliers with its BM.	Corporate venture capital or spin- offs and joint ventures can be used to explore alternative BM. Suppliers and customers become business partners, BM as the platform is created which allows for leading the industry.		
Process of Innovation	Copy innovation.	Ad hoc innovation.	Innovation within the boundaries of the current BM and market.	Proactively looks outside for innovations as well as inside.	Innovation is business function, in which functional heads are led by a senior business manager. Innovation roadmaps are widely shared with suppliers and customers.	Innovating the company's BM, which is widely shared across the company, itself is a part of the company's innovation task.		
Intellectual Property (IP)	-	Some IP generated and occasionally defended.	Begins to build up IP portfolio.	IP becomes corporate asset.	External technologies are used to strengthen IP portfolio.	IP is engaged with the secondary market in sustained base. Relationships are created with IP intermediaries and market makers.		
Intellectual Property Management	-	Haphazard and reactive.	IP management is managed as someone's responsibility inside firm.	IP managed as an enabling asset, helping to access adjacent markets and generate value.	IP is managed as another kind of financial asset, it is managed within a profit center and takes a more strategic character.	IP is managed as a strategic asset, helping the company enter new businesses, align with suppliers and customers, and exit existing businesses.		

2.2.2 Business Model Innovation

Business model innovation (BMI) opens up new opportunities for growth, helps to reduce costs, share the risk, and reduce time to market. BMI is an important task in the transition process from closed to open BM. In order to make such transition, the companies first of all have to figure out where its existing BM fits into the BMF. After determining this, they should examine the next type of BM and find the changes, which must be made in order to make the transition (Chesbrough 2006).

In this section, I will describe what business model innovation (BMI) is and I will start with definitions from various authors:

- Business model innovation refers to the search for new logics of the firm and new ways
 to create and capture value for its stakeholders; it focuses primarily on finding new ways
 to generate revenues and define value propositions for customers, suppliers, and partners
 (Casadesus-Masanell & Zhu, Business Model Innovation and Competitive Imitation: The
 Case of Sponsor-based Business Models, 2012).
- Innovation becomes business model innovation when two or more elements of a business model are reinvented to deliver value in a new way (Lindgardt, Reeves, Stalk, & Deimler, 2009)
- Business model innovation is innovation in the structure and/or financial model of the business (Pohle & Chapman, 2006)
- Business model innovation results when a company increases customer value and simultaneously creates a new value creation and revenue model that allows the company to capture some of the value created in a new way (Matzler, Bailom, von den Eichen, & Kohler, 2013).
- Business model innovation is a reconfiguration of activities in the existing business model of a firm that is new to the product/service market in which the firm competes (Santos, Spector, & Van der Heyden, 2009).

<u>Santos et al</u> states that reconfiguration can take four forms: relinking; repartitioning; relocating; reactivating. In Table 5, the authors provide summaries of all four forms which include: description, type, definition of what changes, and examples.

Table 5 Typology (of BMI –	Reconfiguring a	• Firm's /	Activities.	Source: (Santos.	Spector, &	k Van de	r Hevden.	2009)
Table 5 Typology	or Divit -	· Kecomigui ing a	t r n m s i	activities.	Source. (Santos,	speciol, o	c van uc	i neyuen,	2007)

Classification	Туре	What changes	Examples
Relinking – altering		The governance of	An arms-length relation with a
the linkages between	Regoverning	transactions among	supplier becomes an alliance
units performing		units	
activities		The order in which	Design and procurement
	Resequencing	activities are	activities become mutually
		performed	reciprocal instead of sequential
Repartitioning –		Moving inside	A manufacturer opens its own
altering the	Insourcing	activities that were	retail stores to supplement its
boundaries of the		performed outside	dealers
focal firm by moving		the focal firm	
activities and the		Moving outside	A firm outsources its IT
units that perform	Outsourcing	activities that were	activities
activities		performed inside	
Relocating – alerting		Moving activities	A bank moves back-office
the (physical, cultural	Off-shoring	from a unit in the	activity to a foreign subsidiary
and institutional)		firm's home country	
location between		to a foreign country	
units performing		Moving activities	A call center is moved back to
activities	On-shoring	from a foreign	the original country
		country unit into the	
		home country of the	
		firm	
Reactivating –		Adding a new	A free give-away newspaper
altering the set of	Augmenting	activity to the firm	adds people to hand out the
activities performed			paper at subway stops
by the firm		Removing an activity	An airline removes cooking
	Removing	from the firm	hot meal from its service

Amit & Zott provides three elements of business model innovation:

- <u>Content of an activity system</u> which means that new activities can be added through backward and forward integration. As an example, the authors refer to IBM which changed from being a hardware supplier to a service provider such as consulting, IT maintenance, etc.
- 2. <u>Structure of an activity system</u> shows how the activities can be linked in new ways. Priceline.com comes as an example. The company, which is online travel agency, created links among Travelport's Worldspan central reservation system, airline companies, credit card companies and customers. By that means, customers are able to post the price they are willing to pay, and sellers can accept it or not.
- 3. <u>Governance of an activity system</u> changing performing parties, or "who", of the activities. Franchising is an example of such business model innovation.

The authors explain that in order to change a business model, it is enough to change one of the elements. They suggest answering six questions before starting BMI. These questions are depicted in Figure 10.



Figure 10 Six Questions About Business Model Innovation. Source: (Amit & Zott, 2012)

Similar questions to Amit & Zott in BMI process are addressed by Sinfield et al (Sinfield, Calder, McConnell, & Colson, 2011). As the authors explain, these are the core questions, which are addressed by the majority of BM researchers:

- 1. Who is the target customer?
- 2. What need is met for the customer?
- 3. What offering will we provide to address that need?
- 4. How does the customer gain access to that offering?
- 5. What role will our business play in providing the offering?
- 6. How will our business earn a profit?

Sinfield et al states that in working BM's, answers to these six questions are fixed. But the authors have depicted the template (see Figure 11) which shows that each question can be considered as a variable and by that means, through business model experimentation, new opportunities can be captured which cannot be addressed with the current BM.





With the help of the BM development template, possible alternatives can be examined. Each question can represent the series of possible opportunities or outcomes. Selecting one opportunity from different categories and linking them together represents the possible way to proceed. Different combinations create different outcomes and potentially new ways of conducting BMI.

Another example of BMI is depicted in Figure 12. Matzler et al shows BMI based on three types of innovation. In the first type of innovation (A), the cost of the product is reduced by innovating a value creation system. This allows for reducing the price of the product, which adds additional value for the customer. In such BMI process, both parties, customer and company, benefit. In the second type (B), additional value for the customer is created and customers are willing to pay more. This allows for an increase of the price of the product and generate more profit for the company. The main focus of innovation here is new value creation architecture. The third type of innovation (C) is targeted into a new value chain architecture for the products with reduced benefits, i.e. less powerful computer. The value for the customers is increasing if the price is reduced more than the benefits. The company will profit more because of the cost drop of such product.



Figure 12 Value creation and value capture: the relationship among willingness to pay, customer value added, income and expenses. Source: (Matzler, Bailom, von den Eichen, & Kohler, 2013)

All three types of innovation include five components (Matzler, Bailom, von den Eichen, & Kohler, 2013):

- 1. Innovative, unique positioning;
- 2. A consistent product and service logic;
- 3. An appropriate value creation architecture;

- 4. An effective sales and marketing logic; and
- 5. A profit formula that works.

The main challenge for the companies in the BMI process, according to Matzler et al, may be value creation and value capture (see Figure 13).



Figure 13 Value creation and value capture: which business models work. Source: (Matzler, Bailom, von den Eichen, & Kohler, 2013)

Companies which are able to create high value and value captured is high (upper right corner) will have sustainable and profitable BM. Companies creating high value for customers but value captured is low, in other words unable to profit from product or service (upper left corner), have bad revenue logic – so this must be the focus of BMI. Companies with high value capture but low value creation (lower right corner) has an unsustainable business model and are vulnerable to competitors with the new BM. And finally, those whose created value is low as well as value captured (lower left corner) will fail.

BMI may be more challenging than product or process innovation, but it also delivers superior returns (Lindgardt, Reeves, Stalk, & Deimler, 2009). Furthermore, business model innovation allows companies to specialize and move more quickly to seize growth opportunities as they emerge (Pohle & Chapman, 2006). One CEO in Pohle & Chapman studies explained:

"Innovating with respect to business models and operations will not only create opportunities for cost savings, but will also lead to additional revenue generation opportunities" (Pohle & Chapman, 2006, p. 38).

3. Methodology

To address my research question and find out what the main drivers of business model innovation are, and what are the specific drivers from closed to open business model, I am using the literature review method to propose the conceptual model (Webster & Watson, 2002). As Webster & Watson explains, in such reviews mature topic with accumulated body of research needs to be analyzed and synthesized in order to provide a conceptual model.

To begin with when searching for theory sources, I started with the magazine MIT Sloan management review database (<u>http://sloanreview.mit.edu/</u>). In the section "Innovation" I have chosen "Business model innovation" and "Open innovation". I have read all articles, which looked relevant for my studies. I did the same in the section "Strategy" with subfield "Business models".

Second step was to screen for relevant articles and books in CBS's Libsearch database. Keyword for the search engine was "business model innovation" and "open business models". By searching for "business model innovation", I made the filter "with my exact phrase" and publication date "After 2011", and the search ended up with 148 results. For keywords with the phrase "open business models", I made the filter "with my exact phrase", and this brought me 102 results. The content of all articles whose topics and abstracts looked relevant was analyzed.

After relevant theory sources were picked up from earlier mentioned databases, I started using the snowball technique. By snowball technique, I mean review off all references or literature sources in the relevant articles or books. With the help of previously mentioned strategies, 75 articles were analyzed in more depth. From 37 of these, I depicted the most important concepts related to business model innovation as the drivers. The main criteria for depicting the concept were statements such as: this event drives/pushes/offers business model innovation/transition process; or companies pursue business model innovation because of..; or company saw need to innovate its business model as it faced some event; etc.

Factors like competitive pressure or competitive advantage were merged together as the one construct and named competition. Another example of such combinations is financial crisis and difficult financial situation - such terms were merged into bad financial situation. More about the concepts and what is included are described in the literature analysis part.

In total, eight different concepts were offered. Although they can be important drivers of business model innovation, they are not thoroughly examined in the context of transitional process from closed to open business models. Because of this, they are open for future aspects and can serve as a basis for further development.

4. Literature analysis

In this section, I will make analyse eight drivers of BMI derived from the literature review.

4.1 Competition

One of the most commonly used drivers of BMI mentioned in the theory sources is competition. An important distinction which has to be taken into consideration here is the difference between competitive pressure (the "need" to defend) and competitive advantage (the "want" to be ahead). Some are saying that BMI can be used as a defensive move against competition (Lindgardt, Reeves, Stalk, & Deimler, 2009) and to defend companies against growing global competition (Lindgardt, Reeves, Stalk, & Deimler, 2009) (Doz & Kosonen, 2010). Others are arguing that BMI can be used to create competitive advantage (Lindgardt, Reeves, Stalk, & Deimler, 2009) and bring new opportunities for the companies. One thing is for sure, competitive moves putting constant pressure on BM to change (Linder & Cantrell, 2000) and to reduce the prices of the products or services in order to stay competitive are not an option anymore, and as a result companies are turning to searching for the new business models (Bucherer & Eisert, 2012).

Competitive pressure can grow in all industries like manufacturing and services, high tech and low tech, old ones as well as new ones. But it will not not necessarily only bring negative aspects to the existing businesses as it can bring new or unanticipated opportunities (Govindarajan & Trimble, 2004). An example is IBM's global CEO report 2006 which shows that competitive pressure forces the CEO to think more about BMI and search for new ways to adapt their BM to the industries they are in or even to look for new industries (Amit & Zott, Creating Value Through Business Model Innovation, 2012) (Pohle & Chapman, 2006). The CEO's task is "to help navigate the firm through this complex and continuously evolving competitive terrain" (Prahalad & Doz, 2000, p. 20), and Prahalad & Doz argue that the main factors, which require reconsideration of BM, are: global competition, knowledge-driven competition, hostile takeovers, non-traditional competitors, etc. Furthermore, it has become difficult to differentiate in products or services alone as this CEO shows increased interest in extensive or moderate BMI (Bucherer & Eisert, 2012) (Pohle & Chapman, 2006) and by that means, companies are trying to innovate in areas where competitors do not act (Pohle & Chapman, 2006).

Furthermore, some of the strategic circumstances, which are said to be required of management judgment, such as defensive moves against low-end disrupters or need to respond to a shifting basis of competition, (Johnson, 2008), require changes in BM as well. For some of the companies, it is difficult to change the existing BM until competitive pressure comes into "the game". Because of this, companies may come into the markets late and miss the opportunities, if they are unwilling to target low-end markets for example (Bekmezci, 2013). But the emerging need for competitive differentiation changes the mindset of CEOs and confrontations to well-established business models are inescapable (Pohle & Chapman, 2006). To adapt to the competitive environments, companies need to learn how to experiment and change their BM (Casadesus-Masanell & Joan, Competing Through Business Models, 2007), and in order to keep ahead of the competition, companies need to take a disciplined and continuous approach to BMI (Berman, 2012).

Based on this analysis, we can make the conclusion that BMI can help to achieve competitive differentiation, and it may help to defend companies against competitive pressure and stay ahead of the competition by gaining competitive advantage.

4.2 New opportunities

As well as competition, new opportunities is widely used term in scientific papers when researchers talk about the drivers of BMI. By the term new opportunities I mean the activities which a company never had or executed before. In this case, it is something, which the company thinks will be useful to pursue and serves like a strong motivator to change existing BM and pursue BMI. At the same time, it does not mean that because it is new to the company, it will be new to the other companies competing in the same or different industries or markets.

A customer segment which has not been addressed before and requires new BM can be a good example of new opportunities (Bekmezci, 2013) as in order to tap into a new customer segment, the company has to use different ways or offerings compared to existing customers. Another example could be low-income markets (London & Hart, 2004) which look unattractive at first glance but with the change in BM can generate a huge population of potential "would be"

customers. Normally, low-income customers cannot afford existing solutions because they are too expensive or complicated. In such cases, disruptive innovations can come into place with the new BM (Johnson, 2008).

Product and process innovation cannot address all issues customers are facing. Because of this, the new opportunities such as "job-to-be-done" in a better way (Johnson, 2008), or addressing the issues (unmet customer needs) which has never been addressed before (Bekmezci, 2013), growing customer expectations (Prahalad & Doz, 2000) or keeping up with customers (Berman, 2012) can be a good driver for BMI as well.

New markets and new growth can be reached by bringing existing technologies from different industries or building new business models around new technologies and by that means benefit from it (Johnson, 2008). Future growth may come from emerging markets, and existing products from developed economies, with similar or fundamentally different BM (London & Hart, 2004) (Prahalad & Doz, 2000), can be used to satisfy those customers needs.

Opportunities may be found not only in existing or new technologies but in services as well. The issue here is that a lot of manufacturing firms see services as an expense and they are not charging their customers for services. Transition from "service for free to service for fee" can be reached through a new BM (Witell & Lofgren, 2013) and by that means bring new profit potential for the company.

To wrap it up, companies have always look for then new opportunities through BMI such as: best and valid way to profit and escape from the difficult economic conditions (Bekmezci, 2013); structure enterprise activities and finding new ways to capture revenue (Berman, 2012); utilize excess capacity (Prahalad & Doz, 2000); etc.

4.3 Bad financial situation

All companies are familiar with phenomenons such as financial crisis and bad financial situation. The important distinction here is that a financial crisis is an external phenomenon and a bad financial situation is something which the company faces internally. If a financial crisis hits the entire industry or market, a bad financial situation may be one company's problem. In both cases, a bad financial situation puts the business models of the companies under constant pressure to change (Linder & Cantrell, 2000).

The important issue here is that not all of the businesses will see a bad financial situation as an opportunity for change and future growth. Lufthansa is an example of a company which did seize this opportunity. The company faced a bad financial situation in the early 1990's but was able to rebuild itself through BMI, to be more specific – relinking by regoverning (Santos, Spector, & Van der Heyden, 2009). Ryanair was very close to bankruptcy in 1991 but survived by using an unconventional BM (Casadesus-Masanell & Joan, Competing Through Business Models, 2007). P&G was hit by the financial crisis in 2000, but through BMI, the company applied open innovation model, a program called "Connect and Develop", which generated a huge financial success (Chesbrough H. , Open business models: How to thrive in the new innovation landscape, 2006) (Galbraith & McAdam, 2011). For example, IBM succeeded in changing from being a hardware provider to a service provider, and launched new activities such as consulting, IT maintenance, etc., after the financial crisis in the beginning of the 1990's (Amit & Zott, Creating Value Through Business Model Innovation, 2012) (Chesbrough H. W., Business model innovation: it's not just about technology anymore, 2007).

"Many companies pursue BMI as a defensive move to protect a dying core business" (Lindgardt, Reeves, Stalk, & Deimler, 2009, p. 3). For example, a bad financial situation can be managed without price reductions to sustain customers, but by merely changing BM of the company (Bucherer & Eisert, 2012). An example of this is the case of Xerox where the company changed the way of charging its customers for printing jobs. Xerox offered to its customers the lease of printing machines and a small cost for one page of printing over 2000 copies per month instead of selling expensive machines (Chesbrough & Rosenbloom, The role of the business model in captring value from innovation: evidence from Xerox Corporation's technology spin-off companies, 2002). With this BMI, by changing the revenue stream and customer value proposition, Xerox managed to reap a huge profit.

4.4 Management "out of the box thinking"

In many theory sources, managers are described as decision takers, executors, sponsors, moderators, architects, etc., of BMI (Amit & Zott, Creating Value Through Business Model Innovation, 2012) (Chesbrough H., Business Model Innovation: Opportunities and Barriers, 2010) (Santos, Spector, & Van der Heyden, 2009) (Johnson, 2008) (Jorgensen, Lindgren, Taran, & Saghaug, 2010-2013) (Foss & Stieglitz, 2014). But only rarely, managers are called drivers of

BMI. And in fact they can be "out of the box thinkers" (Chesbrough H., Open business models: How to thrive in the new innovation landscape, 2006, p. 204) and the main drivers of BMI.

Usually managers are skilful as concerns taking full advantage of established business models but are not always willing to change existing BM (Chesbrough H., Business Model Innovation: Opportunities and Barriers, 2010), but if they are willing to change it, then this is the strong force which drives the business model innovation. A good example of this is the case in the company Lego where in 2004 newly appointed CEO Jørgen Vig Knudstorp innovated a business model of the company (Foss & Stieglitz, 2014). Although this happened gradually, Knudstorp reduced the product offering and inputs coming into products, changed the supply chain (more production was outsourced), established user communities and started product development together with the main customers, and digitalized operation and product content.

Management can be the key determinant of firm performance and BMI, especially if they have entrepreneurial skills which helps them cultivate social connections with external entities, get the access to external knowledge and resources, understand business opportunities, sense potential market needs, and establish networks with potential partners (Guo & Zhao, 2013).

4.5 Sustainability

There is prevalent logic among managers that sustainability will bring additional costs for the company (Nidumolu, Prahalad, & Rangaswami, 2009). But the reality is that, depending on the circumstances and strategy the company has chosen, sustainability can bring benefits for the business (Leinhardt, 1999). The main argument here is that the inputs companies are using in their production can be reduced, together with the costs, by becoming environmental-friendly (Nidumolu, Prahalad, & Rangaswami, 2009). Furthermore, Nidumolu et al explain that companies can produce better products and create new businesses and thereby get additional revenue. Because of this, sustainability is treated as "innovation's new frontier" (Nidumolu, Prahalad, & Rangaswami, 2009, p. 58).

Sustainability is pushing companies to BMI. Many organizations have revisited their business models because of the sustainable development pressure (Hall & Vredenburg, 2003). Companies must consider future generations and incorporate social and environmental pressures into the sustainable innovation process (Hall & Vredenburg, 2003), or as Porter & Kramer say "companies should operate in ways that secure long-term economic performance by avoiding

short term behaviour that is socially detrimental or environmentally wasteful" (Porter & Kramer, 2006, p. 82).

Successful sustainable BM is not just different customer value proposition and different value delivery methods, it is new ways of value capture and delivery services in collaboration with other companies (Nidumolu, Prahalad, & Rangaswami, 2009). Sustainability-driven innovators recombine business model elements by changing the value-chain in combination with the target segment and one or two other elements of BM (Kiron, Kruschwitz, Haanaes, Reeves, & Eugene, 2013). Nidumolu et al state that "Some companies have developed new models just by asking at different times what their business should be" (Nidumolu, Prahalad, & Rangaswami, 2009, p. 63).

Many companies are increasing their focus on sustainability (Haanaes, Reeves, Strengvelken, Audretsch, Kiron, & Kruschwitz, 2012). Sustainability will be an inextricable part of development (Nidumolu, Prahalad, & Rangaswami, 2009), and companies can pursue it through alternative ways of value creation, value capture, and delivery by innovating new business models.

4.6 Technological progress

New technologies can serve like a trigger for business model innovation. And in fact it is an important driver of BM, "The same technology commercialized in two different ways will yield two different returns". "A mediocre technology pursued within a great business model may be more valuable that a great technology exploited via a mediocre business model" (Chesbrough H., Business Model Innovation: Opportunities and Barriers, 2010, p. 354). As Chesbrough says, technology has no single objective value, and an appropriate BM model must be created to capture value from the technology. Even superior technology will not be able to bring sustainable profits if the right business model is not created to support it (Teece, 2010), and because of this, companies are forced to re-examine their business models (Prahalad & Doz, 2000). A business model serves as a bridge which brings technologies to the market. And if not enough attention has been placed on designing the right BM, then even great technologies may fail commercially (Teece, 2010).

In fact, new technologies may not only satisfy requested or unmet customers need, they may also have a positive effect on the cost side of the BM (Teece, 2010). Teece provides an example of

"cloud-based" computing models, which allowed companies to use required servers capacities online instead of investing into their own servers. Technological progress brings new opportunities for the new BM creation (Zott & Amit, Exploring the Fit Between Business Strategy and Business Model: Implications for Firm Performance, 2006).

Companies must change their business model over time in order to be able to exploit technological opportunities (Johnson, 2008) (Linder & Cantrell, 2000) (Voelpel, Leibold, & Tekie, 2004) and to satisfy increasing customer demands (Bekmezci, 2013). To capture value from technological innovation, it must be matched with BMI (Chesbrough & Rosenbloom, The role of the business model in captring value from innovation: evidence from Xerox Corporation's technology spin-off companies, 2002), and the more radical the technological innovation is, the greater changes to BM is required (Teece, 2010) (Bourreau, Gensollen, & Moreau, 2012). Studies show that "companies will use the new technology to extend their existing business models" (Cavalcante, 2013, p. 285).

4.7 Open innovation

Open innovation (OI) has strong influence on BM and forces companies, which want to benefit from the open innovation, to change it. In order to innovate from the variety of sources, companies need to create free flow of new/innovative ideas, intellectual property and people inside and outside the organizational boundaries (Huang, Lai, Lin, & Chen, 2013) (Chesbrough & Garman, How Open Innovation Can Help You Cope in Lean Times, 2009).

Looking outside organizational boundaries allows companies to overcome the issue of lack of resources (Spithoven, Vanhaverbeke, & Roijakkers, 2013), get more innovative and promising ideas, reduce time to market (Muller, Hutchins, & Pinto, 2012), reduce the cost of innovation and share the risk (Chesbrough H., Open business models: How to thrive in the new innovation landscape, 2006), and speed up the internal innovation process (Lichtenthaler, Hoegl, & Muethel, 2011). In the ideas screening process, managers and researchers must separate good ideas from bad ideas, and good ideas can be commercialized (Chesbrough H. W., The Era of Open Innovation, 2003). As Chesbrough explains, both closed and open models of innovation can get rid of bad ideas, but only open models can rescue ideas, which initially looked bad and only later became valuable.

To capture additional value for the company with abundant knowledge, open innovation allows IP licensing, joint ventures, etc. (Chesbrough H. W., The Era of Open Innovation, 2003) (Lichtenthaler, Hoegl, & Muethel, 2011).

There is a myriad of options offered by open innovation – customer input; supplier integration; open-source projects; crowd-sourcing; patent acquisitions; soliciting external insights; joint-development projects; venture investing – because of this managers need a guide for getting started in order to match the exact need of the company (Muller, Hutchins, & Pinto, 2012).

Open innovation plays a mediating role between innovation of internal business functions and organizational inertia reduction (Huang, Lai, Lin, & Chen, 2013). "To create the free flow of innovative ideas within the organization and between organizations, enterprises must broaden their process of innovation and change its business model in the hope of innovating from a variety of sources" (Huang, Lai, Lin, & Chen, 2013, p. 994). Huang et al state that new business models can be constantly examined through open innovation and by doing this improve organizational performance, earn profits, remodel value, and generate competitive advantage.

4.8 New Business Model

Searching for the new BM can be the driving force of BMI. An example of this could be the work of Chesbrough (Chesbrough H., Open business models: How to thrive in the new innovation landscape, 2006) who states that companies can innovate their own BM by investing money and management time in order to find different ways to make more profit from innovation.

Companies can do this through experimentation with different BM's. Chesbrough explains that companies can create internal incubators to grow promising ideas before commercializing them in high scale, or use venture capital to explore alternative BM in start-up companies, or use spin-offs and joint ventures to commercialize technologies outside its own BM. These actions can help to find the new and the most promising and logical way of doing business.

5. Conceptual model

From the literature analysis, we can see that there are different BMI drivers but not all of them contribute directly to the BMI process from closed to open. For example, there is no evidence that sustainability will contribute to such transition process. Furthermore, there is no evidence whether sustainability, as the driver of BMI, can drive the BMI process in all six types of BM or just in more open or advanced types. Another example of such drivers is bad financial situation. Although there is a couple of illustrations, like in the case with IBM and P&G (Chesbrough H., Open business models: How to thrive in the new innovation landscape, 2006), that bad financial situation pushed companies to change and this brings them to an open innovation model, but it doesn't mean that it will always take this direction. In many cases, a bad financial situation can drive BMI inside the current type of BM and because of this it can be the driving force inside all



Figure 14 Conceptual model: Drivers of Business Model Innovation from Closed to Open Business Model

six types of BMF. Competition, as well as the bad financial situation, is prevalent in all types of BM but cannot contribute directly to the transition process in the way to more open BM. In Figure 14, I have depicted all eight drivers of BMI and marked in red those which allow for the transition from closed to open business model (Technological progress; New opportunities; Open Innovation; Management; New business model). In Figure 14, we can also see how management position is changing on the way to more advanced BM from reactive stance to initiative taking. In Figure 14, we can see that in order to reach the different types of BM there must be different drivers of the BMI process. Starting with type 1 (closed) BM, I will discuss all six types of BM's from BMF and describe the drivers of the BMI process.

Type 1. As we can see from Figure 14 the main driver of BMI in Type 1 BM is competition. As evidence of this, I can refer to the work of Henry Chesbrough (Chesbrough H., Open business models: How to thrive in the new innovation landscape, 2006) who explains that companies which have Type 1 BM compete on price and availability. Furthermore, it is difficult to sustain competitive advantage in this type of BM as companies can easily copy ideas from each other. Management role here is more reactive to changing environment than proactive by taking initiative to drive the change in BM. When new technology comes into the industry, companies within this type fail to take advantage of it because they lack the BM to respond (Chesbrough H., Open business models: How to thrive in the new innovation landscape, 2006). Based on this, we can assume that competitive pressure forces companies to change their "way of doing business" in Type 1 BM. We need to be aware that competition is the driver of BMI inside one of the six types of BM and does not drive BMI to the next level of BM.

<u>Type 2.</u> Technological progress comes into a loop in type 2 BM. As we can see from the BMF, there is some level of organization in innovation process of the companies and new technologies are the main driving forces of innovation. As we know from the literature analysis, technology commercialized through two different BM's may bring two different results (Chesbrough H., Business Model Innovation: Opportunities and Barriers, 2010). New business models must be created to support new technologies and this can help the companies to make the transition from type 1 to type 2 BM.

Competitive pressure plays an important role here as well, as companies are engaged in a competition on "who will become dominant design". Such competition is dangerous because if one company wins the battle, the others will lose it. Management role here is more reactive in

nature as organizational processes are week and not well planned. Furthermore, budgets are narrow which may restrict management from taking the desired actions.

<u>Type 3.</u> Although within the boundaries of existing business and market, companies look for new opportunities to serve different customer segments in Type 3 BM. Different market segments can be served simultaneously and it means higher profits for the company because now it can serve a bigger market share. Because of this stronger presence in distribution channels can be established. Useful outcomes from R&D in this type of BM can be selected and commercialized.

The planning process makes it possible to pursue new opportunities as the company starts to seek for new market segments through its innovation activities. Multiple functional areas inside the organization are triggered for the innovation activities. In connection with this, we conclude that new opportunities, as the driver of BMI, can bring companies from type 2 to type 3 BM.

In this type of BM, management gradually shifts from the reactive stance to more initiative taking as company starts to plan for its future projects. Although at the same time companies operating in this type of BM cannot see the possibilities to go beyond the boundaries of current business and market.

<u>Type 4.</u> Open innovation (OI) is the driver of BMI towards type 4 BM. OI allows companies to use external ideas and technologies in its innovation process, as well as sell unused assets or share the knowledge it possess for an additional portion of the revenue. In order to benefit from OI, the company has to change its BM. BM can be constantly examined through OI and this allows for higher profits, improve the organizational performance and the companies can make a shift from feeling competitive pressure to gain competitive advantage.

Internal and external sources support market segmentation in this type of BM. External innovations are incorporated into the companies' BM. Management in type 4 BM can initiate the change in areas or markets related to its BM, rather than react to changes from others.

<u>Type 5.</u> In type 5 BM, companies start to align customers and suppliers with their BM, innovation roadmaps are shared with them and this provides better visibility of the future requirements from/for both sides. Furthermore, companies start to look for new markets and businesses. The access to external knowledge and resources are of importance here. This type of BM can be a good example of management "out of the box thinking".

Management in type 5 BM of the company seeks to establish external networks with potential partners, make closer connections with suppliers and customers, and strives to get access to external resources and knowledge. Because of this, managers can better sense new market needs and better understand new business opportunities – this makes them a good driver of BMI. Clearly, management takes initiative stance in type 5 of BM and we can state that management "out of the box thinking" is the driver from type 4 to type 5 BM.

<u>Type 6</u>. In this type of BM, companies are able to innovate their own BM. They are doing this through commitment to experimentation and willingness to invest money and management time in order to find new logical ways of doing business. So it means that companies are searching for the new BM and because of this, the new BM is the driving force of BMI.

This driver can bring companies to the last and most open and adaptive type of BM in BMF, type 6 BM. Although I could not find more evidence or examples of this driver anywhere else except the work of Chesbrough (Chesbrough H., Open business models: How to thrive in the new innovation landscape, 2006) who is arguing that in order to innovate its BM, the company need to experiment with one or more BM's. A number of means are used to do this: internal incubators, start-up companies, spin-offs and joint ventures. This allows for exploring alternative BM's, commercialize technologies outside the current BM, and grow promising ideas to prepare them for commercialization in high volume scale.

In type 6 BM, the company leads the industry and this leading position allows for a strong competitive advantage. Indeed, management is playing an initiative part here and consciously drives the whole innovation process.

6. Conclusions

The main goal of this study was to find the drivers of the BMI process and depict specific ones which drive BMI from closed to open business model. I was using the theory review method and a conceptual model with eight drivers were offered. Although not all of the drivers contribute to the BMI process from closed to open there are specific ones which can help companies to reach the next level of BM in BMF. Let's take technological progress and new opportunities - these drivers help companies to reach the next level in BMF, from type 1 to type 2 and from type 2 to type 3, correspondingly. Although they do not guarantee or offer open approach for the companies' BM, these drivers serve as a strong basis for the future development towards OBM.

When new technologies drive innovation processes and the company has orientation to different market segments, then it is basically ready to take the next step. The open innovation approach drives BMI to the next and more open type of BM. This is where a breakthrough happens and this type of BM is depicted as type 4 in BMF. The company starts to collaborate with external players in order to bring external ideas and technologies into the company and share unused ones.

Once again we see that type 4 BM serves as a basis for further development. Management "out of the box thinking" comes into a loop here. When the right team of management comes into the company, which has a different mindset than the old managers who support the existing BM, then new possibilities or opportunities can be pursued. It can serve as a strong force, which drives the BMI process toward type 5 BM where companies start looking for new markets and businesses. The companies may start working closer together with customers and suppliers, as innovation roadmaps are shared with them and future requirements becomes clearer.

The last driver, which brings the company to the most advanced and most open type of BM, is the search for the new business model itself. In order to reach this type of BM (type 6), companies need to establish processes to experiment with the new BM's. Here companies extend the experimentation to the BM's of the customers and suppliers, planning processes are integrated by that means. The company becomes market leader as its BM serves as a platform for the others. At the same time, the company's technology is established as the basis for the platform innovation and extends through the value chain. A few more drivers of BMI process were depicted and discussed in this work: sustainability, bad financial situation, and competition. Although these drivers cannot contribute directly to the BMI process from closed to open, they can be the strong force which drives BMI inside the current type of BM.

Limitation and Further research

I hope that this study may help managers and scholars to better understand which drivers can push companies to advance their business models and especially to enrich their knowledge about those which can make the transition from closed to open type. Although this study revealed main drivers of the business model innovation process, more research can be done here. I have been using the theory review method and this is the main limitation of this study. Quantitative or qualitative studies may enrich the conceptual model and findings.

Furthermore, from the business model framework we can see that the management role is changing from reactive to initiative-taking stance when business models are changing from closed to open type. But in order to prove this, more research would have to be made.

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