Business Model Concept Unburdened: The State of the Art

Jadranka Musulin
VERN' University of Applied Sciences
Dept. of Applied Mathematics and Computer Science
Trg bana J. Jelačića 3, 10000 Zagreb, Croatia
jadranka.musulin@vern.hr

Vjeran Strahonja
Faculty of Organization and Informatics
University of Zagreb
Pavlinska 3, 42000 Varaždin, Croatia
vjeran.strahonja@foi.hr

Abstract. *The business model (BM) concept emerged in theory and practice without a consensus on the understanding of the concept, but it has become a well accepted and useful construct in fields such as strategy, organization, information systems and technology.*
This paper aims to provide an overview of the research on the use of the BMs focusing on outstanding works in this field, extracting the main findings unburdened of mind-paralysing lists of citations. Following the overview, a comparison of the six respective conceptual frameworks of the BM research is presented.

Keywords. Business model, value proposition, literature review, research framework

1 Introduction

In the last twenty years, the business model (BM) concept has been attracting more and more attention from both academy and practice (Zott et al., 2011).
Although the term itself emerged without appropriate theoretical grounding (Teece, 2010), it has developed into a significant business modelling concept that proved to be able to contribute to advancing a firm's competitiveness (Wirtz et al., 2016). From its beginnings the business model concept aims to depict firm's logic of earning money with *a value proposition* to customer being the focus of organizing commercial activities (e.g. Magretta, 2002, Teece, 2010). Although many authors claim extant heterogeneity concerning the understanding of the business model concept, the bottom line is generally common and dealing with the same key issues – organizing business components so as to reach business goals. So what is there actually new and why so much fuss about it?

To answer this question, first, it has to be stated that to date it is well accepted that the widespread use of the business model is an answer to the need for developing business in the rapidly changing environment with the information technologies (primarily Internet) being the main factor of the change. Modern organizations and various aspects of their business are becoming more and more complex. In order to manage the complexity of interconnected and multi-layered systems they are being modelled. There are diverse kinds of models depending on their respective purpose, but what they all have in common is that the model has to be applicable and useful. The BM is not one model, but set of models depicting various aspects of a business: goals, organization structure, business processes, performance key factors, risks, system dynamics, and similar. The presence of different aspects, concepts and formal design methods and techniques depend on the purpose of the BM and purposes are multifaceted as it will be explained in this paper.

The research on this concept is still lacking many answers questioning the ways to understand, design, implement and innovate business models. A plethora of definitions, ontologies, research frameworks, taxonomies and other explanations have been provided so far. Some of them, like the *Business Model Canvas* by Osterwalder (2004), reached global popularity, some of them managed to set off a more cumulative research on the topic, like for example the *Unified BM Conceptual Framework* by Al-Debei & Avison (2010), but still there is no general consensus regarding the concept and the BM research structure is blurred (Pozzi et al., 2016) originating from diverse disciplines such as e-business, strategy, business management, economics, information systems and technology (Pateli & Giaglis, 2004; Schafer et al., 2005).

The objective of this article is to present a concise overview of the business model concept development and to address the state of the art in order to determine the ground for the future research on the topic concerning the following questions:

- *What is a business model 'physically'*? Meaning, in what form does it appear in theories and practice. This will be delineated by the selected definitions, components, representations and scope of the BM concept.

- *Where is a business model used*? The field of the BM use will be presented by identifying particular domains and taxonomies.
- *Why is a business model used*? The BM concept has a potential of having many functions and users which are partially addressed through research.
- *How is the research doing*? Different theoretical frameworks will be compared in order to evaluate their impact on the research efforts and vice versa.

There is no single way to conduct a literature review but it should be done in a systematic fashion (Creswell, 2009). In interdisciplinary fields, such as this one, conceptual structuring is encouraged (Webster & Watson, 2002). An exhaustive systematic literature review (SLR) on the BM concept is beyond the scope of this article. For the purpose of this review, author relies on several well regarded publications that provide thorough overview of this literature by segment and in whole and on the identified outstanding works on specific issues. The relevance of works has been verified by the number of citations in the Google Scholar and the Web of Science.

Elements of the first three research questions constitute the framework for this systematic review of the BM research. The last review question has two objectives. Firstly, here applied research framework will be confronted with other research frameworks throughout the history of the literature and evaluated. Secondly, the comparison of the selected well regarded frameworks will examine the path(s) of the research progression from a bird's eye view. The paper is structured following research questions in the aforementioned order.

2 Business Model Concept

2.1 Business Model Definitions

Many authors have provided their own definition of the business model resulting in an abundance of statements and contributing to the fuzzy perception of the term. This has caused a long and exhausting duration of the constitution phase of the concept. Table 1 presents selected commonly cited definitions.

Table 1. Selected business model definitions

Author: Definition
Timmers (1998, p.2): The business model is "an architecture of the product, service and information flows, including a description of the various business actors and their roles; a description of the potential benefits for the various business actors; a description of the sources of revenues".
Amit & Zott (2001, p.493): The business model depicts "the content, structure, and governance of transactions designed so as to create value through the exploitation of business opportunities".
Chesbrough &Rosenbloom (2002, p.529): The business model is "the heuristic logic that connects technical potential with the realization of economic value".
Magretta (2002, p.4): Business models are "stories that explain how enterprises work. A good business model answers Peter Drucker's age old questions: Who is the customer? And what does the customer value? It also answers the fundamental questions every manager must ask: How do we make money in this business? What is the underlying economic logic that explains how we can deliver value to customers at an appropriate cost?"
Osterwalder et al. (2005, p.17): "A business model is a conceptual tool that contains a set of elements and their relationships and allows expressing the business logic of a specific firm. It is a description of the value a company offers to one or several segments of customers and of the architecture of the firm and its network of partners for creating, marketing, and delivering this value and relationship capital, to generate profitable and sustainable revenue streams."
Teece (2010, p.179): "A business model articulates the logic, the data and other evidence that support a value proposition for the customer, and a viable structure of revenues and costs for the enterprise delivering that value."

Even nowadays there is no generally accepted definition, but the understanding of the concept has been converging by enveloping partial views. One of the most valuable analysis of the 22 definitions in use has been done by Al-Debei & Avison (2010) resulting with the well regarded conceptual framework. The latest detailed historical analysis of the business model definition development can be found in Wirtz et al. (2016) ending with yet another definition which adds more and more discussed dynamic view to the concept.

It can be seen that authors have been "desperately seeking definition" (Shafer et al., 2005) which may be frustrating but at the same time inevitable concerning the multidimensional and interdisciplinary nature of the concept. The solution to the issue of identifying the business model may be found in the next step of explicitation which is defining its components.

2.2 Business Model Components

The next level of BM conceptualization, following BM definitions, is generating and explaining its components, often called "building blocks". This explicitation is of great value for clarifying, comparing and unifying different perspectives which many authors attempted. Selected synthesis based on the criteria of converging views will be presented in short.

Osterwalder (2004) evaluated his BM ontology proposition by relating his BM building blocks with components found with other authors. His work became one of the most famous and widespread in both theory and practice depicting the business model with nine building blocks belonging to four main pillars: *product (value proposition)*, *customer interface*, *infrastructure management* and *financial aspects*.

Shafer et al. (2005) analysed 42 different components across 12 definitions of the business model by means of the affinity diagram. The results showed four major categories: *strategic choices*, *creating value*, *capturing value*, and the *value network* resembling Osterwalder's proposition.

Al-Debei & Avison (2010) after employing content analysis on 22 BM definitions deduced a conceptual BM framework including an ontological structure of the concept having also four dimensions (V^4 *BM dimensions*): *value proposition*, *value architecture*, *value finance* and *value network*.

Wirtz at al.'s (2016) analysis of the literature on BM components indicate that the heterogeneity of the approaches comes from the difference in the degree of abstraction. While the majority of the examined authors focus only on certain aspects, only 30% take a broad view which takes into consideration the whole spectrum of the components. They find that *resources* and *market offering (value proposition)* are the most utilized components and divide the overall spectrum into three general groups of components: *strategic*, *customer&market* and *value creation* components.

2.3 Business Model Representations

After definitions and components, the next step in identifying the business model concept is a business model representation (BMR) - an explicit representation of the reference model and its instances. When talking about the BM representation issue, sometimes authors refer to the BM design and sometimes to BM ontologies. Although these three terms does not mean exactly the same thing, their overlapping comprises the focus of the problem under question.

As many BM definitions state, business model is all about representing certain business logic. Osterwalder (2004), whose *Business Model Canvas* (Osterwalder & Pigneur, 2010) became the most popular BM representation to date, even calls it a "blueprint of the company's logic of earning money". So it is of utmost importance to have a rigorous method of achieving this. But following heterogeneity with definitions and components, a standardized way of designing and representing business models has not yet been established and is still one of the most important open questions regarding the BM research (Wirtz et al., 2016). Authors have employed a mixture of informal textual, verbal and graphical representations (Zott et al., 2011). Imagine an architectural plan of hundreds million dollar worth building sketched on the paper in an informal and ad hoc manner. Would you consider it? Maybe.

One of the rare literature reviews focusing on BM representation methods has been done by Kundisch et al. (2012) resulting with the classification framework of 13 selected approaches. Due to the space constraint of this paper, table 2 presents a synthesis of the framework showing only classification criteria and the total number of respective BMRs. Since these approaches have been rarely gathered throughout the literature, a complete list of works is provided here: *Activity system map* (Porter, 1996), *Business models for e-government* (Peinel et al., 2010), *Business model ontology* (Osterwalder, 2004), *Causal loop diagram* (Casadesus-Masanell & Ricart, 2010), *e3-value* (Gordijn & Akkermans, 2003), *E-business model schematics* (Weill & Vitale, 2001), *Eriksson-Penker business extensions* (Eriksson & Penker, 2000), *Integrated business model concept* (Wirtz, 2011), *Resource-event-agent* (MsCarthy, 1982; Sonnenberg et al., 2011), *Strategic business model ontology* (Samavi & Topaloglou, 2009), *Value map* (Allee, 2000; Tapscott, 2000), *Value net* (Parolini, 1999), and *Value stream map* (Pyonnen et al., 2008). These approaches differ not only in notational elements they use but also in the level of sophistication when describing them thereby often leaving the semantics implicit. This poses difficulties in cumulative research and authors rarely build on each other.

Table 1. BMR classification framework (Kundisch et al., 2012)

Criteria	Sub-criteria	Total No. of BMR
Reach	Strategy layer	8
	Business model layer	13
	Process layer	1
Perspective	Single view	10
	Multiple views	3
Notation principle	Map-based	2
	Network-based	11
Tool support	Formalization	6
	Design	6
	Financial evaluation	1

Six out of the previous thirteen approaches were recently selected as well-established and were evaluated as business model ontologies (BMO) for securing viability (D'Souza et al., 2015). They were compared against 26 criteria but none of the BMOs satisfied all of them, while e^3*-value* (Gordijn & Akkermans, 2003) supported most of them. It is striking that none of the approaches supports the criteria "represent the business architecture". There are some other important viability criteria that are also fully ignored and should be worked upon in the

future. The problem is to find a way to model complex and dynamic settings without overcomplicating the design. One of the reasons why Osterwalder's BMO (2004) became so popular is the ease of use and understanding and many recent works build upon him.

Another analysis of existing BM ontologies by Burkhart et al. (2012) should also be considered which identifies a few yet unmentioned works and results with the proposition of a new and improved one synthesised and extended. It is important that these authors suggest that the future development of the ontologies should follow existing approaches of enterprise metamodeling since finally business models should actually be implemented in existing surroundings.

2.4 Business Model Scope

The discussion on the BM scope could seem redundant after investigating definitions, components and representations which should have already explained the scope too, but they have not. So many authors attempt to add to the understanding of the BM concept by discussing its scope separately. The scope should illustrate the reach of the BM concept covering the company and its surroundings. When defining the boundaries of the BM scope, the discussion usually involves other concepts such as strategy, business processes (BP), information system (IS) and enterprise architecture (EA).

The debate on the relationship between the BM and the strategy has often been tackled throughout the history of the BM research. Seddon et al. (2004) focused on this issue and illustrated possible overlapping of the two concepts in five generic ways (Fig. 1) according to the discussion found in the literature. Different relationships are a logical consequence of the different understanding of the BM concept.

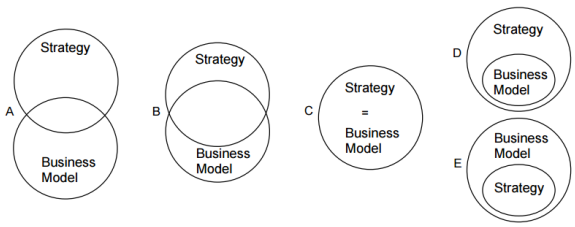

Figure 1. Business model and strategy (Seddon et al., 2004)

To date the views have converged around the A option having an intersection area of two different concepts. While BM can be a source of competitive advantage, it is distinct from the strategy being its extension and complement (Zott et al., 2011). In this vein, many authors see BM as an execution of the strategy. Following this approach, BM is presented as an interface between the strategy and the business processes (Fig. 2) filling the gap that emerged between those two in the present dynamic and competitive environment (Al-Debei & Avison, 2010). The intersections are the issues currently under research with the aim to explain the transition processes to be followed.

Positioning the BM concept between the strategy and business processes further leads to relating it to the information system and the enterprise architecture. This is especially important when dealing with technological innovations that are nowadays more and more frequent in business.

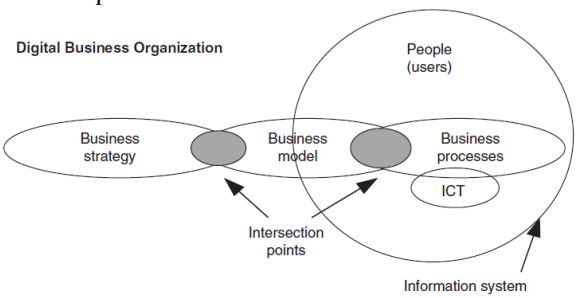

Figure 2. Business model in an organization (Al-Debei & Avison, 2010)

Iacob et al. (2014) present a method for migrating enterprise architecture from present to target one driven by the business model in order to monitor the business value of the change. The proposed method employs the ArchiMate, the EA modelling standard, and the Business Model Canvas, the most popular BM design tool. Bonakdar et al. (2013) investigate the influence of BPs on BMs and exploit the usage of performance measurement systems to manage BM changes. Solaimani & Bowman (2012) propose the *VIP framework* for aligning BMs and BPs independent of a specific modelling tool. Caetano et al. (2016) integrate e3-value, Business Model Canvas and ArchiMate into a modelling landscape in order to addresses different organizational concerns such as strategy, processes and information system.

It is evident that the research on BM scope has gone further to explain the BM role in linking the strategy and the enterprise system thereby opening a whole new research field (Veit et al., 2014).

2.5 Business Model Taxonomies

Many authors attempted to provide typologies and taxonomies of BMs to facilitate creation and development of a successful BM for the company. The aim is to make the concept of BM as practical as possible providing an instant solution to the managers seeking a new way to do business. A plethora of such attempts can be found in the literature (Lambert, 2013, Bonakdar, 2015).

2.6 Business Model Domains

Although the BM concept emerged with the 'dot com' boom and companies focusing on e-commerce, the

general applicability of the business model across diverse industries has been proved in theory (Burkhart et al., 2011) and practice. According to the IBM survey (2007), which was based on interviews with 765 corporate and public sector managing directors worldwide, financial outperformers put double emphasis on business model innovation compared to underperformers showing the importance of this concept in practice.

In the review of empirical research on BMs spanning from 1996 to 2010, Lambert & Davidson (2013) argue that both managers and researchers find BM as a useful construct. The result of their analysis show that the dominant industry domain of the BM application is, expectedly, *information, media and communications* (44%), but all other industries have also been represented with the substantial share (Fig 3).

Recent research also shows continuing diversity of application domains. In his doctoral thesis, Zolnowsky (2015) investigates the design of the service business models with empirical research conducted in five manufacturing firms from the mechanical engineering and automotive industries. Pekuri et al. (2013) investigate the role of the BM in the construction business. In Bonakdar's (2015) dissertation, author explores how firms create and capture value with business model innovation. The empirical research is conducted on two case samples (25 and 29 firms respectively) originating from various types of business (fast food, elderly care, fashion, restaurant, grocery, association, personal care industry, printing devices, coffee capsules, electronics, music, car sharing, online marketing, healthcare, telco, hotel, gaming, newspaper, credit card, online payments and other). Schief (2013) focused his dissertation on BMs in the software industry.

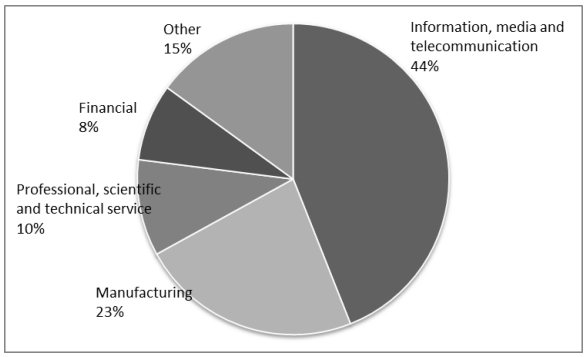

Figure 3. Business model in industry sectors (adapted from Lambert & Davidson, 2013)

2.7 Business Model Functions

Many scholars have posed the question why is the BM a useful concept (e.g. Morris et al., 2006, Baden-Fuller & Mangematin, 2013). There is a vast number of ways to answer this question that should be followed by an extant discussion which is beyond the scope of this paper. Therefore only a brief overview of possible BM functions adapted from Osterwalder (2004) will be presented. Osterwalder's work has been chosen because his BM ontology is the foundation for the most widely used BM design tool proving his assumptions on BM functions.

Five categories of BM functions can be identified: *understanding and sharing, analysing, managing, prospecting and patenting*.

BMs help in understanding and sharing the business logic of a firm by capturing ideas in the heads of the stakeholders, visualizing complex information, helping clarify elements and relationships and communicating it in a more tangible way.

BMs' role in analysing the business logic is in improving the performance measuring system, observing changes in a structured way, enabling comparison with competitors and benchmarking.

BMs contribute to the management of the business logic in several ways. They provide the tool for easier design of a sustainable business model. They facilitate the changes to new business models through plan, change & implement process. They enable quicker reaction to changes in environment by modifying only certain elements of the model. BMs, as discussed earlier in the Scope section, are the link between strategy and the business system and can serve as an alignment tool. By doing all of this, BM also improve decision-making because the business is better understood, measured and analysed.

BMs can foster innovation giving a BM designer a toolbox to play with and invent new configurations. The designer can even stock several potential BMs for the future in order to cope with unexpected change. It is possible to simulate and experiment to prepare different scenarios for the future.

Companies in e-business seek ways to patent their processes. Additionally, BM could possibly serve as a medium in this legal domain.

All BM functions can be wrapped up in one great thought: *"Business modelling is the managerial equivalent of the scientific method – you start with a hypothesis, which you then test in action and revise when necessary."* (Magretta, 2002, p.5)

2.8 Business model users

To further elaborate on the BM concept usefulness theoretically and practically, it is important to address BM users as stakeholders of the future research. Since the BM is used for multiple purposes described in the previous section, it has various users. Three respective user groups can be identified (Lambert, 2008): managers/decision makers, IS developers and external users.

Primarily, managers and decision makers benefit from using the BM concept to better understand and

share the business logic of the firm, to manage it and prepare for the future.

Secondly, IS developers can use the BM concept as a facilitator of requirements engineering, linking and aligning the business goals with the underlying IS and IT infrastructure. Gordijn & Akkermans (2003) explain that for IS development representation techniques from the process- and information viewpoints are available, while missing from the value viewpoint and the BM concept should be able to depict that.

And thirdly, external users can find the BM concept helpful in understanding the business concept of the entity of interest. These users are: business consultants, analysts, legal professionals, investors and researchers.

Different users can have different needs reflecting mostly on the level of abstraction of the BM representation.

3 Business Model Research Frameworks

Statements such as "lack of consensus regarding business models", "a research diversity", "the absence of a common underlying theoretical basis", "fuzzy and vague concept", "cumulative progress is hampered", "the literature is dispersed", "heterogeneous understanding", "blurriness of the research structure" etc., repeat over and over again for twenty years now across the literature on business models. Several authors attempted to propose a research framework in order to provide the unified basis for more structured theory development but the entire framework does not exist. Therefore, as part of the research presented in this paper, six selected conceptual frameworks (CF) will be analysed (Fig. 4) to depict 'how the research is doing', i.e. what overall progress has been done from a bird's eye view. The shades of grey in different frameworks show the correspondence to the research framework applied in this review.

CF1 is one of the first and most famous research frameworks and was proposed by Pateli & Giaglis (2004). They classify the BM research into eight sub-domains which will be used as a starting point for comparing with other frameworks. These sub-domains build on each other from the constitutional basics (*Definitions*) through structural explanations (*Components, Taxonomies, Conceptual models*) towards more complex managing issues of the maturing concept (*Design & Tools, etc.).*

CF2 (Lambert, 2008) is another incremental and logical framework based on the long-standing financial reporting research framework. Although it does not build on previous BM framework, CF2 is consistent with CF1, at least up to the level of the design issue. It does not go further as its aim is to enable the consensus abut the key terms and concepts as a solid ground for debating further issues. Pyramids stress the importance of the direction and hierarchy of research steps.

CF3 (Al-Debei & Avison, 2010) is here represented by its four upper classes that encapsulate 13 atomic classes altogether. This framework was generated directly from BM definitions and has not intended to build upon the previous frameworks. Similar to CF2, CF3 ends up consistent with CF1 sequentially following levels up to the design. It is interesting to note that for the first time it leaves out the first phase of defining the concept.

CF4 (Burkhart et al., 2011) is the first one to build upon the previously proposed framework, that is CF1. Through the category *Fields of research* consisting of attributes following CF1 sub-domains, authors quantitatively analysed the progress made in particular fields. Another four categories are added to

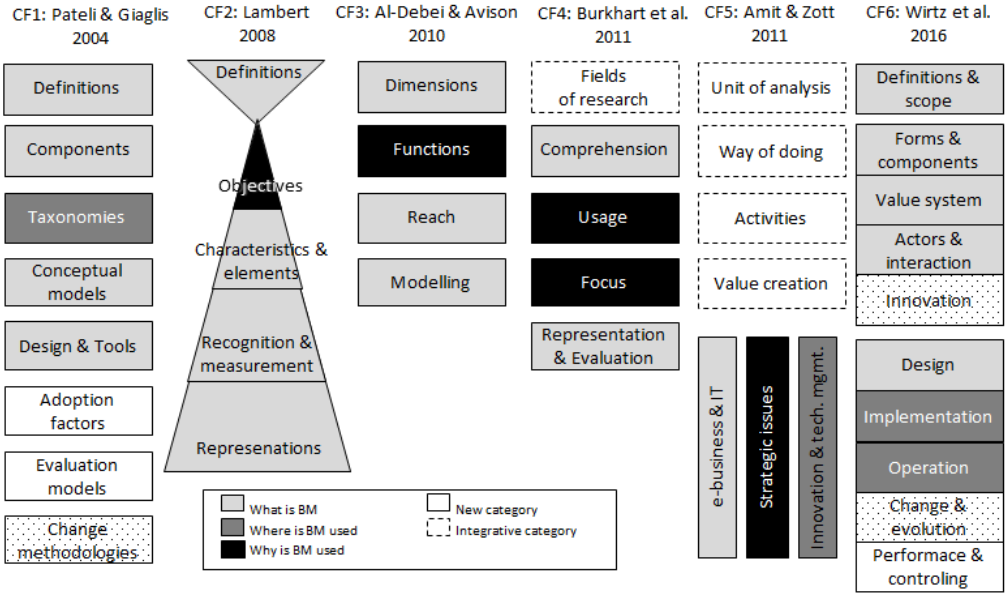

Figure 4. Comparison of six business model conceptual research frameworks

refine the analysis in a qualitative manner, also in concordance with Pateli & Giagli's research agenda suggestion for integrating atomic elements of their proposed framework.

CF5 (Amit & Zott, 2011) take a whole different multidisciplinary and subject-matter approach. Authors propose a two-dimensional framework with three phenomena being addressed on one side and four main common themes on the other. Their work does not build on any other previous framework and is most difficult to map it against others because it combines the previous atomic categories in a novel and overlapping way.

Finally, CF6 presents again more atomic view with some new categories emerging, but also covering most of the old ones including *definitions*. Authors' literature review reveals that the most research is allocated to *Innovation* (26%), *Change & evolution* (18%), *Performance & controlling* (16%) and *Design* (16%).

Conclusion and Implications

This paper aimed to provide an overview of the research on the use of the BMs focusing on outstanding works in this field, extracting the main findings unburdened of mind-paralysing lists of citations. Following the overview, a comparison of the six respective conceptual frameworks of the BM research was presented.

Based on the comparison, it is evident that authors rarely build on each other but still manage to demonstrate relatively congruent thinking. For the purpose of systematic literature review it is necessary to set up a conceptual framework for classification (what authors have done), but the other aim of the authors to facilitate cumulative research has not been demonstrated. The overall research on BM is growing in numbers steeply, and academics are still addressing various proposed atomic attributes of the concept individually or, more often, in differently integrating constellations.

In answering the question 'how the research on BM is doing', it can be stated that the structure of the research is still vague and only very broad common categories can be identified. This paper started with the classification based on three questions that aimed to group similar and important aspects of understanding the BM concept, namely: (1) *What is BM 'physically'*, enveloping definitions, components, representations and scope; (2) *Where is BM used*, focusing on taxonomies and domains of application, and (3) *Why is BM used*, addressing its functions and users. These three aspects were mapped onto selected frameworks (Fig 1) showing they cover most of the categories dealing with the understanding, creating and putting BMs into operation. Besides that, there are important aspects emerging around managing BMs, like change & innovation and performance & evaluation. There are also categories that take an integrative view of many aspects that cannot be directly mapped and need more elaboration.

So is the BM research moving to a more structured level advancing the common understanding of the concept? Yes and no. Some basic aspects are reaching a converging view but authors still feel the need to clarify the understanding and use of the concept dealing with foundational issues (e.g. definitions and components). On the other hand, specific issues are addressed with profound and focused research (e.g. innovation, evaluation, IS alignment). Nevertheless, to address the state of the art with a future perspective, it should be noted that the most important areas of the current research are *Change & evolution, Innovation, Design and Interactions* (Wirtz et al., 2016) resembling the importance of supporting dynamics in the application of the BM concept. There are many open questions in these and other areas which can be identified only by studying in deep the specified sub-domain. Naming any of them at this level of analysis would be superficial.

In this paper only the main findings on the BM explicitation throughout the literature have been discussed in order to present the BM concept in a pragmatic manner meaning that the essentials have been carefully extracted to give a quickly applicable overview of both established and recent research without the heavy weight of the extant body of literature

Acknowledgments

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