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Cass Business School
CITY UNIVERSITY LONDON

PhD Thesis

**Cognitive perspectives:
Conceptualizing the business model**

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Introduction	3
Chapter 1. Understanding “business model” as an abstract concept	18
1. Introduction.....	18
2. How do we understand abstract concepts?	21
3. Conceptual metaphor theory (CMT)	23
4. Insights from grounded cognition.....	29
5. Models in philosophy of science	33
6. Conclusions.....	41
7. References.....	43
Chapter 2. Business model innovation: how iconic business models emerge	51
1. Introduction.....	51
2. Literature review	55
3. Methods and data	60
4. Findings	66
5. Discussion and conclusions	76
6. References.....	81
7. Appendix.....	87
Chapter 3. Business models: insights from categorization theory	93
1. Introduction.....	93
2. Business model literature overview	95
3. Theories of categorization	99
4. Business models as natural kinds (causal-essential perspective)	107
5. Business models as prototypes (similarity-based perspective).....	117
6. Business models as performative representations (goal-based perspective)	119
7. Conclusion	121
8. References.....	122
9. Appendix.....	129
Conclusion	136

Introduction

The concept “business model” has now for a number of years been enjoying increasing attention of strategy and management scholars. The concept first started to be used widely by practitioners (investors, journalists, entrepreneurs and consultants), especially in the context of e-business, without a precise definition (Lecocq, et al., 2010, p.219). Today business model concept is largely institutionalized in the practice world.

Since the 1990s and early 2000s there has been a dramatic increase in the number of publications on business models (Ghaziani & Ventresca, 2005). Ever since the concept gained visible attention of scholars, there has been criticism of business models as “a new fashion in the management field that could disappear in several years” (Lecocq et al., 2010, p.214). However, this does not seem to be the case. Markides (2015) points that in the last five years there has been a number of special issues of academic journals on the topic of business models: *Long Range Planning* (2010), *Harvard Business Review* (2011), *International Journal of Innovation Management* (2013), *Strategic Organization* (2013), *R&D Management* (2014), *Strategic Entrepreneurship Journal* (2015), as well as sessions at prestigious academic conferences featuring business models (Academy of Management, Strategic Management Society, European Group of Organization Studies). So, as Arend (2013) notes, the idea of business models is not dead (p.391). He identified there main reasons for the apparent longevity of the concept: a significant increase of articles published on the topic since 1990; the significant strategic, organizational, and economic impact attributed to the use of the idea; and the many unresolved debates about the concept (Arend, 2013, p.392).

There are still debates regarding the added value of the business model concept, especially its relationships to some established concepts, such as strategy (Arend, 2013, p.392). There are few papers which examine this question, theoretical value and limitation of the concept – with different conclusions (for example, Markides, 2015; Arend, 2013). Among those debates about the meaning of the concept business model an important perspective is emerging – that of seeing business models

as models (Markides, 2015). This view, originally offered by Baden-Fuller and Morgan (2010), encourages viewing business models not as descriptions of what a firm does, but as but as models of the world that “...go beyond explaining what has happened in a particular context to providing a configuration of cause-effect relations” (Baden-Fuller & Mangematin, 2013, p.419). Viewing business models as models is seen by some as offering an interesting perspective to explore new areas in strategy (Markides, 2015). For example, Arend (2013) suggests that viewing the business model as a “model” of value creation, especially involving nonmonetary exchanges to explore such issues as social entrepreneurship and strategy in non-traditional business contexts.

Business models as “models”

If business models are seriously to be thought of as models, what does this imply? Baden-Fuller and Morgan (2010) lay important foundation to answering this question. Firstly, business models “describe typical kinds of organizations and behaviors by firms (or perhaps units within multi-business firms) in such a way that we can label different kinds of behavior” (p.157). Secondly, drawing on parallels with scientific models, they compare business models with organisms in biology and mathematical models in economics, and show how business models form instruments of scientific enquiry (p.157). They argue that “exemplar case business models (such as McDonalds) are to management what the model organisms are to biology: real-life examples to study” (p.163). Like, biologists who use model organisms to learn about life more generally, scholars study business models to learn why and how each model is successful as a business (p.163). Finally, business models function like recipes - ready for copying, but also open for variation and innovation (p.157).

Baden-Fuller and Morgan (2010) sharpen understanding of the concept “business model” by reflecting on it as a scientific model. I suggest more can be gained for our understanding of the concept “business model” by further exploring the implications of thinking about business models as “models”. Why is this concept so popular and intuitively appealing to practitioners, and yet so

difficult to define? In chapter 1 of my thesis I reflect on “business model” - as an abstract concept, and as a model.

How do people comprehend abstract concepts, generally, and more specifically, models? Generally study of concepts – “the glue that holds our mental world together” (Murphy, 2002, p.1) - is central to cognitive science, which is preoccupied with the question of “how do people think?” (Pecher et al., 2011, p.217). When it comes to explaining how people understand abstract concepts – like business model – cognitive science offers two major perspectives. The first perspective – conceptual metaphor theory (CMT) (Lakoff & Johnson, 1980) – is grounded in cognitive linguistics and has been employed by scholars in the organization studies to clarify meanings of some abstract theoretical concepts (Andriessen, 2009; Andriessen, 2006; Cornelissen, 2006). Its central claim is that that people use metaphorical mappings from concrete to abstract concepts (Lakoff & Johnson, 1980). From cognitive linguistic standpoint “business model” is a creative noun-noun compound - a sequence of nouns acting as a single noun (Downing, 1977), which may carry multiple meanings. This kind of noun-noun compounds are based on metaphor and make use of the creative associations between the two nouns (Onysko & Michel, 2010, p.220). Thus the multiple meanings of the concept “business model” arise because of the metaphorical nature of the concept itself, where the underlying notion of a “model” endows the concept of “business model” with particular meanings. More specifically, according to CMT business models can be thought of as representations of ways of creating and capturing value in organizations, and as things to be copied.

The second, more recent, perspective that explains how people understand abstract concepts, is based on the recent developments in cognitive psychology – grounded cognition (Barsalou & Wiemer-Hastings, 2005). This perspective suggests that people understand abstract concepts by simulating concrete situations and experiences; the elements of thought are not words (like in conceptual metaphor theory), but imagined sensory-motor experiences (mental images, imagined movements through space, simulated sequences of actions, etc. (Pecher et al., 2011, p.218). Grounded

cognition theory emphasizes the importance of externalizing knowledge in a form of a model in order for it to be manipulated to provide otherwise unavailable insight about the world. According to this theory business model is a tool which invites to gain insight using manipulation with a small object. It points to the important role of business models as a tool for externalizing cognition useful for practitioners, rather than a purely theoretical concept, or a popular buzzword.

Given the long established view of management as science (Freedman, 1992), the idea of “scientific models” informing our understanding of business models should not be overlooked. Following Baden-Fuller and Morgan (2010), I turn to philosophy of science, which devoted considerable attention to reflecting on the nature and role models and ways of reasoning with them (Morgan, 2012). In science the term “model” is “remarkably flexible and open to use serving scientists’ purposes” (Byerly, 1969). Business models, like scientific models, can be thought of a type model, representing general types of firms, or token models, describing specific firms. Business models contain elements theory, as well as observations. Business model concept implies an active role of the modeler - entrepreneur or management - in creation, interpretation, and manipulation of the model.

In the first chapter of my thesis I explore how the multiplicity of meanings implied when talked about business models stems from the multiple cognitive processes triggered by this concept. Rather than debating different definitions of the concept, I suggest that in order to appreciate the depth of this concept it may be useful to employ our knowledge of how we in general understand abstract concepts. Connecting business model literature with the literature on cognition allows exploring further the role of business models as a cognitive tool for visualization (Arend, 2013, p.392), and as a device that allows for better business decisions to be made (Hacklin et al., 2012). In the subsequent chapters of my thesis I pick up on some of the key ideas of chapter 1: chapter 2 is an empirical study, which addresses the central question - how shared representations of business models emerge; in

chapter 3 I explore how scholars conceptualize business models, often implicitly, as type and token models, and discuss assumptions they make about the ontological status of business models.

Business models as socially constructed market categories

Following insights from CMT, one of the key meanings of the concept business models is that of simplified representations of ways of creating and capturing value in organizations, which are to be copied. Arend (2013) also points to this important function of business models –to provide a common language among stakeholders, reducing complexity and simplifying “networks of sophisticated interdependencies into coherent stories for the cognitively limited participants involved” (p.392). This function of the concept is evident in the way both scholars and practitioners use it - when they refer to well-known examples of companies with innovative business models (such as Airbnb, Amazon, eBay, Dell, and McDonald’s). These companies are often referred to as “iconic” (Sabatier, Mangematin, & Rousselle, 2010), and it is assumed that there is a shared understanding of the kind of business models these companies represent. What are “iconic” business models and where do they come from? Given the widespread reference to such “iconic” business models both in academic literature and among practitioners, it is surprising that to date this question has not been addressed. In the chapter 2 of my thesis I address the question of how “iconic” business models emerge.

These “iconic” business models seem to describe “generic kinds of behavior which are distinctly different” (Baden-Fuller & Morgan, 2010), and represent a broader category of firms. Thus to study this phenomenon I draw on the literature on market categorization, which has recently been preoccupied with processes of category emergence (Breiger & Kennedy, 2005; Kennedy, 2008; Kocak, Hannan, & Hsu, 2014; Lounsbury & Rao, 2004; Navis & Glynn, 2010; Schultz, Marin, & Boal, 2014). Drawing on this literature, I reformulate the research question: how do innovative business models become prototypical exemplars for new categories of firms?

To answer this research question I focus on the case of AirBnB and develop a process model explaining how Airbnb became the prototypical exemplar for the new category of firms – those operating in sharing economy. To investigate the cognitive process whereby Airbnb's business model became iconic, and contribute to understanding the way firms are categorized, I chose to analyze media coverage of Airbnb between 2008 (year of its creation) and 2013, which is an established approach to study category emergence (Kennedy, 2008).

I find that the process whereby Airbnb's business model became the iconic business model for the sharing economy took place in three phases. At first, the media tried to assimilate Airbnb's innovative business model into the category system of extant business models by drawing on multiple analogies with existing iconic business models (e.g., eBay) and market categories (e.g., the hospitality industry). Second, given the persistence of perceived inconsistencies between the existing category system and Airbnb's new business model, and proof of its financial success, the media developed a more elaborate understanding of Airbnb's business model. Finally, as the media recognized the specificity of Airbnb's innovative business model, they established it as a prototypical exemplar of a new type of organization: the sharing economy type. As the media used Airbnb's business model to comprehend other firms' activities and business models, Airbnb's business model representation increasingly became detached from the actions of its instigator company.

This chapter contributes to the business model literature with elaboration of the notion of "iconic" business model – as an innovative business model which is imitated across industries and is considered as a prototypical exemplar for a particular category of firms. This study complements the research on the role of analogical reasoning in the process of business model innovation (Enkel & Mezger, 2013). This study also contributes to the research on market category emergence by describing a case emergence of a category prototype – an iconic business models, and showing how innovative business models can reshape how the media and the market in general classify firms. Secondly, the chapter bridges the business model field with the vibrant research on market

categorization. Conceptualizing business models as socially constructed market categories opens up new avenues for research and theorizing in the field, making relevant the questions about the socio-cognitive nature of business models. It also contributes to the market categorization field, which traditionally deals with product-based categories (Kocak et al., 2014; Navis & Glynn, 2010), by offering a new way of categorizing firms – based on their business models. More broadly, this chapter connects research on business models with broader questions in cognition in strategy, especially category emergence (Kaplan, 2011). While making the above mentioned contributions, this chapter focuses on the role of media in the process of iconic business model emergence, and does not describe a more detailed socio-cognitive process unpacking the roles of different audiences in this process.

Ontological status of business models

Among the debates about definitions of the concept “business model” question about ontological status has not been explicitly addressed. Lecocq and colleagues (2010) note that the ontological status of business models is still an unresolved question and “cannot yet be considered as a shared assumption among researchers” (p.218). They point that, while some scholars clearly view the business model as a cognitive representation of a business fulfilling several roles, others take it as a characteristic of an organization (p.218).

This important question calls for examining the different ways of reasoning about business model concept. To address this question I turn to the literature on cognition, which studies how we form concepts which represent categories (Murphy, 2002, p.1). The field of categorization is generally preoccupied with the fundamental question of sensemaking, “What is it?”, or, more specifically, “What kind of thing is it?” (Glynn & Navis, 2013, p.1125). While, as Durand and Paoletta (2013) note, the cognitive science literature has not yet reached full agreement about a general model of categorization (e.g. Murphy, 2002), there are currently three fundamental theories which explain the cognitive process of categorization.

Firstly, the causal-essential theory of categories suggests that the distinctive characteristics of categories arise from the rich causal structure organized around a central feature which such kinds are thought to possess (Rehder & Hastie, 2001, p.325). In other words, the categories are seen to be “natural kinds”, they are thought to have “an underlying reality or true nature that one cannot observe directly but that gives an object its identity... they are discovered (rather than invented), they are natural (rather than artificial), they predict other properties, and they point to natural discontinuities in the world” (Gelman, 2003, p.3). Secondly, there are similarity-based theories of categorization (Rosch & Mervis, 1975; Nosofsky, 1988), which claim that categories are formed as clusters held together by the perceived similarity of their instances (Hampton, 1998, p.137). According to these theories, many categories are organized by graded similarity to the category’s prototype – “as a set of attributes characterizing the average or idealized category member” (Hampton, 1998, p.138). Thirdly, there is goal-based categorization theory (Barsalou, 1983), which suggests that individuals create categories according to their goals. These goal-derived categories assist them in understanding and handling large amounts of novel information in the way most appropriate to their goal (Durand & Paoletta, 2013, p.9).

The current research in the field untangles further nuances and limitations of those theories, pointing that the different ways of categorizing can be at play in a single domain simultaneously (Ross & Murphy, 1999). How is this useful for our thinking about business models? The recurrent theme in the business model literature is that business models are useful for differentiating between different kinds of firms (Osterwalder et al., 2005; Morris et al., 2005; Zott et al., 2011; Lambert & Davidson, 2013). Of course, the three theories of categorization provide different explanations for how people categorize objects in the world, such as food products (Ratneshwa et al., 2001). However, an important takeaway from these theories is the different ways of reasoning about concepts, and categories those concept represent. Causal-essential perspective implies discovery of objectively existing natural categories. Similarity-based perspective implies that categories are the result of

perception, more specifically, of perceived similarity to a prototype, or exemplar. Goal-based perspective implies that categories are not independent from actor's goals. Consequently we can differentiate between different ways of reasoning about business model concept.

I find that the three main ways of reasoning about categories (causal-essential, similarity-based, and goal-based) are evident in the business model literature. Some business model scholars describe business models as discovered natural kinds (for example, Baden-Fuller et al., 2015; Zott & Amit, 2010); other scholars are conscious to point that business models are a matter of perception (Furnari, 2015; Martins et al., 2015; Enkel & Mezger, 2013); yet other scholars point that business models are emergent and related to actors' goals (Doganova & Eyquem-Renault, 2010). These different ways of thinking about business models imply their different ontological status of business models: as objectively existing natural kinds, as cognitive phenomena, or as emergent.

Some business model scholars apply one way of reasoning about business models consistent with one way of reasoning throughout their papers. Others, however, shift between different ways of reasoning within one paper, leaving reader with an uneasy feeling of something being not quite right. For example, I find that many authors take view of business models as causal-essential categories (or natural kinds), implying there are objective reasons for different business models to exist. The problem arises however, when instead of explicating or theorising those reasons they focus on identifying features different business models they perceive to have in common – using similarity-based way of reasoning (for example, Zott & Amit, 2010; Casadesus-Masanell & Ricart, 2010). Likewise, the authors who focus on process of formation of a prototype of a particular business model end up claiming that the result of this process accurately represents objective reality (for example, Furnari, 2015). Such lack of clarity makes a systematic literature review with clear classification of authors and papers problematic. Instead, this chapter illustrates the different ways of reasoning about business models and the different ontological assumptions about business models using widely cited

and / or representative papers. This chapter hopes to help business models scholars to clarify their ontological assumptions and formulate research questions consistent with those assumptions.

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Chapter 1. Understanding “business model” as an abstract concept

1. Introduction

Nobody can just define what a model is, and expect that other people will accept this definition; endless discussions have proven that there is no consistent common understanding of models.

(Ludewig, 2003)

Why is the concept “business model” so popular? Why is it so intuitively appealing, yet still generates heated debates about basic definitions? DaSilva & Trkman (2013) trace the origins of the term “business model” to 1960, when it was used first time in the title of an academic article, which discussed questions of how college students should be trained and introduced to technologies, stressing the educational purpose of business models (Jones, 1960). Since then until the 1990s the interest in business models both among academics and practitioners remained rather low. However, with development of information and communication technologies and the emergence of Internet companies, the term quickly gained prominence. From the early 1990s to the dot-com bubble burst the business model terminology spread to various communities, often being used simply as a buzzword (DaSilva & Trkman, 2013). Since then it has gone a long way from professional buzzword to becoming a part of institutionalized discourse. Since 2011 UK Financial Reporting Council (FRC) requires UK publicly listed companies to report their business model in their annual reports: “The company’s business model should be well explained”¹; “The business review gives a clear and balanced account which includes an explanation of the company’s business model”². However, apart

¹<http://www.frc.org.uk/FRC-Documents/FRC/FRC-Annual-Report-2010-11.aspx>

²<http://www.frc.org.uk/getattachment/f46d075e-7d0b-439c-aaf6-d557de55f93f/Financial-Reporting-Review-Panel-Annual-Report-2012.aspx>

from stressing the necessity for a clear explanation of a business model, FRC gives little guidance as to what exactly a “business model” is and what counts for an explanation of one.

Academic literature provides no definitive guidance on the matter either. On the one hand, there seems to be an intuitive understanding of the concept and wide usage of it. A recent survey finds that 95% of strategy academics use the concept “business model” in teaching (Markides, 2015). The recent legal requirement to express business models formally is only a reflection of the importance the concept has acquired in business practice. On the other hand, in academia the concept “business model” has only recently started to be treated as a serious research agenda (Lecocq et al., 2010). Despite the growing number of publications on the topic, academic research still provides multiple views on what business models are. Zott and colleagues (2011) note, that researchers often “adopt idiosyncratic definitions that fit the purposes of their studies but that are difficult to reconcile with each other” (p.1020), hampering cumulative progress in the field. The same recent survey cited earlier finds that 68% of strategy academics agree that lack of definitional clarity hampers impactful research in the field (Markides, 2015). It is interesting to note the development and proliferation of the concept “business model” was driven by practitioners, and only later picked up by academics. Before it received many formal competing definitions and stirred multiple debates, it was primarily used by practitioners (investors, journalists, entrepreneurs, consultants, etc.) based on their tacit knowledge (Lecocq et al., 2010, p.219). Where does this “tacit knowledge” about this concept come from?

One of the key criticisms of the concept has to do with the scope of the concept “business model”: Markides (2015) and Arend (2013) argue that seeing business model as a description of firm’s value capture and value creation activities overlaps significantly with the concept of strategy itself. Alternatively, they suggest that business models should be viewed as a models of value creation and value capture that transcend industries (Markides, 2015; Arend, 2013). This view was first clearly articulated by Baden-Fuller and Morgan (2010), who, drawing on analogy with scientific models, identify the main functions of business models: to provide means to describe and classify businesses;

to operate as sites for scientific investigation; and to act as recipes for creative managers (p.156). Following this view, I suggest that more can be gain for our understanding of the concept “business model” by further elaborating the concept of “model” itself. I suggest that exploring the idea of “business model as a model” may provide an explanation for why the concept “business model” so intuitively appealing, tacitly understood, yet so hard to define.

In this essay I suggest to strip the concept of the multiple definitions scholars attached to it in the recent years, and to take a look at the “business model” as abstract concept - an entity which is not purely physical, nor spatially constrained (Barsalou & Wiemer-Hastings, 2005, p.129). I argue that the concept “business model”, like other abstract concepts, has powerful metaphorical effects rooted in the concept “model”. I draw on the literature in cognitive linguistics and cognitive science, which shed light on how humans understand abstract concepts, and philosophy of science - on the nature of models and ways of reasoning with models.

In doing so I add to a number of studies which set out clarify ambiguous theoretical concepts in management by viewing them as metaphors (Andriessen, 2009; Andriessen, 2006; Cornelissen, 2005). Acknowledging metaphorical nature of some complex and ambiguous concepts has the potential of identifying common ground for definition of such concepts. “It can enable such definition seekers to recognize the depth of abstract concepts and thus encourage them to not debate whether a definition is correct or incorrect but explore how it adds to their current perspective on a concept” (Andriessen, 2006, p. 847). Beyond this, analysing metaphorical nature of concepts allows identifying how it influences the way we frame problems. Like these studies, I draw on conceptual metaphor theory in cognitive linguistics (Lakoff & Johnson, 1980), but I also complement this account by recent developments in cognitive science – the grounded cognition perspective (Barsalou & Wiemer-Hastings, 2005). Furthermore, following Baden-Fuller and Morgan (2010), I take insights from a field that has long been studying the nature of models and reasoning with models – philosophy of science – and discuss the implications of these insights for our understanding of business models. In this essay

I do not aim at arriving to some final and correct definition of “business model” concept. Rather, I demonstrate how multiplicity of meanings of the abstract concept “business model” is the consequence of complex cognitive processes, which results in multiple avenues for theorization in the field of business model research.

The chapter is organized as follows. In the following section I will briefly introduce the two complementary accounts of how humans understand abstract concepts – conceptual metaphor theory (from cognitive linguistics), and grounded cognition (from cognitive science). Then I will pick up on the first one and go on to show that the concept “business model”, being a creative noun-noun compound - a sequence of nouns acting as a single noun (Downing, 1977) - is motivated by the underlying concept of a “model”. Then I go on to elaborate how the concept of a “model” endows the concept “business model” with different meanings. Then I turn to grounded cognition and explore the implications of this perspective to the meaning of the concept “business model”. Finally, I turn to philosophy of science and discuss implications of the way philosophers of science view models for our understanding of business models.

2. How do we understand abstract concepts?

There are two major perspectives explaining the way people comprehend abstract concepts. The first one, coming from cognitive linguistics, conceptual metaphor theory (CMT), is that people use metaphorical mappings from concrete to abstract concepts (Lakoff & Johnson, 1980). “For example, people may understand the process of solving a problem in terms of travelling from a starting point (the problem situation) to a destination (the solution) along a path (the method that is used to solve the problem), as is illustrated by expressions such as *to get sidetracked* or *to have something get in one's way*” (Pecher et al., 2011, p.232). Linguistic metaphors activate image schema – “a mental pattern that recurrently provides structured understanding of various experiences, and is available for use in metaphor as a source domain to provide an understanding of yet other experiences” (Johnson, 1987, p.2). “Even though image schemas are often referred to as patterns or

structures, the structural aspects provide a mere “skeleton” of meaning; qualities, values and norms also contribute their part to constitute “flesh and blood” of schema-image” (Brenda, 2014, p.12). The image schema are reflected in the language, and the function of metaphors in the language is to “activate large underlying masses of knowledge and to construct detailed conceptualizations similar to the ones in the mind of the speaker” (Brenda, 2014, p.47). From this perspective the multiplicity of meaning of the concept “business model” can be explained by the multiplicity of meaning (which in turn arises from complexity of the image schema) of the source concept “model”.

Grounded cognition perspective to abstract concept comprehension is that people not simply recall, but mentally simulate concrete situations and introspective experiences to represent abstract concepts (Barsalou & Wiemer-Hastings, 2005). People may describe their thoughts as mental images, imagined movements through space, simulated sequences of actions, and so on (Pecher et al., 2011, p.218). According to this perspective the concept “business model” is understood through imagined experiences of interacting with an actual model, such as a physical model.

It is important to note that these perspectives are not alternatives, but are rather complementary. There is a growing consensus among researchers that both of these mechanisms are at play in the processing of abstract concepts. Andrews and colleagues (2009) suggest that instead of language and sensory-motor representations as being separate, parallel processes, they are part of the same network. Barsalou and colleagues (2008) and Simmons and colleagues (2008) argue that when linguistic materials are processed, linguistic associations are activated first, and these very quickly activate sensory-motor simulations (as cited in Pecher et al., 2011). Mahon and Caramazza (2008) hypothesized that the core of a concept is formed by symbolic information, while sensory-motor information “colors conceptual processing, enriches it, and provides it with a relational context” (p. 10). “Put another way, the concepts we have access to, and the nature of the “reality” we think and talk about, are grounded in the multimodal representations that emerge from our embodied experience. More precisely, concepts constitute reactivations of brain states that are recorded during

embodied experience” (Evans, 2012). In the following sections I go on to explore what both of these perspectives have to offer for our understanding of the concept “business model”.

3. Conceptual metaphor theory (CMT)

3.1. Theoretical background

Research shows that metaphors, ubiquitous and often functioning unnoticed, have powerful cognitive effects: framing problems and solution outcomes (Thibodeau & Boroditsky, 2011), imagining opportunities (Cornelissen & Clarke, 2010), reducing uncertainty (Cornelissen et al., 2012). A recent paper explores how metaphors are used as a method of reasoning and sense making (Cornelissen & Clarke, 2010). A field paying particular attention to study of metaphors is cognitive linguistics - branch of linguistics, a particular approach to language, language learning, and conceptual structure, which emerged in the 1970s (Croft & Cruse, 2004, p.1). While it is not a single theory, what makes it distinctive in the contemporary language science is its overarching concern with investigating the relationship between human language, the mind, and sociophysical experience (Evans, 2012).

The “cognitive turn” in linguistics (Steen, 2008, p.219) took place in the late 1970s – early 1980s with publication of the two seminal works – “Metaphor and Thought” (Ortony, 1979) and “Metaphors We Live By” (Lakoff & Johnson, 1980), and denotes a fundamental shift in the way metaphors are viewed. The central claim of cognitive linguistics is that abstract concepts are understood by way of analogy to representations of concrete concepts (Pecher et al., 2011). Cognitive linguists claim that because the mind is inherently embodied, people need abstract categories to think about anything that is outside bodily experience and physical environment; thus abstract concepts are largely metaphorical (Lakoff & Johnson, 1980). In the mentioned before example - when people may understand the process of solving a problem in terms of travelling from a starting point (the problem situation) to a destination (the solution) along a path (the method that is used to solve the problem) -

the concrete situation of travelling along a path provides a metaphor for the abstract situation of solving a problem (Pecher et al., 2011). In this view, the concrete concept is used as a metaphor (the “vehicle”, or “source”) to represent the abstract concept (the “topic”, or “target”). Source concepts represent schematic knowledge (image schema) “about the attributes of familiar referents and the relations among those attributes derived from routine interactions with the physical and social world... Target concepts, in contrast, represent relatively more abstract referents, which are more difficult to grasp” (Landau et al., 2010, p.2). Metaphors should be viewed not as a matter of language, but as a matter of thought: verbal metaphors are not just momentarily ad-hoc expressions, but “reflect pre-existing conceptual mappings in long-term memory”, which are themselves metaphorically structured (Gibbs, 1992, p.572).

One of the important implications of conceptual metaphor theory is the framing effect of metaphors (Ottati et al., 1999). This framing effect suggests that activation of a metaphor, explicit or implicit, influences the way individuals think about an issue by emphasizing and highlighting certain aspects of an issue, while de-emphasizing or ignoring others (Ottati et al., 1999). Thus it can be expected that employing a source concept to structure a given target domain, compared with a literal conception, “will project distinct patterns of entailments that actively highlight, downplay, and conceal certain elements of the target concept” (Landau et al., 2010, p.1055).

Recently there have been a number of experimental studies demonstrating framing effects of metaphor. Thibodeau & Boroditsky (2011) demonstrate that exposure to even a single metaphor induces substantial differences in opinion about how to solve social problems: in a series of experiments they show, that the differences in opinion generated by the metaphorical frames (when applied to social problem of crime, conceptualized as a “beast” as compared to a “virus”) were larger than those that exist between Democrats and Republicans, or between men and women (Thibodeau & Boroditsky, 2011). Another experimental study (Boroditsky & Ramscar, 2002) shows that priming with different source concepts results in distinct, source-consistent changes in perceptions related to

a target concept. Sopory and Dillard (2002) demonstrate how metaphoric persuasive messages result in increased attitude change relative to non-metaphoric messages. Landau and colleagues (2010) review multiple studies showing that “manipulating perceptions, sensations, and other psychological states produces metaphor-consistent changes in how social information is attended to, recalled, interpreted, and used to make judgments” (p.1054)³.

So what is the metaphorical in the concept “business model”? In the next section I will analyze the concept “business model” from linguistic standpoint, making an argument as to why the concept “model” is so central to our understanding of the concept “business model”.

3.2. “Business model” – a creative noun-noun compound

From linguistic stand point the “business model” is a noun-noun compound – a sequence of nouns acting as a single noun (Downing, 1977). Bloomfield (1933) identifies two types of noun-noun compounds: endocentric compounds and exocentric compounds. In the case of endocentric compounds, which are relatively transparent, the compound is the hyponym⁴ of the head element: *apple tree* is a kind of tree. Exocentric, or “headless” compounds, where the compound is not a hyponym of the head element, are harder to understand.

It is not clear how exocentric compounds derive their meaning. Linguists have long noticed that in the majority of such compounds there is some sort of metaphor at work, endowing meaning to the compound (Benczes, 2005). Recent work in linguistics on the noun-noun compounds identifies the main difference between endocentric compounds (such as *apple tree*) and metaphorical compounds (such as *information highway*) in the creativity in the word formation. The latter represent a type of construction that “has been coined by a more imaginative word formation process”, and hence are

³ Subsequent developments in metaphor theory focus on explaining the mechanism of interaction between the source and target domains: structure mapping theory (Gentner 1983), property attribution theory (Glucksberg & Keysar, 1990) and conceptual blending theory (Fauconnier, G., & Turner 1994).

⁴ A word of more specific meaning than a general or superordinate term applicable to it (<http://www.oxforddictionaries.com/definition/english/hyponym>)

labelled as creative compounds (Benczes, 2005, p.254). The usual excuse for neglecting such compounds in the systematic linguistic analysis is the fact that they are thought to be rather exceptional phenomena (Onysko & Michel, 2010, p.219). However, the systematic analysis of English noun-noun compounds based on metaphor reveals that in fact such compounds are not only common, but also can be systematically analyzed applying cognitive linguistic approach (Benczes, 2005).

Noun-noun compounds that utilize metaphor make use of the creative associations between the two concepts: associations based on similarity or analogy (Onysko & Michel, 2010, p.220). Onysko & Michel (2010) give an example of cognitive-linguistic analysis of the noun-noun compound *belly-button*. In the metaphorical compound *belly-button* the modifier *belly* instantiates the positional aspect of the head noun *button*, and thus, complements the visual analogy (Onysko & Michel, 2010, p.248–249). In this case the head of the compound (*button*) is understood metaphorically. However, in noun-noun compounds the metaphor can influence not only the head noun, but also the modifier noun, the relation between the two nouns of the compound, and the compound as a whole (Onysko & Michel, 2010, p.255).

Turning back to the concept “business model”, it is apparent that it is the kind of noun-noun compound which employs metaphor. Following the approach outlined above, we can identify *business* as modifier noun, which indicates the field in which modelling approach is applied. It seems that the noun *business* is understood literally – as there appears to be the consensus that the concept “business model” is generally applied in the context of commercial activities (DaSilva & Trkman, 2013). *Model* here is clearly the head noun of the compound, which “characterizes” or “dominates” the whole construct. The multiplicity of interpretation of the noun-noun compound *business model* arises from the multiplicity of meaning the word *model* can take on, which metaphorically affects the whole compound. This attempt of cognitive linguistic analysis of the concept “business model” as

noun-noun compound is not meant to be comprehensive, but rather to highlight the conceptual metaphor which underlies the concept in question – the metaphor of a “model”.

Following this reasoning the concept “business model” is comprehended consistently with the imagery of the underlying conceptual metaphor of “model”. Linguistically it may be manifested in the entailment - imparting of a characteristic of the source domain (the metaphorical image, *model*) to the target domain (the concept receiving metaphorical treatment, *business model*) by logical means (Lakoff & Johnson, 1980, p.89). In other words, “entailments are those concept which logically follow from a metaphor or a metaphoric statement” (Dille, 2004, p.10).

Theoretically, it can be expected that these entailments should be consistent with the underlying metaphor of a “model” (Lakoff & Johnson, 1980, p.89). What are those entailments? In the following section in order to explore the range of entailments associated with the concept “model”, I discuss how meaning of the concept “model” - in lay sense - informs our understanding of the concept “business model”.

3.3.Implications for understanding the concept “business model” from CMT

The best place to start making sense of how the concept “business model” is metaphorically shaped by the concept “model” is to assume a lay view point to the word, and understand the colloquial meaning of the word “model”. Cambridge dictionary offers four meanings for noun “model”⁵:

1. model as representation: something that represents another thing, either as a physical object that is usually smaller than the real object, or as a simple description that can be used in calculations;
2. model as copy: something that a copy can be based on because it is an extremely good example of its type;

⁵ <http://dictionary.cambridge.org/dictionary/english/model>

3. model as person: a person who wears clothes so that they can be photographed or shown to possible buyers, or a person who is employed to be photographed or painted;
4. model as machine: a particular type of machine, especially a car, that is slightly different from machines of the same type.

Not all those entailments come forward in the metaphorical noun-noun compound “business model”. Some entailments of the metaphor can be “downplayed” or “hidden”, meaning that they do not inform interpretation of the metaphor (Lakoff & Johnson, 1980, p.10). In the case of “business model” the meaning of “model as model as person”, and “model as machine” clearly are not relevant when interpreting the concept “business model”. This leaves us with two main meanings of the word “model”, which are relevant for interpretation of the concept “business model”: model as a representation, and model as a copy.

The first meaning - model as a representation - implies that business models represent something. What do business models represent? Business models literature offers different answers to this questions, as discussed in chapter 3, but generally it is implied that business models represent ways of creating and capturing value in organizations. It is important to note here that this entailment clearly indicates that the concept “business model” refers to representation of the phenomenon, not the phenomenon itself. It is interesting that the idea that business models are representations of phenomena, not the phenomena itself, took a while to come forward in the business model research. While a number of papers over the years referred to the idea that business models are representations, it is only recently started to be explicitly conceptualized as cognitive representations, which exist “as mental representations in the minds of top managers and entrepreneurs who design them”, or are “encoded in the texts and discourses (e.g. Perkmann & Spicer, 2010) and the visual or physical objects (e.g. Doganova & Eyquem-Renault, 2009)” (as cited in Furnari, 2015).

Second entailment - model as a copy - implies that business models are things to be copied; following this entailment articulating something in terms of “business model” is an invitation to replicate it. Together with the first entailment - business models as a representation - we can say that business models are representations to be copied. This idea surfaces in the business model literature: for example, some scholars mention that business models as recipes (Sabatier et al., 2010), which have been tried and tested in the world, and which other firms may aim to follow (Baden-Fuller & Morgan, 2010, p.166). It is indeed interesting that the literature on business models has otherwise largely overlooked this implied meaning. The idea that business models are representations to be copied opens up questions about business models and imitation. Only a few recent papers explicitly explore this meaning of the concept. For example, Enkel and Mezger (2013) discuss the role of imitation in the process of business model innovation. Casadesus-Masanell and Zhu (2013) explore strategic interactions between incumbents and new entrants, where the incumbent may imitate new entrant’s innovative business model. Martins and colleagues (2015) in a series of case studies demonstrate how such iconic business models are used as source for development of new business models in different industries. Looock and Hacklin (2015) address similar questions of how business models encapsulate management heuristics. Chapter 2 of this thesis explores how innovative business models become the business models to be copied – iconic business models.

4. Insights from grounded cognition

4.1.Theoretical background

Grounded cognition is a perspective within cognitive science which proposes that “modal simulations, bodily states, and situated action underlie cognition” (Barsalou, 2008, p.617). When it comes to language processing, grounded cognition perspective argues that language is grounded in perception and action systems; comprehending language would imply activating a simulation, consisting in a re-enactment of the previous interaction with objects, situations, etc., to which linguistic expressions refer (Borghi et al., 2013, p.214). On this account, even when people are not

actually perceiving or interacting with objects in the world, the sensory-motor systems are still actively involved in cognitive processes, such as language comprehension, categorization, and memory retrieval (Pecher et al., 2011).

However, it has long been noted that not only mental simulation is inherent to cognition, but actual interaction with in the environment is also somehow related to cognition. Developmental psychologists observe that humans begin to make sense of the world by using their hands (Piaget & Inhelder, 1969). We initially “grasp” the world by “manipulating” objects in the physical environment around us. One of the major streams in the study of grounded cognition - extended cognition - looks at a broader class of cognitive events and does not expect all such events to be encompassed by the skin or skull of an individual, and concerns the role of material environment in in cognitive activity (Hutchins, 2000). Extended cognition conceptualizes mind/brain as inextricably tied to the external environment. These two approaches (grounded cognition and extended cognition) are related because body is seen as linking mind and world: we experience, understand, and act on the world through our bodies (Atkinson, 2010, p.599).

More generally, people think more powerfully with external representations than without. “By creating external structure that anchors and visually encodes our projections, we can push further, compute more efficiently, and create forms that allow us to share thought” (Kirsh, 2010). “The underlying idea, initially promoted by Clark and Chalmers (1998), is that the human mind is not wholly in our head/brain, but it is rather distributed in our brain, body, and external devices. These external devices (e.g., computers) have the power to complement and augment our internal cognitive processes” (Borghi et al., 2013).

Some professional disciplines traditionally draw on this fundamental human capacity: designers and architects use prototypes to externalize, represent and probe their ideas and thoughts. The practice of externalising cognition has also long been present in the practice of war strategy. In the eighteenth and nineteenth centuries so-called relief maps, which provided bird’s eye view of the

territory and could be manipulated – were widely used by military strategists (Heracleous & Jacobs, 2011, p.12–13). Making such models involves providing a more explicit or exact representation of our ideas about the world in various forms: diagrams, equations, pictures, and even physical objects (Morgan, 2012). Models in economics are mostly pen-and-paper objects which depict some aspect of the economy in a schematic, miniaturized, simplified way (Morgan, 2012). Most important feature of models in economics is that they are not passive portraits of economy, but a depiction of some aspect of economy which can be manipulated, and therefore, reasoned with. An essential characteristic of models, is that in order to make a manipulation possible they should of appropriate scale (Morgan, 2012).

In the field of management the questions about external cognition were picked up by scholars looking at the role of strategy tools (Clark, 1997). Practitioners of strategy increasingly rely on strategy tools, which aid and guide managerial decision making – ideally, allowing managers to make better, more informed decisions as a result of their use (Wright et al., 2013). Tools help decision-makers cope with cognitive limitations when facing extremely complex and unstable environments (Wright et al., 2013, p.95). Research shows that managers use tools to gain multiple perspectives to complex phenomena, come up with new ideas and perform analysis from different angles, show interconnectivity between entities, divide areas to give a clearer picture (Wright et al., 2013, p.114–115). These functions suggest that such tools are significant not only as boundary objects facilitating communication, shared sensemaking and collaboration (Spee & Jarzabkowski, 2009), but do in fact play a role in individual cognition. Furthermore, research shows that managers often do not neatly and strictly apply strategy tools, but rather take components from different tools and combine them to suit pre-existing needs and use tools merely as a source of inspiration (Knott, 2008).

4.2.Implications for understanding the concept “business model” from grounded cognition

Grounded and extended cognition point to the importance of business models as tools for practitioners. Some scholars recognize that functioning as a cognitive tool for visualization is one of

the primary functions of business models (Arend, 2013, p. 393). Using business model as a tool allows making components residing in the participants' heads explicit and real (Arend, 2013, p. 393), generating new perspectives and new alternatives by considering the possibility of applying different business models to the same business (Doz & Kosonen, 2010, p.375).

How do practitioners use business models? It appears that practitioners creatively engage in business modelling activity coming up with their own tools. A recent academic study examines how an organization uses business model concept as strategy tool in practice (Hacklin et al., 2012). It reports that members of organization, after failing to find an adequate guidance to business model analysis in academic literature, developed their own business model template based on the main themes described in the literature, which was graphically represented in kind of a table. Members of organization then filled out this template collectively during a series of joint workshop (Hacklin et al., 2012). The idea that external environment plays role in cognition in the business model literature has been recently advanced by Demil and Lecocq (2015). They draw on sociomaterial literature in their study of the micro-process of business model emergence in an established company, and specifically focus on the role of artefacts in this process.

In fact it appears that from the early days business models was effectively used as a tool for externalizing cognition useful for practitioners, rather than a theoretical concept. The success of business model as a tool was facilitated partly by one of the early academic-turn-consultants (Osterwalder & Pigneur, 2010). The book is filled with the technique descriptions, which are aimed at making it possible for groups of practitioners to collectively explicate and analyse the identified building blocks, which are supposed to describe a company's business model⁶. The book has been

⁶ They identify nine building blocks, and give examples of each how each block can be described: key activities (production, problem solving, etc.), key partners (reduction of risk and uncertainty, etc.), key resources (physical, human, etc.), cost structure (variable costs, economies of scale), customer relationships (self-service, co-creation), customer segments (mass market, niche market, etc.), value proposition (newness, customization, etc.), channels (web, stores, etc.), and revenue streams (licensing, subscription fees). (Osterwalder & Pigneur 2010).

widely successful, with over a million of copies sold⁷. In their book Osterwalder and Pigneur suggest a rather detailed framework, which claims to allow users “to easily describe and manipulate business models to create new strategic alternatives” (Osterwalder & Pigneur, 2010, p.15). The authors’ insight that “business model” concept, by virtue of being a model, is an invitation to gain insight about the world using manipulation with an object. How do business models, and models in general, make this possible? In the following section I turn to discussion about the nature of models in philosophy of science answer this question.

5. Models in philosophy of science

5.1.Theoretical background

Given the long established view of management as science (Freedman, 1992), the idea of “scientific models” informing our understanding of business models should not be overlooked. The concept of models in general has been the subject of much discussion and reflection in philosophy of science. It is far beyond the scope of this chapter to fully and comprehensively discuss the nature of models. Rather, in this section I would like to draw attention to the key characteristics of the concept “model” as understood in the philosophy of science. Taking the key ideas from the debate about models in philosophy of science can further inform our understanding of business models. First this idea was used by Baden-Fuller and Morgan (2010), where they explicitly conceptualize “business models as scientific models”. Given the fact the field of management closely related to the field of economics (Rumelt et al., 1991), the imagery of scientific models, especially in economics, should also be informing our understanding of business models.

Models are central to economics: today it is impossible to understand economics without understanding how economists build and use models (Morgan, 2012). As economics began to be increasingly seen as science in the late nineteenth century, models became increasingly the main

⁷ <http://www.businessmodelsinc.co.uk/bestseller-business-model-generatie-wereldwijd-1-mln-keer-verkocht-2/>

reasoning tool, and whole discipline shifted from reasoning (or thinking) with words to reasoning with models (Morgan, 2012). From cognitive linguistic stand point by invoking the imagery of a scientific model, “business models” “invite” using models in a similar way that they are used in economics to be used in the context of business. Thus the way we understand the concept of a “scientific model” is fundamental to the way we understand a more abstract concept of “business model”.

In science the term “model” is “remarkably flexible and open to use serving scientist's purposes” (Byerly, 1969). “At first sight, the things that are commonly called models seem to form a quite heterogeneous class including physical models, scale models, analogue models, and mathematical models, just to name a few. Thus we have Watson’s original tin and cardboard model of DNA, Rutherford’s solar system model of atoms, the Bohr model of the atom, and the de Sitter model of spacetime. There are also equilibrium models in economics and drift models in evolutionary biology” (Giere, 2012, p.747). What is common to all models is that they are designed in a way that can be identified with features of the real world, which makes it represent it: “it is models that are the primary (though by no means the only) representational tools in the sciences” (Giere, 2012, p.747). “The use of representational models as tools in scientific inquiry has become so widely practiced it can be considered a commonplace of empirical methodology. It is now a matter of established routine for molecular biologists to construct models of cellular processes, for structural engineers to build scale models and prototypes, and for social scientists to generate models of phenomena such as learning behavior and cultural development” (Pemberton, 1993, p.42).

How do models represent? Models are necessarily simplifications which achieve representation by exploiting the similarity between the subject being modelled and the model: “they bear some likeness to the real world and are constructed to reflect certain parts that are essential for the job in hand” (Griffiths, 2010). Subject being modelled has a set of properties, whose number is bounded by

our ability to perceive and identify them; the model will also have its set of properties, analogous or equivalent to properties in the subject (Pemberton, 1993, p.45).

How are models built? Literature on scientific models suggests that models are built by choosing and integrating items which are considered relevant for a particular task (Boumans, 1999, p.12–13). These are chosen from both theory and data (or phenomenon). Such construction gives models partial independence from both theory and the world, allowing them to be used as instruments for investigation in both domains (Morgan & Morrison, 1999, p.10). Models serve as a link between theory and observation, making explicit the connections that exist between them (Pemberton, 1993, p.45). In all cases they are thought to be integral components of theories; they suggest hypotheses, aid in the construction of theories and are a source of both explanatory and predictive power (Morgan & Morrison, 1999).

Kuhne (2006) discussing the nature of models in engineering goes back to Peirce's seminal work about semiotic, draws an ontological distinction between a type and a token (Peirce, 1931-58). Whereas type refers to a general sort of thing, a token is its concrete instance; in other words, a token exemplifies type⁸. Kuhne gives the following distinction: "Elements of a token model capture singular (as opposed to universal) aspects of the original's elements, i.e., they model individual properties of the elements in the system" (2006, p.373). He explains that token models are often what people have in their minds when talking about models; good example of token models include geographical maps, building plans for houses, and blueprints in general (Kuhne, 2006, p.374). In contrast to token models, which capture singular aspects of the modelled object, "type models capture the universal aspects of a system's elements by means of classification" (Kuhne, 2006, p.374). Type models allows human mind to classify objects based on object properties ("four legged, furry, sharp teeth, and stereovision" as "predator") (Kuhne, 2006, p.374). "This way the human mind does not

⁸ <http://plato.stanford.edu/entries/types-tokens>

need to memorize all particular observations and arrive at decisions afresh but just collects concepts and their universal properties” (Kuhne, 2006, p.374)⁹.

Using models necessarily involves the scientist as an active participant: not just as a thinker, but as an experimenter (Morgan, 2002). Scholars of models point that it is not the model that is doing the representing; it is the scientist using the model who is doing the representing. One way scientists do this is by picking out some specific features of the model that are then claimed to be similar to features of the designated real system to some (perhaps fairly loosely indicated) degree of fit (Giere, 2012, p.747–748).

5.2.Implications for understanding the concept “business model” from philosophy of science.

Using the insights about models from philosophy of science gives an indication of how we can think about business models, and especially how we can reason with them. In a nutshell, business models, like scientific models, can be thought of as type models, representing general types of firms, or token models – models describing specific firms. Business models contain elements theory, or modeler’s assumptions about the world, as well as observations. It is important that business model concept implies an active role of the modeler - entrepreneur or manager - in creation, interpretation, and manipulation of the model. To which extent are these features characterizing models are recognized by business model scholars?

We can think about business models as type models. Identifying different business model types has been a predominant theme in the business model literature (Osterwalder et al., 2005; Morris et al., 2005; Zott et al., 2011; Lambert & Davidson, 2013). For example, Zott and Amit (2010) identify four business model types based on the design theme of firm’s activity system (p.217). Using business model concept to differentiate between kinds of organizations is seen is one of the most important

⁹ We can find an equivalent concept in cognitive psychology: a model can be seen as a category prototype – an abstract representation which encodes salient, or average, attributes of category member (Rosch 1973), the idea discussed in the chapters 2 and chapter 3 of this thesis.

function of business models, as it allows making inference from the individual exemplar to the wider class (Baden-Fuller & Morgan, 2010, p.163), and permitting “hypotheses regarding the case enterprise to be projected to the class of business model to which the enterprise belongs” (Lambert & Davidson, 2013, p.674).

We can also think about business models as token models. In this case a business model captures particular features of a real organization. Like scientific models, business models, can be thought of as simplified representations of reality. In this case they can bear some resemblance to the organizations they describe, but they should not be confused with the organizations themselves. For example, an influential perspective to business models is activity systems perspective, where a firm’s business model is conceptualized as a system of interdependent activities that transcends the focal firm and spans its boundaries (Zott & Amit, 2010). Casadesus-Masanell & Ricart (2010) define business model as managerial choices such as compensation practices, procurement contracts, location of facilities, etc., and consequences of those choices : “... pricing policies (choices) have obvious implications regarding sales volumes, which in turn, affect the economies of scale and bargaining power enjoyed by the firm” (p.198). However, it is often unclear why scholars choose to select certain features to incorporate into business models. For example, in their analysis of a particular business model authors “we do not consider any a priori categories or variables, and thus define business models independently of any features of goodness and/or effectiveness” (Casadesus-Masanell & Ricart, 2010, p.201). Chapter 3 elaborates how business model scholars reason about business models – as type models and as token models, and discusses the often implicitly made assumptions about the ontological status of business models in the literature.

Just as scientific models imply active role of a scientist, “business model” concept implies active role of a manager or entrepreneur in creating the model. Zott and Amit (2010) explicitly state that business models are to be designed, and managers / entrepreneurs are the ones who are supposed to do that: “the design of the business model is a key decision for an entrepreneur who creates a new

firm and a crucial - perhaps more difficult task for general managers who are charged with rethinking their old model to make their firm fit for the future” (Zott & Amit, 2010, p. 217). Similarly, McGrath (2010) sees business model approach as empowering managers, compared to positioning perspective, or resource-based view of firms: “making business model decisions does fall into the realm of managerial choice, and is therefore exceptionally useful to inform managerial decision-making” (p.248). Business models are seen as objects of manipulation, and such manipulation is a skilled job of managers, or entrepreneurs. In the same way that scientists make models, which requires “specialized talents using a tacit, craft-based, knowledge as much as an articulated, scientific, knowledge” (Morgan, 2012), managers’ primary task is design of business models.

Morgan (2002) suggests that the main purpose of scientific modelling is to manipulate the model to answer the questions about the world. Simple models are more handy manipulate and to experiment with: “... thought experiments or simulations and other business model manipulations are only possible when the model is (like those of economics) simple enough to work through (or where the implications of a likely change can be programmed into it), but yet complicated enough to capture sufficient content of the firms arrangements to make the experiment meaningful” (Baden-Fuller & Morgan, 2010, p.164).

Apart from being simple enough, models’ position between theory and data makes it possible to manipulate them to gain insights about the world. By nature of being models, they necessarily contain modeler’s assumptions and theories about how firm creates and captures value, as well as elements of the data – modeler’s observations. Some scholars, like Osterwalder & Pigneur (2010), reduce business model to the sum of data-like observations about a firm: key partners, key activities, key resources, value propositions, customer relationships, channels, customer segments, revenue streams. Others, like Teece, view business models closer to theories: “it [business model] reflects ... management’s hypothesis about what customers want, how they want it, and how the enterprise can organize to best meet those needs, get paid for doing so, and make a profit” (Teece, 2010, p.172). Yet

others recognize that business models contain both observations, or data, and theories. For example, business models are described as “the sum of material, objectively existing structures and processes as well as intangible, cognitive meaning structures at the level of a business organization” (Tikkanen et al., 2005, p.790). The so called material components of a business model are strategy, organizational structure, governance, customer relationship portfolio, supplier relationship portfolio, product development network, process architecture, resource and competence base, product and service offering, financial reporting (Tikkanen et al., 2005). Doz and Kosonen also recognize that business models, like scientific models, contain elements of both theory and data: on the one hand, “business models stand as cognitive structures providing a theory of how to set boundaries to the firm, of how to create value, and how to organize its internal structure and governance”, on the other hand, business models are “sets of structured and interdependent operational relationships between a firm and its customers, suppliers, complementors, partners and other stakeholders, and among its internal units and departments” (Doz & Kosonen, 2010, p.370-371).

Because the very notion of the concept “model” implies the ability to manipulate it, the concept “business model” implies an active role of practitioners manipulating the model and trying to see how the world might change and how they might take control of those changes. The business model canvas (Osterwalder & Pigneur, 2010) and other business model templates are useful tools which facilitate grounded / extended cognition and focus managerial attention on the holistic picture of the business. They are manipulatable to the extent that they allow drawing and exploring visually connection between different aspects of organization. However, it is questionable to which extent such tools can be used as models as they do not explain exactly how these business models can be manipulated. Many business model frameworks are purely descriptive tools, which provides template for externalising managers’ representations about different aspects of business, as comprehensively as possible. Whereas a model, by definition, isolates some important relationships between some aspects of the phenomenon it is applied to, and hypothesises these relationships (Morgan, 2012).

An essential part of experimenting with scientific models is explicating and revising the assumptions about the world those models are based on (Morgan, 2012). The literature on business models has emphasised the importance of experimentation and trial and error learning in the process of design and implementation of business models in the literature (Sosna et al., 2010; McGrath, 2010). However, while some scholars are aware of the presence of theoretical elements in the models (Teece, 2010; Baden-Fuller & Morgan, 2010), there are no indications of how those assumptions can be articulated as part of using business model as a tool. Nevertheless, it appears that many innovative business models challenge the assumptions commonly held in an industry. For example, companies operating peer-to-peer business models challenge the assumptions about customer behaviour, as well as where asset ownership should reside (Bardhi & Eckhardt, 2012). A famous case of Kodak is an example of failure to challenge an assumption about who the primary customers of digital cameras are (Gavetti et al., 2003).

Interestingly, it is the practitioners who pioneer the thinking in this area. A recent article published by a major strategy consulting company suggest a framework for business model innovation which is based on explicating and re-examining established assumptions which are part of established business models (de Jong & van Dijk, 2015). Academics have an opportunity of taking on this view and shedding the light on the sources of assumptions in business models. How is it possible to identify those assumptions? It may be the case that they come from a wider belief system a firm is operating in. Porac and colleagues (2002) describe it as “industry recipe”: beliefs related to the logic of the economic, competitive and institutional environment and their effects on the focal firm; reputational rankings – social evaluation of competition; boundary beliefs - social constructions that identify a focal firm with a certain inter-organizational community; product ontologies - definition of an offering that is hoped to become superior on the target market (p.792).

6. Conclusions

Drawing on cognitive linguistics and cognitive science allows understanding why the concept of model is so central to our understanding of the concept “business model”. Because the metaphorical noun-noun compound “business model” is understood creatively, it elicits multiple entailments consistent with the concept of a “model”, and therefore has multiple meanings. CMT indicates that business models can be thought of as simplified representations of reality, and the representation is achieved by selecting certain aspects of the phenomenon to be included in the model. Also, business models are representations which are there to be copied. Furthermore, the theory of grounded cognition points to the role of business models as a tool for practitioners. Business models essentially allow externalizing tacit knowledge. Once knowledge is externalized, a business model can fulfill its main function – it can be manipulated to provide otherwise unavailable insight about the world.

Discussion about models in the philosophy of science shows further how business models can be manipulated and reasoned with. Business models, like scientific models, can be simultaneously thought of as type models, representing general types of firms, or token models – models describing specific firms. Business models contain elements of theory, or modeler’s assumptions about the world, as well as observations. Acknowledging that business models are representations which contain elements of theory makes it possible to manipulate business models to gain insight about the world by explicating and challenging those assumptions. Importantly, business model concept implies an active role of the modeler - entrepreneur or manager - in creation, interpretation, and manipulation of the model.

Acknowledging the depth of the concept “business model” allows to move beyond definitional debates and focus on how different aspects of the concept are more or less relevant in specific contexts, and are more or less useful for answering specific questions. Picking up on the idea of business models as representations to be copied, chapter 2 addresses the question of how iconic business models emerge. Furthermore, elaborating the idea that business models can be thought of as

representations of types and token of firm, chapter 3 discusses the assumptions about the ontological status of business models that scholars make.

7. References

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Chapter 2. Business model innovation: how iconic business models emerge

In co-authorship with Laure Cabantous¹⁰

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1. Introduction

I'd found the place through Airbnb.com, a Web site that lets people rent out their futons, spare rooms and entire apartments to travellers like myself; it's a cross between Craigslist, CouchSurfing and VRBO.com. (NYT, March, 2010)

Blablacar.com connects people with spare seats in their car with folk needing a lift, like Airbnb for hitchhiking/ride shares. (FT, June 16, 2012)

Last Tuesday, Mr. Lee announced the formation of a "Sharing Economy Working Group", which the mayor said in an interview had as a goal creating legislation to give a tax break to companies like Airbnb. (NYT, March 31, 2012)

Firms like Airbnb, Amazon, eBay, Dell, and McDonald's are known worldwide for their innovative business models, which disrupted the established logics of value creation and capture in their industry sectors, and quickly became iconic (Sabatier, Mangematin, & Rousselle, 2010) - that is, recognized as representing particular ways of creating and capturing value, and so have been widely copied across various industries. Amazon's innovative business model, for instance, reshaped firm classifications in the book-retailing sector and, indeed, the entire retail industry, by creating a new type of firm (the online retailer) that differed from traditional types of retail firms. Thus, business model innovations can modify how economic actors, such as consumers or financial analysts, think about firms, and even change the ways they think about market categories. While the idea of an iconic

¹⁰ I was working on the paper by myself, with guidance from both of my supervisors, from the start until the initial findings. The draft of the paper, including the findings, was presented by myself at EGOS 2014. At this point Laure joined; we revisited the data, reorganized and rewrote parts of paper, and improved the paper to the extent we were comfortable to submit it for peer review.

business model, as advanced by Sabatier et al. (2010), is appealing as it points to an important empirical phenomenon, it has received little scholarly interest. Thus we have a very limited understanding of the cognitive processes via which some innovative business models gain the status of iconic representations of particular types of firms.

This neglect might be due to the fact that research on business model innovation tends to focus on the cognitive processes that take place in the minds of entrepreneurs (Enkel & Mezger, 2013; Sosna, Treviño-Rodríguez, & Velamuri, 2010). As a result, business model scholars have little to say about the cognitive processes that take place beyond firm boundaries, and via which an innovative business model becomes iconic, that is, a “prototypical exemplar”¹¹ of a category of firms (Cantor & Mischel, 1979, p. 10). In this chapter we study this phenomenon, aiming to advance cognitive research on business models by answering the following question: *How do iconic business models emerge?* In other words: *How do innovative business models become prototypical exemplars for new categories of firms?* While there are multiple definitions of the “business model” concept, in this chapter we adopt Teece’s (2010) generally agreed definition of business models as the logics of a firm’s value creation and value capture. To understand the process whereby innovative business models, originally generally associated with an instigator company, come to describe “generic kinds of behaviour which are distinctly different” (Baden-Fuller & Morgan, 2010) and, in some cases, become iconic, we draw on the cognitive approach to business models. This perspective moves away from the idea that business models describe actual phenomena toward conceptualizing them as cognitive instruments that help economic actors make sense of (and classify) firms’ economic activities (Baden-Fuller & Mangematin, 2013). To complement this body of knowledge, we build on the literature on market categorization, which has recently been preoccupied with processes of category emergence (Breiger & Kennedy, 2005; Kennedy, 2008; Kocak, Hannan, & Hsu, 2014;

¹¹ The terms “exemplars” and “prototypes” are often used interchangeably (see, e.g., Navis & Glynn, 2011). In this chapter, we use the term “prototypical exemplar” to stress the distinction between “prototype as abstract entity” and “prototype as exemplar” views.

Lounsbury & Rao, 2004; Navis & Glynn, 2010; Schultz, Marin, & Boal, 2014). This literature shows the important role that the media play in the emergence of market categories, and provides conceptual tools for our study of the emergence of iconic business models as prototypical exemplars of firm categories.

Empirically, we draw on a single case study of Airbnb, an online market platform created in 2008 that disrupted the hospitality industry by enabling individuals to rent rooms or entire flats and houses directly to travellers, and hence created a whole new source of supply in the hospitality sector. Airbnb's business model quickly became a source of inspiration for other managers in the hotel industry and beyond, that is, it became the iconic business model for the sharing (or peer-to-peer) economy¹². To investigate the cognitive process whereby Airbnb's business model became iconic, and contribute to renewing the way firms are categorized, we analyse media coverage of Airbnb between its creation in 2008 and 2013. Analysing media coverage is a common approach in category emergence research (Kennedy, 2008).

Our study shows that the cognitive process whereby Airbnb's business model became the iconic business model for the sharing economy took place in three phases. First, the media tried to assimilate Airbnb's innovative business model into the category system of extant business models by drawing on multiple analogies with existing iconic business models (e.g., eBay) and market categories (e.g., the hospitality industry). Second, given the persistence of perceived inconsistencies between the existing category system and Airbnb's new business model, and proof of its financial success, the media developed a more elaborate understanding of Airbnb's business model. Finally, as the media recognized the specificity of Airbnb's innovative business model, they established it as a prototypical exemplar of a new type of organization: the sharing economy type. As the media used Airbnb's

¹² We use "sharing economy" and "peer-to-peer" economy as synonymous.

business model to comprehend other firms' activities and business models, Airbnb's business model representation increasingly became detached from the actions of its instigator company.

In offering our three-stage model of iconic business model emergence, we make three contributions to the literature. First, we contribute to the literature on business models by elaborating on the notion of the iconic business model, and by shedding light on an important phenomenon that has been neglected thus far, that is, the cognitive processes by which some innovative business models become iconic. In so doing, we also further develop the idea that business models have performative power (Doganova & Eyquem-Renault, 2009), that is, the power to “do things” (in our case, to reshape market categories). Second, we complement research on business models by showing that analogical reasoning, which has been shown to play an important role during entrepreneurs' creations of innovative business models (Enkel & Mezger, 2013), is also at play in the subsequent stages of such innovation, when the media attempt to comprehend newly created business models. Third, we complement the market categorization literature, which has recently been increasingly interested in the emergence of market categories (Kocak et al., 2014; Navis & Glynn, 2010), by documenting a case of the birth of a prototypical exemplar. While business model literature has discussed the idea of firms imitating each other's business models (Casadesus-Masanell & Zhu, 2013), the role of media in the process has not been investigated. And we show how, as they become iconic, some innovative business models come to exemplify new types of organizations and can be imitated across industries. In so doing, our study suggests that industry grouping (based, e.g., on similar products and services) is not the only possible basis for firm classification, and that innovative business models can reshape how the media and the market in general classify firms.

2. Literature review

2.1. The cognitive perspective on business models

Most of the literature on business models has adopted an essentialist and functionalist view of them (Doganova & Eyquem-Renault, 2009, p. 1560), and has considered that they capture objective attributes or features of specific firms. From this perspective, business models are conceptualized as “activity system[s] [that] enable[s] the firm, in concert with its partners, to create value and also to appropriate a share of that value” (Zott & Amit, 2010, p. 216). Following this essentialist approach, business model scholars have primarily been interested in identifying some of their specific characteristics, such as design themes which describe the architecture of the business model activity system or the design elements that describe the sources of value creation (Zott & Amit, 2010). They have also tried to map the variety of business model types that exist “out there” by studying the specificities of business models in different industries, such as e-business (Zott, Amit, & Massa, 2011) or biotechnology (Bigliardi, Nosella, & Verbano, 2005; Willemstein, van der Valk, & Meeus, 2007).

However, an emerging trend in the business model literature moves away from this essentialist approach to consider their cognitive significance. This perspective considers business models “not just as ‘real phenomena’ but as cognitive instruments that embody important understanding of causal links between traditional elements in the firm and those outside” (Baden-Fuller & Mangematin, 2013, p. 418). This cognitive perspective on business models is rooted in various papers, such as Chesbrough and Rosenbloom (2002), who stress that a successful business model “creates a heuristic logic that connects technical potential with the realization of economic value” (p. 529), and Tikkanen, Lamberg, Parvinen, and Kallunki (2005), who consider a business model as a system of material and cognitive components, that is, “a firm belief system” (p. 793). This view has recently been further developed in Baden-Fuller and Morgan’s (2010) paper which conceptualizes business models as “models” or “ideal types” that mediate “between our ideas and theories on the one hand, and the

things in the world we want to describe and explain in immediately practical ways” (p. 161). This paper identifies three main functions of business models: to provide the means to describe and classify businesses; to operate as sites for scientific investigation; and to act as recipes for creative managers, resonates well with Doganova and Eyquem-Renault’s (2009) exploration of the performative role of business models, that is, their ability to bring into being the very “things” they are supposed to describe. Despite the fact that business models are “abstract” models, they can have concrete effects such as “enrolling buyers and suppliers, persuading investors, and directing employees” (Perkmann & Spicer, 2010).

The cognitive perspective has gained special traction in studies on business model innovation. Research in this stream highlights the importance of creativity (Teece, 2010), learning, experimentation (Hayashi, 2009; McGrath, 2010), and cognition more generally, in new business model generation. Chesbrough and Rosenbloom (2002) consider experimentation to be an important element of business model innovation because it facilitates the act of cognitive reframing of established business models. Enkel and Mezger (2013) go a step further in showing the importance of analogical reasoning, a fundamental cognitive process, in business model innovation. They show that business model innovation often comes from cross-industry imitation: that firms deliberately engage in more or less structured processes of searching for a business model that can become an analogue and so inspire cross-industry business model imitation. In this context, a “new” business model is not necessarily “new to the world” but is novel in the context of a particular industry. This paper echoes the multiple case studies that have shown how entrepreneurs searching for innovative business models often imitate existing business models and import them into new industries. For instance, Martins, Rindova, and Greenbaum (2015) relate how the founder of Aravind Eye Care (a company that provides cheap eye care and eye surgery through a network of hospitals in India) found a ready analogue in McDonald’s business model: “it [Aravind Eye Care] is run like a McDonald’s, with assembly-line efficiency, strict quality norms, brand recognition, standardization, consistency,

ruthless cost control, and above all, volume” (Rosenberg, 2013; as quoted in Martins et al., 2015).

While these papers shed light on the process of business model innovation, their focus is solely on the minds of the entrepreneurs or top management teams involved: they do not explain how these innovative business models become widely known, to the extent that they are regarded as iconic representations of particular types of firms. To investigate the cognitive processes via which innovative business models become iconic, we need to incorporate insights from the literature on market categorization and category emergence.

2.2. The important role of the media in market category emergence

The literature on market categorization starts from the idea that categorization - a fundamental cognitive process that influences perception, interpretation, action, and provides the default conditions for making sense of the social world - plays an important role in how markets function (Hannan, Polos, & Carroll, 2007). This literature contends that categories reflect “meaningful consensus about some entities’ features as shared by actors grouped together as an audience” (Durand & Paoletta, 2013, p. 1100) and are cognitive infrastructures that underpin markets and help market actors make sense of their business environments. In market settings, product (or service) categories enable producers to recognize competitors (Clark & Montgomery, 1999), consumers to compare offerings (Shrum, 1991), and critics to classify products and firms (DiMaggio, 1987). To date, research on market categorization has mostly studied the disciplinary nature of categories and shown the negative consequences of deviations from their taken-for-granted prototypical representations (Alexy & George, 2013). For instance, Zuckerman (1999) has shown that security analysts penalize conglomerate firms because they do not clearly belong to single industries, and hence do not conform to prototypes of firms in any one category. Other studies have shown how market categories limit the range of strategic actions that are appropriate for firms (Kraatz & Zajac, 1996; Powell, 1991; Sutton & Dobbin, 1996), and how a degree of similarity to a categorical prototype can assist firms in their founding, legitimacy, and effectiveness (Hannan et al., 2007; Hsu, Hannan, & Kocak, 2009).

Recently, however, some categorization studies have moved beyond exploring categories' contents and their disciplining consequences to study the process of the emergence of market categories (Bingham & Kahl, 2013; Breiger & Kennedy, 2005; Kennedy, 2008; Kocak et al., 2014; Lounsbury & Rao, 2004; Navis & Glynn, 2010). These studies point to the important role that the media plays in the emergence, codification, and maintenance of market categories. Indeed, news media are one of the main sources by which the general public and market participants learn about and adopt new market categories (Kocak et al., 2014): they reflect and shape general public perceptions of markets (Vergne, 2010) and "exercise considerable influence on how organizations are known and made sense of by their external audiences" (Kjaergaard, Morsing, & Ravasi, 2011, p. 516). Schultz et al. (2014), for instance, found that the legitimacy of new market categories develops through information exchange among market participants, which is made evident in media coverage of those market categories. In a similar vein, Rosa, Porac, Runser-Spanjol, and Saxon (1999) showed that a shared understanding of the minivan as a new product category in the automobile industry emerged from repeated interactions in the media between producers, consumers, and journalists. Other studies have shown that the media do not offer neutral depiction of markets, but rather can be seen as a political arena in which market boundaries and product categories are negotiated (Hirsch, 1972), and that powerful players influence categorization processes. Lounsbury and Rao (2004), for instance, found that powerful incumbent producers in the American mutual fund industry were able to shape the categories used in the industry's media because it relied on the endorsement and support of those dominant industry players. Overall the role of media interpretations help audiences' sensemaking and is central in the macro-social process of building a shared mental map of associations that make up a new category or concept (Kennedy, 2008, p.272).

2.3. Category prototypes as abstract representations versus exemplars

As the above section suggests, the notion of a category prototype, which is central to the psychological literature on categorization (Rosch & Mervis, 1975), is a key concept in the market

categorization literature. Specifically, students of market categories have proposed two views of category prototypes. On the one hand, some studies of market categories build on Rosch's (1978) study, which considers a category prototype to be an abstract representation that encodes the salient, or average, attributes of category members, but is not itself necessarily actually a member of the category (Pontikes & Hannan, 2014; Vergne & Wry, 2014). For instance, Navis and Glynn (2011) consider that the process of market category emergence starts with the definition of category attributes, which are "typically ill formed, in flux, and without a clear prototype or exemplar" (p. 486) (see also Navis & Glynn, 2010). On the other hand, recent research on category emergence has adopted the "exemplar view" of category prototypes¹³ (Glynn & Navis, 2013, p. 1126) which considers that a prototype is an actual member of the category (an average or extreme member), instead of being an abstract summary representation of that category (Nosofsky, 2011, p. 18). Market categorization researchers who have adopted this view of prototypes have found new market categories may sometimes house multiple distinct exemplars rather than one clearly defined prototype (Jones, Maoret, Massa, & Svejenova, 2012), which can emerge during early stages of the category's formation or on an ongoing basis (Munir, 2005).

2.4. Iconic business models as prototypical exemplars

The notion of an "iconic business model" exists in the business model literature, but has received little elaboration. For Sabatier et al. (2010), who provide the most elaborated definition of this notion so far, an "iconic business model" is one that has been labelled with the name of the company that introduced it or made it famous¹⁴, rather than after some economic characteristics. Importantly, it is also a business model that has been widely recognized and well established as

¹³ In this view, people understand categories by storing individual category exemplars in their memories, and classify objects according to their similarity to these stored exemplars. For example, they represent the category of "birds" by storing in memory the vast collection of different sparrows, eagles, ostriches, etc., of which they have experience or knowledge. If an unfamiliar object is sufficiently similar to some of these exemplars, they will classify it as a "bird."

¹⁴ An iconic business model is not necessarily named after the firm that introduced it, but sometimes after the firm that made it famous (see, e.g., the Overture and Google case Johnsson, Dolbeck, & Meza, 2008).

representation of a particular way of creating and capturing value. Amazon, 3M, Dell, and Google are instances of firms that have initiated business models that have become iconic (Sabatier et al., 2010, p. 435). In the same way as an “iconic brand” (e.g., Coca Cola) is one that has come to represent something more than just a product or service (Holt, 2006), an “iconic business model” represents more than merely the business model of the specific firm after which it is named: it is an innovative and ground-breaking business model that sets new standards in terms of creating and capturing value, and which becomes a source of inspiration for other market actors. Such business models describe ways of creating and capturing value that are copied and emulated by other entrepreneurs. Sabatier and colleagues (2010) definition of an “iconic business model” points to the notion of a category prototype, and implicitly refers to the exemplar view of such prototypes. Indeed, their definition suggests that iconic business models essentially function as prototypical exemplars, capturing the essence of a particular way of creating and capturing value (Baden-Fuller & Morgan, 2010; Sabatier et al., 2010). For the purpose of this study, we adopt the exemplar view of category prototype, and define an *iconic business model as one that is a prototypical exemplar for a particular category of firms*. At this point our research question can be reformulated as follows: *How do innovative business models become prototypical exemplars for new categories of firms?* In investigating the early stages of the emergence of an iconic business model, we study the cognitive process via which an innovative business model reaches the status of a prototypical exemplar and the role of media in this process.

3. Methods and data

In this chapter, we study the cognitive process whereby an innovative business model comes to be regarded as iconic, and as exemplifying a particular type of firm. Such research calls for a longitudinal research design (Siggelkow, 2007), as we need to trace the emergence process over time. As our research is exploratory, we adopted the single case study research design (Yin, 2009).

3.1.Case Selection: The Airbnb Case

With our definition of “iconic business model” in mind, we systematically read the literature on business models, which often draws on case studies, and discussed with academics working in the strategy and entrepreneurship fields to identify iconic business models. We found that the business models regarded as iconic include those introduced by firms such as McDonald’s, Southwest Airlines (Baden-Fuller & Morgan, 2010, p. 162), Amazon, 3M, Dell and Google (Sabatier et al., 2010), EBay, and Airbnb. We selected Airbnb, an online platform founded in 2008 that allows owners to rent out unoccupied living spaces for short periods. It is essentially a marketplace platform, which connects hosts and travellers via its website and enables transactions without, unlike traditional hotels, actually owning any rooms itself. Airbnb makes money by charging both hosts and guests transaction commissions, and in exchange provides services such as handling payments, a private messaging system, insurance, etc. All hosts and guests have a verified profile, which includes recommendations and reviews by previous users. Reading a sample of newspaper articles convinced us that Airbnb’s business model is iconic: it has rapidly captured the attention of journalists, inspired multiple imitations in different industries (Boyd, 2012), and has become closely associated with a given category of firm - the so-called “sharing economy”: Airbnb and The Unstoppable Rise of the Share Economy. (Forbes, January 23, 2013) “There are a lot of copycats,” said Matt Murphy, a partner at Kleiner Perkins Caufield & Byers, bemoaning the number of pitches he has heard that start with: “I’m the Airbnb of X, Y, Z” (Dembosky, 2013). The “sharing economy”, typified by companies like Airbnb or Uber, both of which now have market capitalizations in the billions (Libert et al., 2014), is seen as the latest fashion craze among business writers (Baker, 2014).

We also noted that the media considered Airbnb’s rise to have been “meteoric”: by the end of 2013 (only 5 years after its creation), it had already hosted more than 11 million guests in 34,000 cities around the world (Bradshaw, 2014), and had a market valuation of US\$10 billion (Edwards, 2014). Thus a five- to six-year time span was deemed appropriate to study the process of iconic

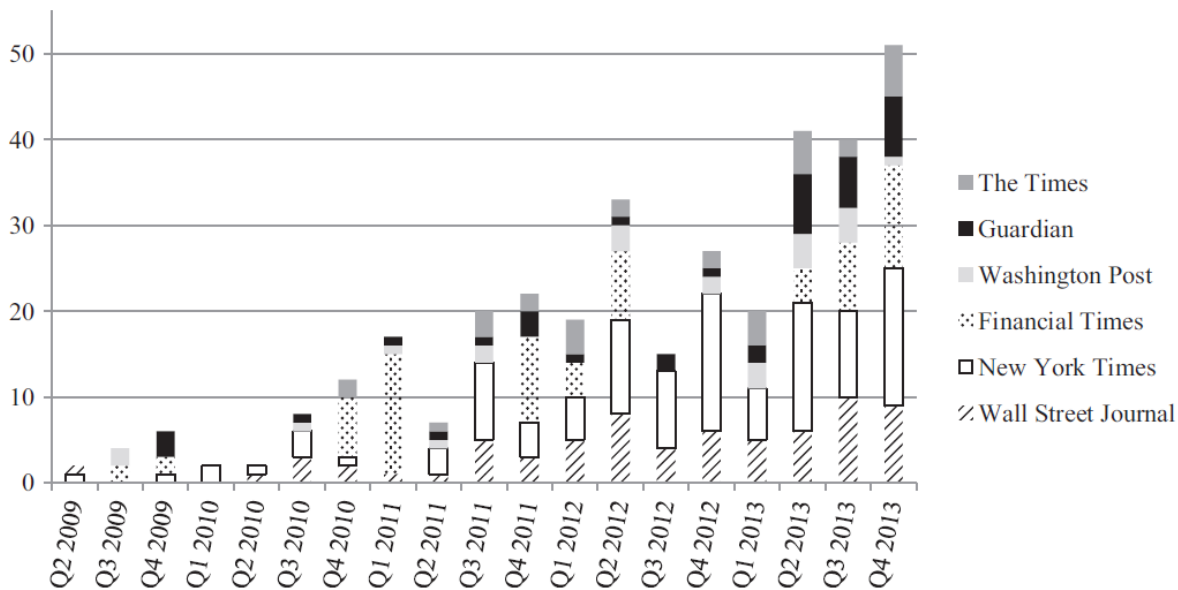
business model emergence in this particular case. Finally, studying the Airbnb case has advantages over studying some other “veteran” iconic business models, such as McDonald’s (founded in 1940), as the amount of data available about such cases would likely have been overwhelming.

3.2.Data Collection

To study the cognitive process by which Airbnb’s innovative business model became iconic, we systematically analysed how six mainstream media publications had talked about the company since its creation in 2008. Media coverage has been seen as the “central process through which knowledge and evaluations about a firm crystallize into a ‘social fact’ ” (Lang & Lang, 1988, p. 79), so its analysis has become common in studies of category emergence. Newspaper Article Collection We searched the Factiva database for appearances of the term “Airbnb” in the body of newspaper articles published in English between January 1, 2008, and December 31, 2013, finding 2,458 articles from more than 15 sources. To make the sample more manageable, we focused on the top five established media sources, selected according to the number of articles they printed about Airbnb in the study period: the Wall Street Journal (WST), the New York Times (NYT), the Financial Times (FT), the Guardian (G), and The Times (T)¹⁵ As we found very few articles from 2009, we added the Washington Post (WP) to our list as it was one of the few top-10 sources of articles dated 2009. Our final sample comprised 347 articles from these six newspapers.

Figure 1. Article distribution by selected source and quarter.

¹⁵ We excluded the International New York Times as it mostly duplicates articles published in the New York Times. Most of these newspapers have been used in prior research (Rindova, Petkova, & Kotha, 2007), and are viewed as rich information sources that report on events and provide interpretations (Haunschild & Beckman, 1998).



We imported all 347 articles into NVivo software and ran an automatic search to identify the fragments of text that mentioned Airbnb. We then read the 1,052 text fragments that the search returned, and adopted a rule of using fragments of up to 60 words that included the term “Airbnb,” which captured the context and allowed for identifying meaningful units of analysis (Alvi, 2011). Adopting this criterion led to a final number of 665 text fragments. Table A1 in the appendix shows that the number of articles and text fragments increased over time from 16 text fragments in 11 articles in 2009, to 299 fragments in a total of 152 articles in 2013.

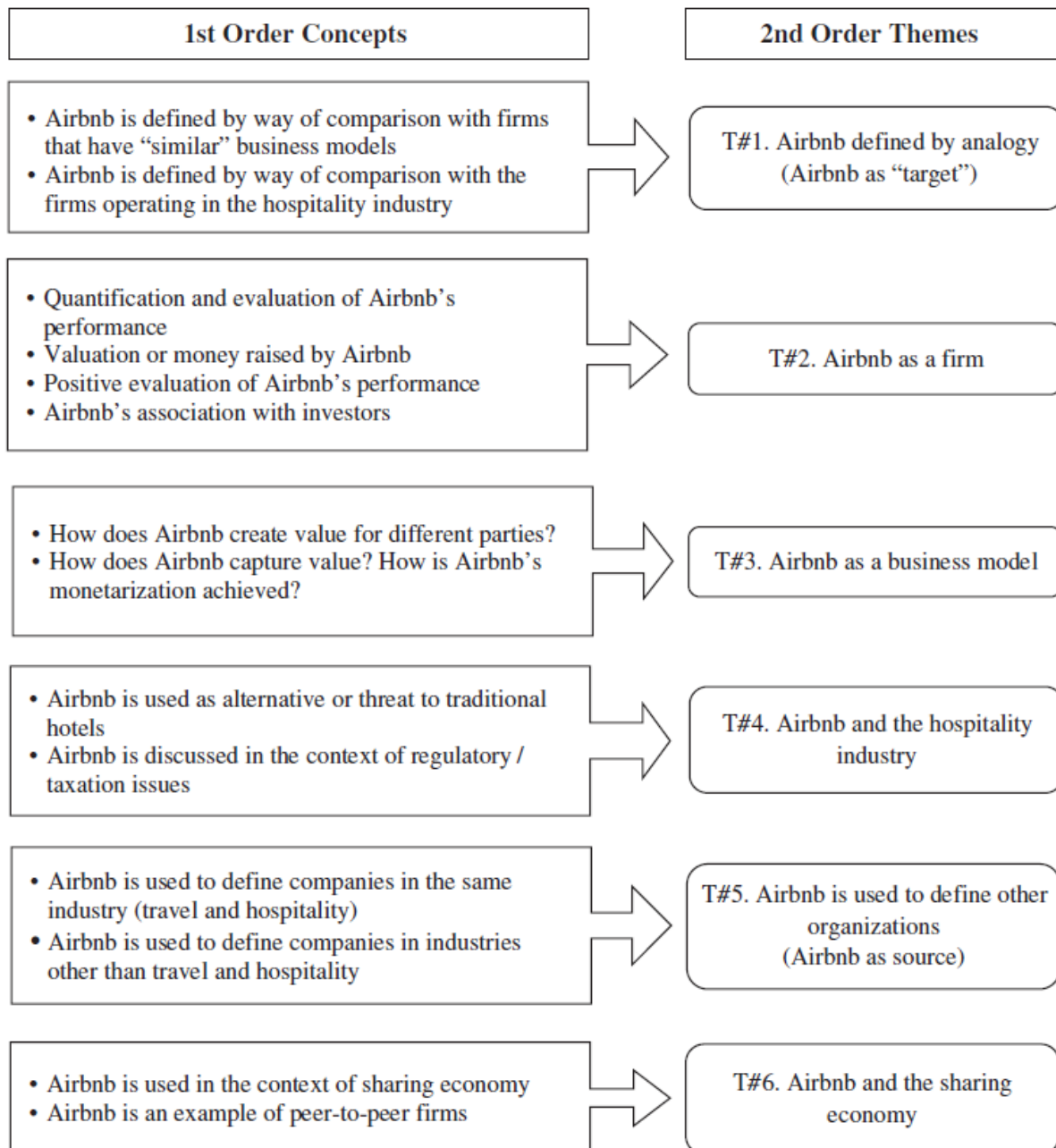
3.3.Data Analysis

We used qualitative content analysis to analyse these 665 text fragments. This type of analysis allows researchers to study people’s cognitive representations (Gephart, 1993; Huff, 1990; Woodrum, 1984), and has been widely used in strategy research (Carley, 1997; Osborne, Stubbart, & Ramaprasad, 2001). We analysed our data in three phases using the NVivo software. We first read the text fragments with the aim of identifying how Airbnb was defined or described in the media. Although our approach was mainly inductive, it was informed by our knowledge of the business model and market category literatures. This first round of coding allowed us to capture all the most important concepts and ideas the media discussed in relation to Airbnb. We refer to these codes as

our “first-order concepts” (Gioia, Corley, & Hamilton, 2012) (as shown in Fig. 2) which summarizes our data structure.

In our second analysis phase, we re-read all our first-order concepts and identified six second-order themes (see Fig. 2). Our first theme, which we termed “Airbnb defined by analogy,” groups all the text fragments we coded in which Airbnb was the “target” of a sense making exercise, and in which its business model was defined by reference to those of other firms. It reflects the analogical reasoning that sustains the media’s attempts at assimilating Airbnb into its existing categorization of firms. The second theme “Airbnb as a firm” refers to codes where the media point to typical firm attributes, such as its investors, its financial performance, etc. in discussing Airbnb (see Fig.A1 in the appendix). The third theme - “Airbnb as a business model” - is consistent with our definition of a business model (i.e., focusing on the logic of a firm’s value creation and capture) and captures the media’s attempts to define Airbnb by explaining and elaborating its business model, and by specifying some of the model’s elements. We relied on the literature on business models (Casadesus-Masanell & Zhu, 2013; Teece, 2010) to code all the text fragments associated with this theme. Our fourth theme “Airbnb and the hospitality industry” points to the importance of media discourse that showed Airbnb as opposing traditional hospitality business models. Here, the intention was not to define Airbnb in comparison to hotels (as in the first theme), but to position Airbnb within its competitive space.

Figure 2. Data structure



We then created a fifth theme - “Airbnb as a source domain” - to group quotes where the media used Airbnb as a representative of a type of organization so as to make sense of other new firms. Finally, our sixth theme included quotes that considered “Airbnb as an example of the sharing economy.” Tables A2-A4 in the appendix provide illustrative quotes for each of the concepts included in these themes, and Table A5 reports some statistics on these themes.

In the third phase of our analysis, we sought to understand the dynamics of these six themes in order to develop a process model to describe how Airbnb’s innovative business model became iconic, and came to represent a prototypical exemplar for firms operating in the sharing economy. We counted systematically the frequencies of the appearances of the codes we identified, and cross-tabulated those frequencies against publication dates (years) to try to identify temporal patterns in the appearance of the different codes. Counting and cross-tabulating are useful to identify trends (Bergh & Holbein, 1997), and content analysis researchers use these techniques as they consider that changes in the frequency with which words are used reflect at least a change in what the media pays attention to, if not in cognitive schema (Namenwirth & Weber, 1987, as cited in Duriau, Reger, & Pfarrer, 2007). We also analysed the co-occurrence of certain codes, as co-occurrences of keywords can be interpreted as reflecting associations between the underlying concepts involved (Huff, 1990; Weber, 1990).

4. Findings

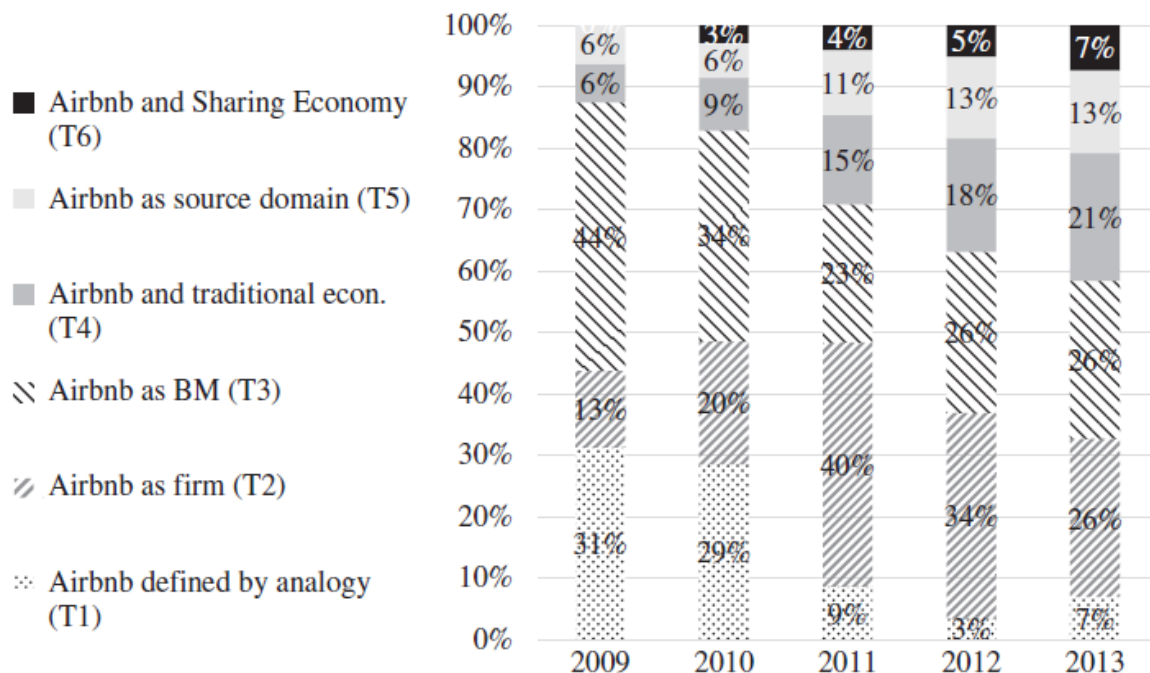
We first present the three-stage model of iconic business model emergence that arose from our data analysis, and then provide a rich description of the media’s discourse in each phase.

4.1. A Three-stage model of iconic business model emergence

Our analysis suggests that Airbnb’s recognition as an iconic business model took place in three stages. In the first stage - “Assimilating Airbnb’s business model through analogies” - the media discourse was largely characterized by attempts to make sense of Airbnb by making analogies either

with existing firms, such as eBay, or existing market categories, such as the hospitality industry. Fig. 3 shows that theme #1 “Airbnb defined through analogies” was a dominant theme over the first two years, accounting for 31% and 29% of the text fragments we coded in 2009 and 2010, respectively. However, this theme suddenly dropped to 9% in 2011, and became only marginal in 2012 and 2013, when it accounted for only 3.7% respectively of the media discourse. In the second stage (“Elaborating Airbnb’s business model and legitimacy tipping point”) the media’s attention shifted away from analogies with existing firms, perhaps because Airbnb was becoming established as a successful firm that did not fit well with existing market categories. Instead, the media tried to build a more complex understanding of Airbnb, and elaborated on its business model by better specifying how exactly it created and captured value.

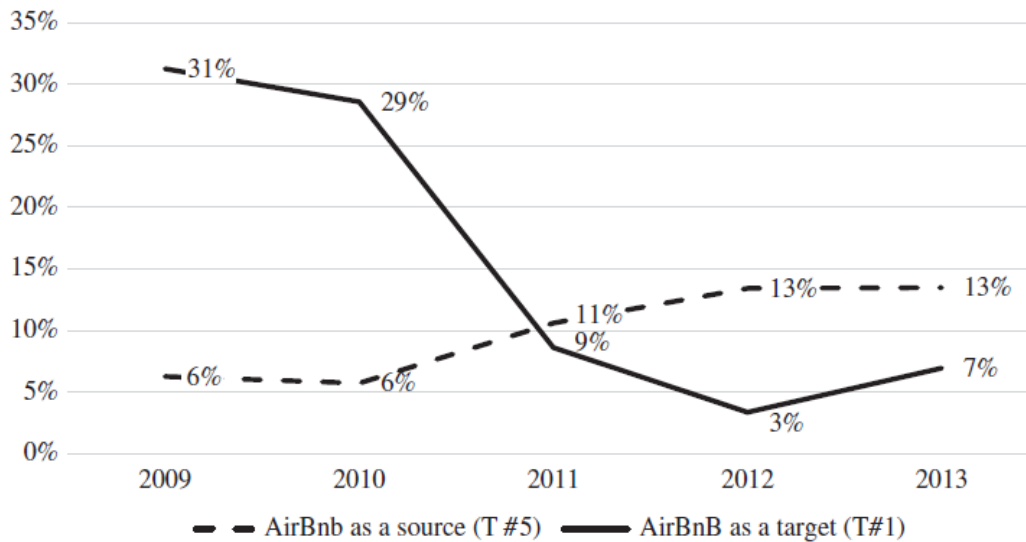
Figure 3. Percentage (%) of each theme in the total number of “coded” text fragments¹⁶.



¹⁶ Note: Percentages (%) were calculated using the total number of “coded” fragments of text.

In a third and final stage, the media gave Airbnb's business model the status of iconic business model for the sharing economy. As the media recognized the specificities of its innovative business model, it began to refer routinely to Airbnb as "the typical" sharing economy firm. This means it gradually considered Airbnb's business model as iconic, that is, as the prototypical exemplar of peer-to-peer firms' business models. Two patterns support this finding, as Fig. 3 shows. First, the "Airbnb and the sharing economy" theme (#6) became increasingly important over time: while it was absent in 2009, by 2013 this theme accounted for 7% of the media discourse. Second, Fig. 4 shows that the trends of the appearance of fragments associated with themes #1 (Airbnb defined by analogy) and #5 (Airbnb as source domain) diverged: while the proportion of theme #1 in media discourse decreased consistently over time (from 31% in 2009 to 7% in 2013), the proportion of theme #5 increased consistently (from 6% in 2009 to 13% in 2013). This pattern shows that the media shifted the analogies it employed, from defining Airbnb by referring to other firms, to defining other firms by referring to Airbnb. We will return to this finding later (see Phase 3).

Figure 4. Airbnb and media analogical work: from target analogy to source analogy¹⁷.



4.2.Phase 1: assimilating Airbnb’s business model through analogies (2009-2011)

In the first phase, the media tried to understand this new firm by assimilating it within an established categorization of firms based on the product. Primarily, it attempted to define Airbnb by analogy with firms in the hospitality industry (hotels, hostels, etc.), as it delivers the same kind of services: renting rooms to travellers. This was the most common analogy in 2009 and 2010, accounting for 40% and 38% of all theme #1 quotes in those years, respectively, suggesting that the media considered the hospitality industry as the “natural” home industry for Airbnb, given its activity: “Airbnb operates a website that matches up travellers with locals who are willing to rent out an extra bedroom or guest suite, turning every home into a potential mini-hotel” (T, November 16, 2010).

However, a closer analysis of the text fragments associated with the hotel analogy reveals that, in many instances, the media were not entirely satisfied with the analogy, and pointed out

¹⁷ Note: Percentages (%) were calculated using the total number of “coded” fragments of text. For more information see Table A5.

important differences between Airbnb and traditional accommodation providers: “Since its debut in 2008, the company (...) has booked more than two million nights of lodging all over the world. But it’s not a hotel. Instead, it allows people to rent out their entire home or apartment (or just a room or a bed) to others who find Marriott boring or want to see life in a new area as a local would” (NYT, November 12, 2011). This quote describes Airbnb as a firm that rents rooms to travellers, and thus provides the same services as traditional hotels, but which, in essence, is not a hotel.

Recurring elements of the “same, but different” theme are the lack of standardization in Airbnb’s accommodations and the risk (or a sense of adventure) associated with this new firm, implying that its users were somehow special: Airbnb is definitely not “for the person who wants to stay at a hotel in Midtown” (WP, July 26, 2009), rather it is for a different type of users, such as “travellers seeking an alternative to hotels” (NYT, April 8, 2012). The media also commented on the fact that Airbnb differs from a traditional hotel in that, in contrast to the major global hotel chains with which it competes, “it doesn’t own a single bed” (NYT, July 21, 2013), and the travellers rent the rooms not from companies but from “real” people (like them). The fact that the media pointed to differences between Airbnb and traditional hospitality industry firms, and looked for other analogies for the new firm, suggests that it initially struggled to understand Airbnb’s innovative business model.

As the media’s attempts to assimilate Airbnb into the existing hospitality industry category were not entirely satisfactory, because this category could not encompass the entirety of the firm’s emerging representation, the media also drew on other analogies to define Airbnb and its business model. Two frequently used such analogies were with firms known for their original business models: eBay and Couchsurfing. Airbnb was defined for instance, as an “eBay-style marketplace ...” (FT, July 30, 2011); as a firm operating a website “which functions as an eBay-style intermediary ...” (FT, July 29, 2011); as an “upgraded version of Couchsurfing” (NYT, May 17, 2009); or as “grown-up Couchsurfing” (G, September 8, 2012).

In drawing on analogies with other firms who were known for their innovative business models, but which operated in other industries, the media tried to build a more comprehensive view of Airbnb, whose business model it definitely perceived as being novel. The multiple analogies that the media used simultaneously reveal different aspects of Airbnb's business model, and suggest that analogical reasoning played a key role in the early stage of its emergence: it was one of the main information processing methods that the media used to make sense of the innovative firm.

Our findings show that, during the first two years, the media relied largely on such analogies to build its representation of the new firm, suggesting that they initially tried to assimilate Airbnb within their existing representation of market categories, rather than to recognize the novelty and change their existing representations of the market. But analysis of media coverage toward the end of the phase suggests that it was beginning to move on from trying to assimilate Airbnb into existing market category representations, and was beginning to change those representations to recognize the novelty of Airbnb's business model.

4.3. Phase 2: elaborating Airbnb's business model and legitimacy (2011)

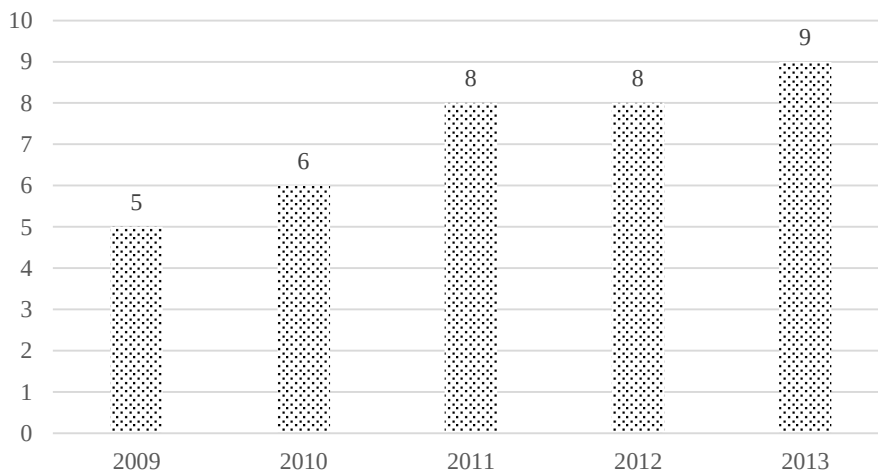
As Airbnb grew and appeared to be increasingly financially viable, the media trumpeted its financial success: "You might have noticed that everyone is talking about Airbnb. 2013 is the year that it pole-vaulted out of the San Francisco start-up scene and went global, mainstream, ubiquitous" (G, September 15, 2013). As Fig. 3 shows, the share of theme #2 ("Airbnb as a firm") fragments in the total of coded discourses doubled in just one year, from 20% in 2010 to 40% in 2011¹⁸. This meant that, instead of defining Airbnb via analogies with other firms or iconic business models, the media increasingly defined Airbnb as a firm by quantifying its performance: "Airbnb adds about 1,000 new

¹⁸ This sudden shift in media attention in 2011 coincided with two incidents which drew public attention to the firm: (i) an Airbnb guest vandalized the apartment she was staying in, which increased media comments about Airbnb; (ii) Airbnb secured substantial funding, which led to media comments about Airbnb's financial valuation.

home listings every day, with 150,000 properties in total, and has seen the average number of nights booked double since the beginning of the year” (FT, May 23, 2012).

In addition to proposing a stand-alone definition, Airbnb focused on its economic and financial dimensions, the media now also developed a subtler understanding of how Airbnb created and captured value, suggesting a better comprehension of its business model. When we analysed the fragments of text associated with theme #3 (“Airbnb as a business model”), we found that the complexity of the media’s discourse about Airbnb’s business model, as measured by the number of elements in such fragments that were associated with its business model, increased with time. In 2009, the media’s description of Airbnb’s business model included five elements (connecting parties, cost-cutting for travellers, social value, special experience, and trust), whereas it included six elements in 2010, eight elements in 2011 and 2012, and a peak of nine elements in 2013 (Figure 5).

Figure 5. Business Model Elements Count Over Time



Among the new elements added was that of value capture, which was not mentioned in 2009, suggesting that the media did not initially comment on how exactly Airbnb was supposed to make money. This element first appeared in 2010 and remained salient in the subsequent years: “Airbnb’s business model is simple: the company takes a 6 per cent to 12 per cent cut on each booking. Guests pay Airbnb in advance by credit card in their local currency. The company holds the payment until

24 hours after the guest arrives to ensure that the accommodation is as described. It then transfers the money to the host in their local currency” (T, November 16, 2010). Another new element the media added to the description of Airbnb’s business model was the element of trust: “At some level, though, individuals on sites such as Airbnb have already voted with their feet. A new infrastructure will be needed to support this spreading economy, and trust will lie at its heart” (FT, May 2, 2013).

Overall, during this second phase, the media’s attention shifted from acknowledging Airbnb as a novel phenomenon, and trying to define it within the established category system to inquiring into it more fully and appreciating its complexity and specificity. Indeed, the media commented widely on Airbnb’s success and economic performance, and also provided a richer description of its business model, suggesting a greater understanding of the reasons for that success. Increase in the number of its business model elements that the media identified suggests that a more elaborate picture of how exactly Airbnb created value for different parties emerged and became stabilized. Having started with a description of the kind of services it delivered by analogy with firms from the hospitality industry, the media began to enquire more deeply into questions about the firm’s business model in this phase, fleshing out elements of its business model that were not immediately apparent, such as the fact Airbnb did not own assets but facilitated access, or pointing out that trust was a prerequisite in its business model.

4.4. Phase 3: Airbnb’s business model gains the status of the iconic business model of the sharing economy (2012-2013)

In the third and final stage, Airbnb’s business model reached the status of an iconic business model, and became the prototypical exemplar of business models for sharing economy firms. Our text fragments reflected this phenomenon in four main ways. First, the media increasingly talked about Airbnb as being in opposition to the traditional hospitality industry, as reflected by the rising importance of theme #4 “Airbnb and the hospitality industry” in the media discourse between 2009

(6%) and 2013 (21%), which recognized Airbnb as being a representative of a distinct category (see Fig. 3).

As the media acquired a deeper understanding of Airbnb and its business model, it increasingly excluded the firm from the traditional hospitality category, seeing it as a “replacement” or an alternative to hotels, especially in cities “like New York, where [hotels] rates are generally absurd” (NYT, November 12, 2011). Moreover, the media often described Airbnb as a serious competitor and threat to hotels, by pointing to the fact that it had disrupted and “hurt” the entire “hotel industry” (WSJ, October 22, 2013): Established accommodation businesses have also come under threat from companies such as Airbnb, which allow homeowners to rent spare rooms to travellers, often charging less than a standard hostel. “They have a different product, but they’re going after the same customers”, said Mr Mooney” (FT, April 12, 2013). Along with this increasing depiction of Airbnb as a threat to the hospitality industry, the media also more frequently associated Airbnb with discourse about regulatory issues, because the incumbents (the traditional hotels) reacted strongly to Airbnb’s arrival in their competitive space. They fought back and tried to enrol legislators in their battle by claiming that Airbnb’s business model rested on illegal practices: “The “sharing economy” has many fans but Eric Schneiderman, New York State’s attorney-general, is not one of them. He has demanded that Airbnb (...) hand over records of its 15,000 hosts in New York City to verify that they pay taxes levied on hotels” (FT, October 15, 2013).

The second element that suggests that Airbnb reached the status of iconic business model relates to the shifting pattern of the analogies the media used. As it elaborated a richer representation of Airbnb, as a firm, as a business model, and as a threat to traditional hotels, it increasingly used Airbnb to define the identity of other firms. Fig. 4 shows clearly that, over time, the media defined Airbnb less via analogies, and engaged increasingly with the new firm as a source domain to make sense of less familiar firms: theme #5 (“Airbnb as source domain”) accounted for 13% of the media discourse in 2012 and 2013 (as against only 6% in 2009 and 2010).

Airbnb was increasingly used to comprehend other firms from the same industry better, such as 9flats or Wimdu, which were described as “Airbnb’s European rivals” (FT, May 23, 2012), or new firms operating in other industries, such as pet care: “DogVacay is described as the ‘Airbnb for dogs’” (FT, June 5, 2013), or car rental or parking. For instance, in the UK, ParkatmyHouse was described as being “similar to the online lodging service Airbnb, except you’re renting parking spaces instead of a room” (NYT, January 21, 2012). Comparisons with firms in many other sectors abound, as the following quote suggests: “[Airbnb has] been so successful that half the tech start-ups these days go around flattering themselves with Airbnb comparisons: there’s an Airbnb for boats, and one for power tools, and probably one that will let you rent out your extra sheep to fertilize somebody’s lawn” (NYT, May 12, 2013). Fig. 4 illustrates this shift in the analogies the media used, which began during 2011, as Airbnb became used more frequently as a source of analogy than as a target¹⁹.

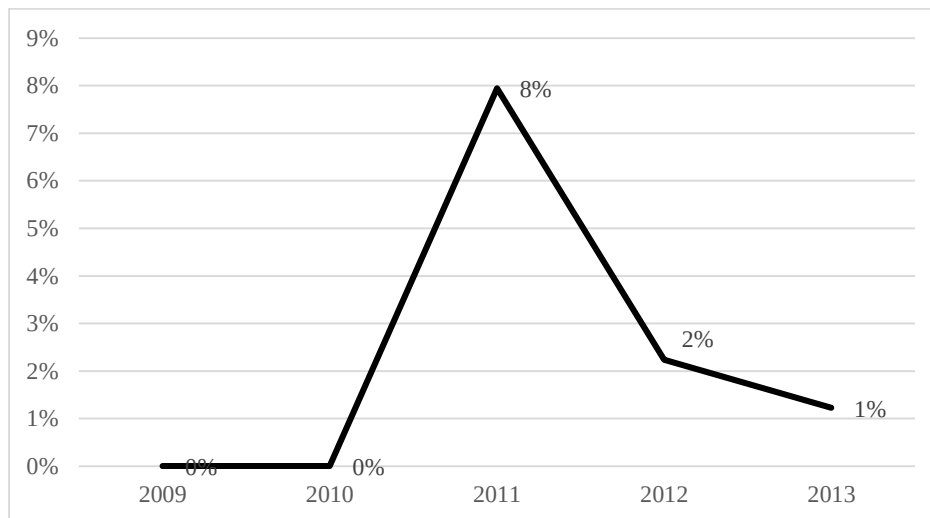
Third, as Airbnb was increasingly used as a source domain to define what other new firms were and how they created value, it was also increasingly talked about in the context of the rise of the sharing economy, as reflected by the increasing importance of theme #6 in media discourse (Fig. 3). Airbnb was seen as a pioneer of the emerging peer-to-peer economy: it is the “company that spurred the sharing trend with air mattresses in a San Francisco apartment,” (WP, September 8, 2013) and so became seen as representing this new category of firms, and thus the prototypical exemplar of sharing economy firms: “Venture capitalists last fall valued the sharing economy’s rising star—a service called Airbnb Inc. that lets people rent their homes, or rooms in their homes, to strangers—at \$2.5 billion” (WSJ, January 14, 2013).

Finally, as the media established Airbnb as a prototypical exemplar of the new peer-to-peer market category, they also increasingly dissociated Airbnb as a firm from Airbnb as a business model exemplar, as if the iconic business model could now have a life of its own. Counting the co-occurrence

¹⁹ Note that Fig. 4 reports the same data as that presented in Fig. 3, but differently: it focuses only on Themes #1 and #5 in order to show the shift in analogies more clearly.

of codes relating to Airbnb as a firm (theme #2) and Airbnb as source (theme #5) captures this change (as Fig. 4 shows) to illustrate the divorce between the firm and its business model: in 2011, the percentage of co-occurrence of these two codes in the same paragraph was 8%, but it dropped sharply to 2% in 2012 and just 1% in 2013.

Figure 5. Percentage of co-occurrence of theme 5 and theme 2



This change indicates that Airbnb as a label for a type of business model stopped being associated with the firm's specific actions, behaviour, or performance, and took on a life of its own, functioning as a prototypical business model exemplar. Over time the iconic business model, which was still generally labelled with the name of Airbnb as its instigator firm, became increasingly divorced from discourse about the actual firm, and functioned as a culturally shared prototypical exemplar for a particular category of firms - those operating sharing economy, or peer-to-peer business models.

5. Discussion and conclusions

In this chapter, we have described the cognitive process whereby the media gradually conferred the status of iconic business model for the peer-to-peer economy on Airbnb's business model, and in so doing, recognized it as a prototypical exemplar for those used by peer-to-peer firms. We have shown that the process whereby Airbnb's innovative business model became iconic was progressive

- we identified three stages - and relied on fundamental cognitive mechanisms, such as analogical reasoning. Specifically, we found that the media first tried to assimilate Airbnb within its existing category system by drawing on multiple analogies with firms operating in the hospitality industry or with iconic business models. However, as Airbnb's innovative business model did not fit into the existing category system acceptably, the media went on to give the new phenomenon its own meaning, which it achieved through a deeper elaboration of Airbnb's business model. Finally, as the media increasingly understood the specificities of Airbnb's business model, it eventually recognized a new type of "peer-to-peer" organization, which Airbnb exemplified. Once the media recognized Airbnb's business model as iconic, it stopped associating the business model with the firm's actions, so that the business model almost took on a life of its own, and started to function as a prototype exemplar. Beyond documenting the trajectory of Airbnb's business model in the media, our study offers three contributions to the literature, as follows.

A greater understanding of what iconic business models are and how they emerge.

First, our study contributes to the literature on business models by elaborating on the notion of the iconic business model (Sabatier et al., 2010). While this notion refers to an important economic phenomenon - not only Airbnb's business model, but also those of Ebay, McDonald's, and Southwest Airlines disrupted the established value creation and capture logics in their sectors, and became iconic - it has received little elaboration so far. We provide a more elaborated definition of the iconic business model notion, one that is rooted in the literature on social categorization. We consider an iconic business model as an innovative business model which is imitated across industries and is considered as a prototypical exemplar for a particular category of firms. For instance, in our case, Airbnb's innovative business model has been imitated in many sectors, such as pet care and car rental and parking sectors, and has gradually come to be regarded by the media as the prototypical exemplar (or at least, the best example) of the business models employed by the emerging category of peer-to-peer firms.

Beyond linking the notion of iconic business model to the well-established concept of prototypical exemplar (Cantor & Mischel, 1979), we also connect the notion with that of performativity (Callon, 2007; Doganova & Eyquem-Renault, 2009). Business models do more than “describe” new ways of creating and capturing value: they also bring into being the very things that they describe - firms with new ways of creating and capturing value. In the case of an iconic business model, its performative power is even clearer, as being iconic means becoming the prototype exemplar for a category of firms, and implies being imitated. Thus, an iconic business model not only brings a new firm into being - the firm that created and first experimented with it as an innovative business model - it also brings into being a whole new category of firms - those that imitate the new business model.

A refined understanding of the role of analogical reasoning in business model innovation.

Second, our study complements cognitive research on business models by refining our understanding of the role of analogical reasoning in business model innovation. Cognitive studies on business model innovation usually focus on what happens in the minds of the entrepreneurs who create new businesses, and examine their cognitive processes as their new ventures are created (Enkel & Mezger, 2013). It has not yet studied what happens, cognitively speaking, after an innovative business model is created: but cognitive processes are likely to play a key role in subsequent business model innovation stages as well. The newly created business model needs to be cognitively understood by other entrepreneurs, who might (or might not) consider it worth imitating; and by the media, and the general public, which might (or might not) recognize it as “novel”, and so, maybe, iconic. Our study has focused precisely on this latter point.

We studied the cognitive process which led the media to recognize the “novelty” of a particular business model up to the point that it even regarded it as iconic, and as the prototypical exemplar of a category of firm. In studying this process, we showed that analogical reasoning is a key process underpinning the emergence of an iconic business model. Our study therefore complements cognitive

research on business models by showing the importance of analogical reasoning in business model innovation (Enkel & Mezger, 2013), thus further theorizing its role in the phases following business model innovation. Generally, our study points to two important cognitive mechanisms.

First, when a new business model is launched, our study suggests that it is initially comprehended via analogies: the media attempt to define the firm and its new business model in terms of existing industry categories by comparing it with incumbent players representing iconic business models or established category prototypes. This line of reasoning is consistent with cognitive research that suggests that the use of analogies is especially likely when the new target entity is sufficiently different and challenging, as in the case of the introduction of new technologies (such as computers), as analogies help assimilate the unfamiliar by mapping it into established categories and defining it in relation to existing schemas (Bingham & Kahl, 2013; Gentner, 1983; Holyoak & Thagard, 1997).

Second, our study suggests that, as they become iconic, innovative business models shift from being the targets of analogical reasoning to being the source of analogies for defining other firms. This finding is in line with the categorization literature, which shows that when new categories become part of generalized knowledge structures, they are used to interpret new stimulus arrays and become reference points in market stories about new products (Rosa et al., 1999). Our study thus shows the value of a cognitive lens in business model research, adding to the well-documented stages of business model innovation by entrepreneurs. Future studies could complement our cognitive study of iconic business emergence by adopting a socio-cognitive approach. For instance, it would be interesting to study how different market actors engage differently with iconic business models, and the various roles they play in the emergence of such models.

Considering business models as an alternative basis for firm classification.

Third, we contribute to the market categorization literature, which has recently been interested in market category emergence issues (Kocak et al., 2014; Navis & Glynn, 2010), by documenting a

specific case of the emergence of prototypical exemplar. We show how an innovative business model, as it becomes iconic, comes to exemplify a new type of organization, and hence can serve as a basis for a new firm classification. A common view in categorization literature is that “a new market category exists when two or more products or services are perceived to be of the same type or close substitutes for each other in satisfying market demand; the organizations producing or supplying these related products or services are grouped together as members of the same market category” (Navis & Glynn, 2010, p. 440). As a result, this literature focuses on industry grouping, or groupings of firms based on similar products and services.

Our study suggests that industry grouping is not the only basis of firm classification, and that innovative business models can reshape the way the media classifies firms. Thus it moves beyond the view of categories as “constraining” (Glynn & Navis, 2013), and shows that they can be generative, and serve as creative resources for organizational innovation and change (p. 1132). It calls for broader interpretations of market categories that go beyond product-based groupings enabling transactions between producers and consumers, and competition among producers.

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7. Appendix

Table A1. Number of articles and fragments of text mentioning Airbnb by quarters.

	2009				2010				2011				2012				2013				Grand Total
	Q1	Q2	Q3	Q4	Total	Q1	Q2	Q3	Q4	Total	Q1	Q2	Q3	Q4	Total	Q1	Q2	Q3	Q4	Total	
Articles	0	1	4	6	11	2	2	8	12	24	17	7	20	22	66	19	33	15	27	94	347
Fragments	0	1	11	4	16	5	2	20	17	44	4	12	83	35	134	26	56	32	58	172	665

Table A2: Themes #1 and #2 and associated 1st order concepts: Illustrative quotes

2 nd order theme	1 st order concept	Illustrative Quotes
Airbnb defined through analogies (T#1)	Analogy with Hotel: 'Airbnb is like a hotel...'	Positive analogy (Airbnb is like an hotel) • <i>The site makes every home a mini-hotel (The Times 16 February 2012)</i> • <i>Home-rental listing sites, such as HomeAway and Airbnb, have aided the trend by providing a service that allows homeowners to advertise their properties, essentially turning their homes into pop- up motels (WSJ 24 November 2012)</i> Negative analogy (Airbnb is different from a traditional hotel) • <i>In homage to its roots, they called the company Airbnb, which has grown so large, so fast that it is now the equivalent of a major global hotel chain -- even though, unlike the Hilton, it doesn't own a single bed (NYT 21 July 2013)</i>
	Analogy with Ebay, or Couchsurfing	• <i>Airbnb and similar sites try to prevent bad behavior by letting people leave ratings and reviews of both hosts and travelers, much like eBay (NYT 25 July 2011)</i> • <i>Grown-up couchsurfing needs some safeguards (Guardian 8 October 2011)</i>
Airbnb as a firm (T#2)	Airbnb's history	• <i>Airbnb started in a living room in San Francisco when its founders decided to rent a couple of air mattresses in their shared apartment during a design conference (NYT 25 July 2011).</i>
	Airbnb's quantified performance	• <i>Airbnb has been very successful since its launch in 2008. It clocked 3m guests last year and built its accommodation listings to 300,000 - including 500 castles and 200 tree houses - according to the company's 2012 figures.(FT 22 February 2013)</i>
	Airbnb is a successful firm	• <i>Probably the first accelerator was Paul Graham's Y Combinator in Silicon Valley. Since 2005 it has fostered almost 500 start-ups, including big successes such as Airbnb and Dropbox. (FT 17 October 2012)</i>
	Airbnb's value/valuation (monetary)	• <i>To compete, Airbnb raised \$112m last year, valuing the company at \$1.3bn. It funneled the money into expansion, opening offices in London, Paris, Barcelona, Milan, Moscow, Copenhagen and in São Paulo (FT 20 June 2012)</i>
	Airbnb's investors	• <i>Canal Plus, Astro, an Asian investment group and Lakestar, which also has stakes in Spotify and Airbnb, are among the new companies to invest in the Los Angeles-based venture (FT 13 September 2013)</i>

Table A3: Theme #3 and associated 1st order concepts: Illustrative quotes

2 nd order theme	1 st order concept	Illustrative Quotes
Airbnb as a business model (T #3)	Value Capture: How Airbnb makes money	• <i>Airbnb, a service that lets people rent their homes to travelers, for rates comparable to a hostel or hotel, with the company taking a slice of the fee</i> (NYT 23 September 2012)
	Value creation: Monetization of assets	• <i>This framework of trust has unlocked huge value from unused bedrooms. "In the last 12 months in Paris, we've generated \$240 million in economic activity," Chesky said</i> (NYT 21 July 2013)
	Value creation: Connecting Parties	• <i>Airbnb.com connects travelers with locals who are offering a place to stay, whether it is a couch, a private apartment or a castle</i> (NYT 8 January 2012)
	Value creation: Cost Cutting	• <i>To make your roubles go further, stay in the bright dorms of the city's newest hostel, the Safari (...) or check out airbnb.co.uk, which offers studios and apartments in the centre from £63 a night</i> (Guardian 5 January 2013)
	Value creation: Convenience	• <i>To use Airbnb, site visitors search for listings in their destination city. Once they have found a place, they can send a message to the host with any questions about the room or its location. They then pay for the stay in full using a credit card or PayPal. Airbnb holds the money until a day after guests check in, ensuring that they are not swindled out of their cash</i> (NYT 25 July 2011)
	Value creation: Make Money	• <i>The sites offer guidance on how much you can expect to earn. Airbnb.co.uk has a tool to estimate what your home is worth based on location, the time of year you are letting it and how much space you have to offer. You can opt for a basic pricing structure (...) or an advanced pricing structure, marking out different rates for weekends or for summer months. You can also charge a cleaning fee and set up a security deposit with your guests.</i>(The Times 10 March 2012)
	Value creation: Social Value	• <i>The label is applied to a diverse mix of companies, some of them far removed from the power sector. Cleanweb enthusiasts often point to Airbnb, a web site that connects people seeking vacation accommodation with others looking to rent out their homes, reducing the use of hotel rooms -- and, in theory, the number of hotels that need to be built</i> (NYT 19 June 2013)
	Value creation: Special Experience:	• <i>But it's an intimate thing, staying in somebody's home. Blecharczyk says that Airbnbbers want a more authentic experience than staying in a hotel. And it is that. If boutique hotels defined the 90s and 2000s in tourism, someone's spare room (or spare castle) will possibly define whatever we're calling the 2010s. But then, all things considered, I'd take an Airbnb over a Ramada Inn. Even with a mouse</i> (Guardian 15 September 2013)
	Value creation: Trust	• <i>The company interviews homeowners and displays reviews on its website to boost confidence among users. It also holds rental payments in escrow to comfort hosts</i> (FT 25 July 2011)

Table A4: Themes #4, #5 and #6 and associated 1st order concepts: Illustrative quotes

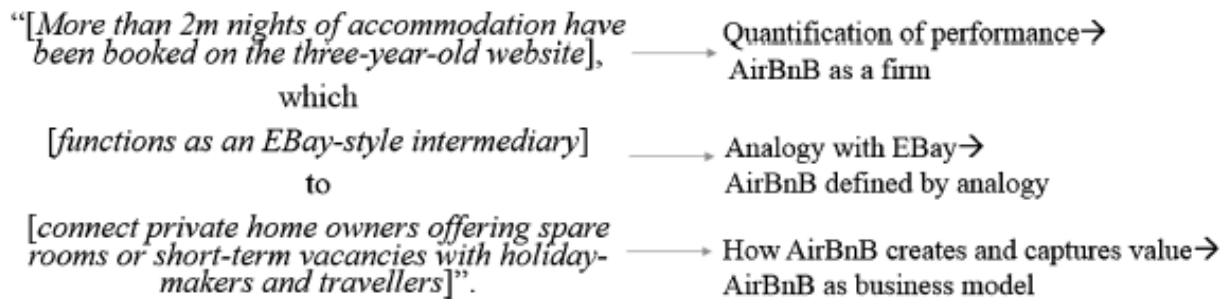
2 nd order theme	1 st order concept	Illustrative Quotes
Airbnb and the hospitality industry (T#4)	Airbnb is a threat to the traditional hotel industry	• <i>Airbnb: A spare room website: game over for hotels? Why choose an overpriced and dull hotel when you could stay in a loft, a houseboat or a tree house anywhere in the world? Is Airbnb - spare rooms to let - about to take down the hotel industry? Carole Cadwalladr checks in to the 'sharing economy'</i> (Guardian 15 Sept 2013)
	Regulation & Counter attack (from traditional industry):	• <i>In response to this sudden scrutiny, Airbnb has joined other online booking sites such as HomeAway and TripAdvisor to form the Short Term Rental Advocacy Center (Strac) to fight 'restrictive short-term rental regulations at the local level'</i> (FT 22 June 2013)
Airbnb as source domain (T#5)	Within industry clone comparison:	• <i>I lined up the car with Halil and reserved a room through Wimdu, a spawn of Airbnb that rents different styles of accommodations owned or run by individuals</i> (WP 8 September 2013)
	Within industry simple comparison	• <i>Perhaps most relevant to business travellers is Onefinestay, which describes itself as an 'unhotel'. It offers houses and apartments in Paris, London, New York and Los Angeles and, unlike Airbnb, includes cleaning, maid services and a meet and greet</i> (FT 16 October 2013)
	Cross industry comparisons Airbnb for x, y, z	• <i>Peer-to-peer car sharing remains in the trial stage; it can be found in San Francisco and a few other places. It has a long way to go before it becomes the auto equivalent of Airbnb, the surprise success story for peer-to-peer sharing of space in apartments and houses</i> (NYT 19 February 2012)
Airbnb and the sharing economy (T#6)	Airbnb is used in the context of the sharing economy	• <i>'Systems like RelayRides fit into a larger 'sharing economy', ' Haddad said. Other examples of sharing marketplaces include Airbnb, whose platform allows individuals to rent their property as short-term lodging to guests, or TaskRabbit, which lets people earn money by completing errands requested by other users, Haddad noted</i> (WP 7 January 2013)
	Airbnb as an example of peer-to-peer firms	• <i>'There are scores of other sites, too, from major players such as US-based home rental giant Airbnb to fledgling new arrivals. Growing numbers of people are making use of these sharing websites - known in tech circles as online 'peer-to-peer rental' services - and for a variety of reasons'</i> (Guardian 8 Jun 2013).

Table A5. Summary of coded themes by year

Second-Order Theme/Year	2009	2010	2011	2012	2013	Total
Airbnb defined by analogy	5	10	13	6	17	51
Airbnb as a firm	2	7	60	60	63	192
Airbnb as a business model	7	12	34	47	63	163
Airbnb and hospitality industry	1	3	22	33	51	110
Airbnb and sharing economy	0	1	6	9	18	34
Airbnb as source domain	1	2	16	24	33	76
Total # of “coded” fragments ^a	16	35	151	179	245	626
Total # of fragments ^b	16	44	134	172	299	665

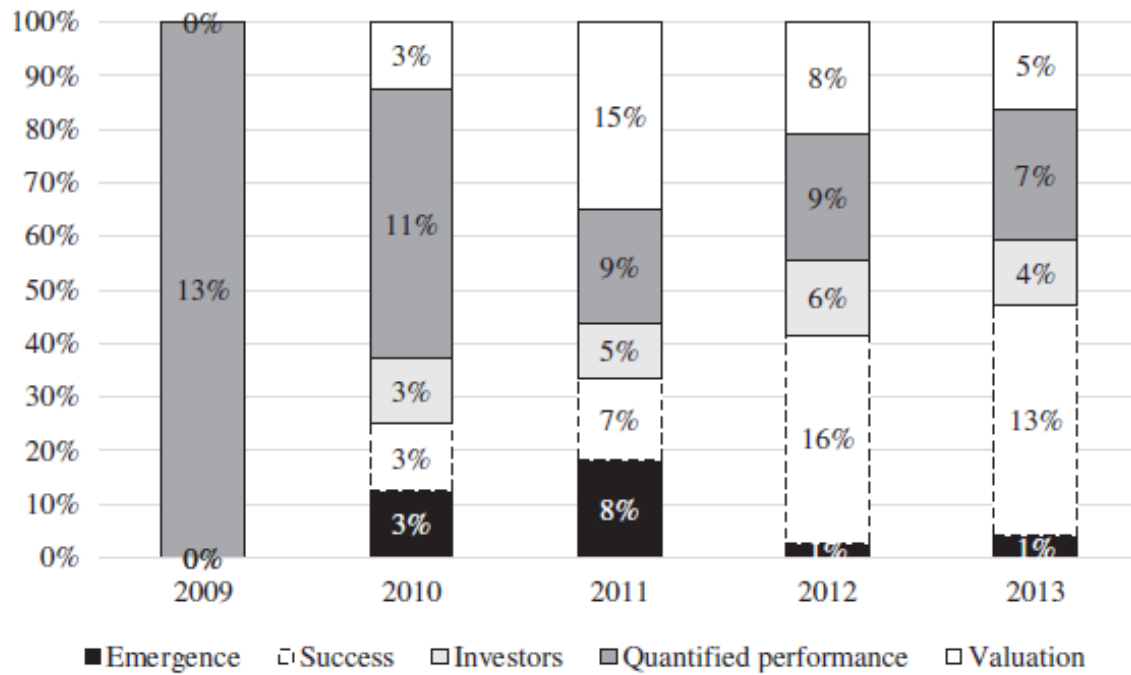
^a Some fragments of text were attributed to several first-order concepts, while others were not assigned to any first-order concepts. As a result, the total number of “coded” fragments can be greater or smaller than the total number of fragments. For instance, we identified 44 fragments of text referring to Airbnb in 2011, but we only have 35 “coded” fragments. On the other hand, in 2012, some fragments of texts were attributed to several themes; hence there are more “coded” text fragments than there are text fragments in 2012.

For example, the fragment: “More than 2m nights of accommodation have been booked on the three-year-old website, which functions as an Ebay-style intermediary to connect private home owners offering spare rooms or short-term vacancies with holiday-makers and travellers” (FT, July 29, 2011) is assigned to the three following themes: T#1 (Airbnb defined by analogy), T#2 (Airbnb as firm), and T#3 (Airbnb as business model).



^b All percentages (%) in the text and figures were calculated with the total number of “coded” fragments.

Figure A1. Theme #3 “Airbnb as a Firm” code structure.



Note: Label shows percentage of all coded fragments.

Chapter 3. Business models: insights from categorization theory

1. Introduction

Business model literature as a field suffers from a paradox between outstanding popularity and severe criticism (Klang et al., 2014). Much of the criticism and confusion has to do with the divergence of perspectives, impeding cumulative research progress on business models (Zott et al., 2011). A recent review finds that there are different streams of publications on the business model concept which constitutes separate language games, with rules which are specific for the audience the scholars are addressing (Klang et al., 2014). The authors also find low rate of cross-citation, suggesting that the scholars engage primarily in language games with audiences that are to a large degree separate from each other (Klang et al., 2014). Such divergence may be indicative of a more fundamental divide among the different streams of the literature in the field.

The literature on business models in general, and the systematic literature reviews in particular (Osterwalder & Pigneur, 2005; Morris et al., 2005; Mason & Spring, 2011; Zott et al., 2011; Lambert & Davidson, 2013), identify an important theme – namely, that scholars use business models as a way of classifying firms. However, they stop short of exploring business model as basis for firm categorization. In this chapter I take literature on categorization as the starting point and show that the business model literature in fact has different strands underpinned by different assumption regarding the ontological status of business models. When this fundamental distinction is recognized, the literature becomes clearer, and it becomes possible to identify different research strands without the confusion.

Literature on categorization offers a number of theories, based on studies in experimental psychology, which explain how humans categorize the world. In a recent paper Durand and Paoletta (2013) give an account of three major perspectives to categorization: causal-essential theory, similarity-based theories, goal-based theory. The three different perspectives to categorization

provide different explanations for how people categorize objects in the world, not abstract theoretical concepts, like “business model”. However, these different perspectives to categorization imply the different ways of reasoning about concepts, and categories those concept represent. Causal-essential perspective implies discovery of objectively existing natural categories. Similarity-based perspective implies that categories are the result of perception, more specifically, of perceived similarity to a prototype, or exemplar. Goal-based perspective implies that categories are emergent and not independent from actor’s goals. Consequently, we can differentiate between different assumptions about ontological status of business models.

In this chapter I take the three main perspectives to categorization described by Durand and Paoletta (2013) and apply them as a lens to reflect on the business model literature. Rather than taking the literature on business models at face value and trying to find unifying themes surfacing in multitudes of papers on business models, I will focus on revealing assumptions about the ontological status of business models that authors often implicitly make.

I find that the three main perspectives to categorization are evident in the way scholars reason about business model. Some business model scholars apply one way of reasoning consistent with one categorization theory throughout their papers. Others, however, shift between different ways of reasoning within one paper. For example, I find that many authors take view of business models as causal-essential categories (or natural kinds): implying there are objective reasons for different business models to exist. The problem arises however, when instead of explicating or theorising those reasons they focus on identifying common features different business models have in common – using similarity-based perspective to categorization. Likewise, the authors who focus on process of formation of a prototype of a particular business model end up claiming that the result of this process accurately represents objective reality. Such lack of consistency makes a systematic literature review with clear classification of authors and papers problematic. Instead, this chapter illustrates the different ways of reasoning about business models and the different ontological assumptions about

business models using widely cited and / or representative papers. This chapter hopes to help business models scholars to clarify their ontological assumptions and formulate research questions consistent with those assumptions.

“Every theory of the firm is an abstraction of the real-world business enterprise which is designed to address a particular set of its characteristics and behaviours” (Machlup, 1967, as cited in Grant, 1996). Similarly, making assumptions with regards to the ontological status of business models is consequential for the kinds of questions which can be addressed. Failing to explicate those assumptions may lead to confusion, unnecessary debate, or, as Klang and colleagues (2014) find, mutual disregard of different scholars. Challenging business model scholars to explicate the assumptions they are making may be a way to build the much needed cumulative progress in the field.

The chapter is structured as follows. Firstly, I will provide a brief overview of the findings of some of the key papers synthesising business model literature, highlighting the key theme which appears in many papers: business models as ways of categorizing firms. Then, I will turn to the literature on categorization: I will lay down the foundations for the argument by discussing three major perspectives which explain how things are categorized: causal-essential perspective (or natural kinds), similarity-based perspective, goal-based perspective. In the three subsequent sections I explore how these different perspectives are evident in the way scholars conceptualize business models. Rather than providing yet another literature review of the field, this chapter aims at revealing different ontological assumptions of behind different conceptualizations of business models evident in the literature.

2. Business model literature overview

Back in 2005 Osterwalder and colleagues noted that “fuzziness and confusion about business models stems from the fact that when different authors write about business models they do not necessarily mean the same thing” (Osterwalder et al., 2005). A more recent review suggests that the

field still is in need of more cumulative and integrative research, with fundamental basic research streams (Klang et al., 2014). In an attempt to move the field forward review papers summarizing the state of the field and outlining different streams of research are published frequently. The recurring theme among them is that business models are found to be useful to differentiate between kinds of firms. Below I will highlight the main findings of some of the most cited business model literature reviews (Osterwalder et al., 2005; Morris et al., 2005; Zott et al., 2011), supplementing them with a less cited, but recent review (Lambert & Davidson, 2013); these are presented below in chronological order.

One of the first papers which tries to synthesise business model literature is by Morris and colleagues (2005). The authors see business models as a unifying unit of analysis which can be useful for facilitating theory development in entrepreneurship (Morris et al., 2005). In trying to answer the question “what is a business model?” the authors acknowledge the lack of definition consensus and confusion in terminology, “as business model, strategy, business concept, revenue model, and economic model are often used interchangeably” (Morris et al., 2005, p.726). Based on the synthesis of research to date, they identify key “building blocks” of a business model, which together allow to describe, or articulate a firm’s business model. While the authors talk about the possibility of existence of different “business model archetypes” (Morris et al., 2005, p.734), they do not probe this idea further in their paper.

One of the first papers to clearly recognize a business model as a way of classifying firms is a paper by Osterwalder and colleagues (2005). They find a number of meanings attached to the concept of business model: types of business models (e.g. direct-to-customer model), concrete real world instances of business models (e.g. the Dell model) or concepts (elements and relationships of a model). In their attempts to clarify business models they identify three different approaches, which can be hierarchically linked to one another:

- 1) “Overarching concept”: business model concept as an abstract overarching concept that can describe all real world businesses.
- 2) “Taxonomies”: business models as abstract types of organisations (i.e. a classification scheme). This level consists of several types of business models that are generic, but contain common characteristics.
- 3) “Instances”: conceptualization of a particular real world business model: concrete real world business models, representations, and descriptions of real world firms.

In identifying these approaches this paper is also one of the first ones to clearly differentiate between different levels of abstraction in conceptualizing business model: from abstract types to concrete instantiations. Developing further the theme of business models as taxonomies, the authors differentiate between different degrees of conceptualization: “the types and models can be, but are not necessarily a sub-class of an overarching business model concept” (Osterwalder et al., 2005, p.10). Also, the business model taxonomies do not necessarily apply to businesses in general, but to specific industries, such as biotechnology, WLAN, computing, Mobile-Games or even trafficking in women (Osterwalder et al., 2005, p.10). While making this important observation, the authors do not clarify the origins of these different conceptualizations of business models, or the implications for theorizing.

In their comprehensive literature review Zott and colleagues (2011) find, that despite the lack of agreement on business model definition and the literature developing in silos, there is some consensus among business model scholars, specifically: the business model is emerging as a new unit of analysis; business models emphasize a system-level, holistic approach to explaining how firms “do business”; firm activities play an important role in the various conceptualizations of business models that have been proposed; and business models seek to explain how value is created, not just how it is captured. The authors find that business model concept has been employed mainly in trying to address or explain three phenomena: e-business and the use of information technology in organizations,

strategic issues, such as value creation, competitive advantage, and firm performance, specifically, innovation and technology management (Zott et al., 2011). They note that business model concept was especially used for description of generic e-business models typologies as “an attempt to describe and organize around typologies and taxonomies the plethora of new perceived business archetypes enabled mainly by Internet technologies” (Zott et al., 2011, p.1025).

In a more recent review of scholarly articles which employ the concept of business model in empirical studies from 1996 to 2010 Lambert & Davidson (2013) find three dominant themes, which are similar to those identified by Zott and colleagues in their review: the business model as the basis for enterprise classification; business models and enterprise performance; business model innovation. The authors note that the difficulty in empirical research on business models stems from lack of a “general classification of business models based on many business model attributes” (Lambert & Davidson, 2013, p.677). They find that business model classifications “vary widely in terms of criteria used and number of types derived revealing a multi-tude of researcher perspectives” (Lambert & Davidson, 2013, p.676). The paper makes an important contribution in highlighting the ways the business model concept contributes to empirical research in management. However, the authors make no attempt at uncovering the source of the divergence in the business model classifications.

Common to these reviews is that they differentiate between the streams of research based on themes which explicitly surface in the business model literature. It appears that the diverse literature agrees on one thing: that business models somehow help scholars and practitioners to differentiate between different kinds of firms. Recently this view has been explored by Baden-Fuller and Morgan (2010): “Scholars recognise that firms for all sorts of reasons - do not all behave the same: but nor are they all completely different, for if they were, every firm would appear to have a different business model... business models ... are generic kinds of behaviour which are distinctly different” (Baden-Fuller & Morgan, 2010, p.159). While there is a broad agreement that business models provide a way to differentiate between firms and categorize them, there is also acknowledgement of a great variety

of ways it is achieved by different scholars. The questions of the sources and implications of the variety of the business model classifications have not been investigated to date. In order to reflect on this question in an informed way, it may be useful to build on the insights from the field which deals with the way humans categorize things – categorization.

3. Theories of categorization

The field of categorization is preoccupied with the fundamental question of sensemaking, “What is it?”, or, more specifically, “What kind of thing is it?” locating an entity within a broader system of meaning (Glynn & Navis, 2013, p.1125). Categorization is a cognitive process which creates shared meaning among actors, allowing to coordinate action: “In the context of markets and organizations, categories provide a cognitive infrastructure that enables evaluations of organizations and their products, drives expectations, and leads to material and symbolic exchanges... Categories more generally act as resources for action and coordination among economic actors who share cognitive models” (Durand & Paoletta, 2013).

Durand and Paoletta (2013) note, the cognitive science literature has not yet reached full agreement about a general model of categorization (e.g. Murphy, 2002). However, there is a broad agreement that there are currently three different perspectives which explain the cognitive process of categorization (Durand & Paoletta, 2013, Rehder, 2003; Hampton, 1998): causal-essential perspective, similarity-based perspective, and goal-based perspective. The three perspectives highlight the different ways of reasoning about categories and concepts: causal-essential perspective implies discovery of objectively existing natural categories; similarity-based perspective implies that categories are the result of perceived similarity between entities; goal-based perspective implies that categories are emergent and are not independent from actor’s goals. Research on categorization focuses on untangling nuances of possible overlaps and interactions of those perspectives. For example, there is a possibility is that the causal-essential categorization and similarity-based

categorization operate side-by-side, each making an independent contribution to the ultimate categorization decision (Wisniewski & Medin, 1994, as cited in Rehder, 2003, p.740). In the following sub-section I will elaborate these perspectives (see Table 1 in appendix for summary).

3.1. Causal-essential categorization

Causal-essential perspective to categorization suggests that distinctive characteristics of natural kinds arise from the rich causal structure organized around a central feature which such kinds are thought to possess (Rehder & Hastie, 2001, p.325). According to this view of categories, which goes back to Plato, people believe that the world comes to us pre-divided; our theories will be those which “carve nature as its joints”, unveiling the natural kinds (O’Rourke et al., 2011), however disguised they are.

Natural kinds feature in laws of nature and, consequently, scientific explanation; “they are individuated by essences, which may be constituted by unobservable (or “theoretical”) properties; and they are conceiver-independent classifications of what is there in the world”; uncovering relations between properties of natural kinds results in taxonomies (Wilson, 1999, p.187). Thus taxonomies are discoveries rather than inventions (O’Rourke et al., 2011). Taxonomies comprise vocabulary of science, and have two basic functions: “to permit an adequate description of the things and events that are object to scientific investigation” and “to permit the establishment of general laws or theories by means of which particular events may be explained and predicted” (Hempel, 1965, p.139).

This categorization perspective is supported by the recent research in experimental psychology demonstrating the effects of psychological essentialism – the human belief that the deep underlying features that constitute the essence of a category are presumed to generate the more perceptual features (Rehder & Hastie, 2001, p.325). Roughly speaking, “essentialism is the view that categories have an underlying reality or true nature that one cannot observe directly but that gives an object its identity... according to essentialism, categories... are real, in several senses: they are discovered

(rather than invented), they are natural (rather than artificial), they predict other properties, and they point to natural discontinuities in the world” (Gelman, 2003, p.3).

Psychological essentialism has manifested itself in various domains of knowledge. For example, the idea that biological species have a fixed and permanent essence has been found in many cultures, and, as some think, delayed acceptance of evolutionary theory (Hull, 1965). Children as young as four use essentialist reasoning about human kinds such as ethnic groups, as evidenced by their belief that race is more heritable and stable over time than other attributes (Hirschfeld, 1994; Hirschfeld, 1996). Putnam (1975a; 1975b; 1988) has argued that the presence of sciences devoted to the study to natural kinds reflects our belief that there are natural kinds which possess nonobvious characteristics that enter into lawful relationships (Putnam, 1975a; Putnam, 1975b; Putnam & Putman, 1988, as cited in Rehder & Hastie, 2001). A causal-essential model introduces a hierarchy among features, in that one feature causes another, which can be used when categorizing entities (Durand & Paoletta, 2013, p.8).

Central to the advances of science in the 19th century was the view of classifications as unveiling of natural kinds. While there may be other classifications which serve different purposes, only classification which reveal natural kinds are seen by essentialist scholars as scientific: for example, Augustin Pyrame de Candolle, a Swiss botanist who in the beginning of 19th century demonstrated decisively the inadequacy of Linnaean classification of plants, draws clear distinction between “natural methods” of classification, which are aimed at revealing the natural kinds, and “artificial methods” of classification, which may fulfil other goals of those constructing the classification (de Candolle, 1813).

From this perspective “natural” classifications are seen to be dictated by reality itself; their development involves development of correct theories which reflect the reality through formation of concepts and statements and of relations between those concepts (Hempel, 1952). However, as de Candolle points, not all taxonomic work has the goal of theory building. The goals of taxonomic work

may include improved communications based on achieving economy of memory and easing of manipulation of the phenomenon of concern (Sokal, 1974). Such classifications are seen as “artificial”, or “manmade”; they are based “superficial resemblances or external criteria” (Hempel, 1952). The classification criteria are seen as arbitrarily established based on the goals of classification.

Causal-essentialist perspective to categories has been predominant not only in natural sciences, but in social sciences as well. Whereas there has been a long-standing debate about epistemological foundations of economics, during the 20th century there has been a strong and vocal camp of those considering economics as science akin to natural sciences, especially as economists moved from verbal descriptions of general laws towards reasoning based on mathematical models at the turn on 20th century (Morgan, 2009). The intent of model-building in economics is to ultimately tell something about the real world (Sugden, 2000, p.1). The classifications produced with the help of these models are thought to reveal the “natural kinds”.

An example of such “natural kinds” revealed by economics are types of firms – such as monopolists, oligopolists, etc. Originating in the first half of 20 century (Mason, 1939; Bain, 1956), this classification of firms is based on the structure-conduct-performance paradigm, which explains heterogeneity in firm performance based on structure of the industry a firm operates in (Barney & Hesterly, 2006, p.127). Originally the purpose of the framework was to identify industries which were less than perfectly competitive, and thus require anti-trust regulation to maximise social welfare (Weiss, 1975). The structure-conduct-performance framework postulated a one-way chain of causation running from industry structure (firm concentration) to firm conduct (pricing) to market performance (profitability, innovation). The central claim was that high concentration would lead to high prices and thus high profits. Recognizing that free entry by competing firms ought to quickly erode these profits, significant barriers to entry would then be required to maintain a concentrated structure (Ellickson, 2014). The framework identifies spectrum of market types (and hence firm types operating in these markets): from pure competition to pure monopoly. Analysing a cross section of

US manufacturing industries, Bain (1956) documented a significant correlation between scale economies and concentration, consistent with the framework's predictions. The rapid increase in available datasets facilitated the production of many such studies throughout the 1960s and 1970s²⁰. During the 80s game-theoretic approaches were used to model behaviour and performance in these imperfectly competitive markets (Shapiro, 1989).

“Interestingly, strategic management researchers have turned the original intent of structure-conduct-performance paradigm upside-down” (Porter, 1981; Barney, 1986). Whereas original research was designed to help government regulators to increase competition in an industry, “strategic management researchers have used structure-conduct-performance insights to suggest strategies firms can implement that have the effect of reducing competition in an industry, and thus enabling firm in an industry to earn above normal returns” (Barney & Hesterly, 2006, p.127).

3.2. Similarity-based categorization

Up until recently the similarity-based categorization theories - prototype theory and exemplar theory - have been seen as the dominant theories of categorization (Rehder, 2003). Prototype theory of categorization was offered by cognitive psychologists Rosch and Mervis (1975). According to this theory many categories are organized not around definitive boundaries, but by graded similarity to the category's prototype. Prototype for a category consists of the most common characteristics associated with the members of the category. Categorization can be predicted by determining how similar an object is to a prototype, and different members of the same category differ in how typical they are of the category (Weiner et al., 2012, p.606).

The important distinction of this theory is that the subject of the investigation is not the category itself, but the cognitive processes by which categories are formed: “Categorization should not be considered the arbitrary product of historical accident or of whimsy but rather of psychological

²⁰ Bain and later contributors to the SCP literature identified other industries that did not feature these production economies yet still remained concentrated due to intensive investment in advertising and/or research and development.

principles of categorization, which are subject to investigation” (Rosch, 1999, p.189). Rosch identifies two fundamental psychological principles of categorization: the principle of cognitive economy, and the principles of perceived world structure (Rosch, 1999, p.190). The principle of cognitive economy asserts that to categorize a stimulus means not only to equivalent it to other stimuli in the same category, but also to differentiate it from stimuli not in that category. The principle of perceived world structure asserts “that perceived world is not an unstructured set of equiprobable co-occurring attributes. Rather, the material objects in the world are perceived to possess high correlation structure” (Rosch, 1999, p.190). In a series of experiments Rosch and Mervis (1975) demonstrate these principles, finding that the members of categories which are considered most prototypical are those with most attributes in common with other members of the category and least attributes in common with other categories. For example, “a smallish set of the simple properties are individually necessary and severally sufficient to pick out all and only, say, the birds, from everything else in the world” (Armstrong et al., 1983, p.267), with robin being a better prototype for a category of birds than, for example, ostrich.

Rosch and Mervis (1975) consider that a category prototype is an abstract representation that encodes the salient, or average, attributes of the category members, but is not an actual member of the category. An alternative theory suggests that a prototype is an actual member of the category (e.g., the average or extreme member of the category), instead of being an abstract summary representation of that category (Nosofsky, 1988). In this theory, people represent categories by storing individual exemplars in memory, and classify objects based on their similarity to these stored exemplars. For example, people represent the category of “birds” by storing in memory the vast collection of different sparrows, eagles, ostriches etc., which they have experienced. If an object is sufficiently similar to some of these bird exemplars, they tend to classify the object as a “bird” (Nosofsky, 2011, p.18).

Similarity-based perspective to categorization addresses not only objects, but also social entities. Firms operating in particular industries have prototypes: for example, prototype for

“microbrewers” include features such as small-scale production, employment of traditional hand-crafted methods and ingredients (Carroll & Swaminathan, 2000). Recognizing that categorization takes place in the social context, Glynn and Navis (2013) advocate that our view of categorization should move beyond individual cognition. They suggest viewing categorization as socio-cultural process, which should explicitly consider the role of audiences and the embeddedness of categories in wider classification systems (2013, p.1124). “Although categories have structural properties as members of classification systems, it is their meanings – emotional, behavioural, social, or economic – that are likely to play the most important role in explaining organizations in terms of their identities and actions” (Glynn & Navis, 2013, p.1134).

Because categorization has profound consequences for social actors, categories are often negotiated between different interest groups, which involves political struggles between different interest groups (Zhao, 2005). For example, dominant producers influence the way media portrays established market categories to serve their interests (Lounsbury & Rao, 2004); organizations strategically associate themselves with different category labels (Granqvist, 2013).

3.3. Goal-based categorization

An alternative theory is offered by cognitive psychologist Barsalou (1983), who suggested a new type of categories, ubiquitous in everyday cognition, but less studied. These are goal-based categories (or ad hoc categories) - novel categories “constructed spontaneously to achieve a goal relevant in the current situation” (Barsalou, 2010). In this view categorization of the world may vary from time to time – based on individual’s goals at the moment of categorization. Audiences constantly form new categories depending on specific goals they may be pursuing, and group together items from different domains of knowledge and even from different time periods (Durand & Paoletta, 2013, p.9). Barsalou (1983) suggests that individuals elaborate these categories according to their needs and goals, creating goal-derived categories to assist them in understanding and handling large amounts of novel information in the way most appropriate to their goal (Durand & Paoletta, 2013, p.9).

Emergence of an ad hoc category involves prior intentions. Audiences' mental representations of categories follow a top-down logic: audience members first define a goal, and only afterwards do they observe and organize the reality into categories of objects likely to help them reach their goal (Durand & Paoletta, 2013, p.10).

Established categories often reflect pre-existing structure in the memory, have a typical category member, a well-established representation. They have a strong concept to instance relationship, and a stable relation to environment (Barsalou, 2010). Goal-based categories, on the contrary, are novel because they typically have not been entertained previously, are constructed spontaneously and do not reside as knowledge structures in long-term memory waiting to be retrieved (Barsalou, 2010). However, when ad hoc categories are used frequently they become highly familiar and well established in memory: "once established, the instantiations of an ad hoc category are encoded into memory and become increasingly well-established through frequent use" (Barsalou, 2010). People use well-established and ad-hoc categories for different reasons: common well-established categories are used "to build world models that represent the current state of the known environment... In contrast, people use goal-derived categories to interface world models with event frames for achieving goals" (Barsalou, 1991). Conceptually, "people combine existing concepts for objects, events, settings, mental states, properties, and so on to form novel conceptual structures" (Barsalou, 2010). Examples of goal-based categories are ubiquitous in the social world. For example, Financial Conduct Authority categorises firms based on the impact of disorderly failure of a firm could have on markets and consumers²¹.

²¹ <http://www.fca.org.uk/firms/being-regulated/fca-firm-classification>

3.4. Onto business models

Understanding these different perspectives to categorization allows to take a new view of the business model literature – that of questioning the reasoning behind different business model categories, and the ontological status of the business model concept implied by different scholars. Causal-essential perspective implies discovery of objectively existing natural categories; similarity-based perspective implies that categories are the result of perception, more specifically, of perceived similarity to a prototype, or exemplar; goal-based perspective implies that categories are emergent. Consequently we can differentiate between different ways of reasoning about business model concept.

I find that the three different ways of reasoning about categories are evident in the way scholars reason about business models. Firstly, there are scholars who take causal-essentialist perspective, and believe that business models, abstract or embodied in firms, are “natural kinds”, which encompass objectively existing cause-effect relations. For example, a stream in the business model literature grounds understating of different business models in economics (Baden-Fuller & Haefliger, 2013; Baden-Fuller & Mangematin, 2013; Baden-Fuller et al., 2015; Zott & Amit, 2010; Casadesus-Masanell & Ricart, 2010; Teece, 2010). Secondly, an emerging group of scholars treats business models as prototypes and focuses on the cognitive processes associated emergence and consequences of business model prototypes (Martins et al., 2015; Furnari, 2015; Enkel & Mezger, 2013). Finally, some business model scholars take a fresh perspective to business models exploring what goals they allow actors to achieve, and conceptualizing them as performative representations (Perkmann & Spicer, 2010; Doganova & Eyquem-Renault, 2009).

4. Business models as natural kinds (causal-essential perspective)

Moving onto business model literature, I would like to start with the perspective to business models which is consistent with causal-essential categorization perspective and has been the

dominant perspective in the business model field. I will discuss the evolution of the perspective to business models as “natural kinds” in the business model field.

Within the causal-essential perspective to business models there is a clear distinction picked up by Osterwalder and colleagues (2005) and often implicitly present in many papers: a) business model as abstract overarching concept; b) instantiations, or particular examples of real-world business models embodied in firms²².

A representative example of the former approach (a) is Baden-Fuller & Morgan (2010), who conceptualize business models as “models”, and Teece (2010), who talks about business model as logic of value capture and value creation. Good examples of the latter approach (b) is Zott & Amit (2010), who define a business model as activity system of a particular firm, and Casadesus-Masanell and Ricart (2010), who also conflate notions of business model and firm. Common to this latter approach is that business models are often seen as inseparable from the firm and / or its environment and they focus on a more nuanced analysis of specific instances; the taxonomies, if developed, are often industry specific. I will discuss some of the inconsistencies found within these perspectives, highlighting the sometimes confusing issue: in which sense they are business models are “cognitive phenomenon”, and in which sense they are “natural kinds”. Common to these approaches is that they take causal-essentialist perspective to business models, assuming there are objective causes for different business models to exist, and they can be found.

4.1. Business model as abstract concept

A significant portion of literature on business models has been devoted to building taxonomies of business models in different industries, such as ecommerce (Amit & Zott, 2001) and biotechnology

²² Massa & Tucci (2013) make a similar point with regards to the level of abstraction of tools which support business model innovation, which could be “structured into several levels of decomposition with varying depth and complexity depending on the degree to which they abstract from the reality they aim to describe” (2013, p.431). This distinction is also consistent with the notion of business models as types and business models as tokens discussed in the chapter 1.

(Bigliardi et al., 2005). However, until recently researchers have been largely unreflective about what kind of “kinds” business models are, how these “kinds” inform us, and why do we have them in the first place.

Some scholars make a point of understanding business models as “natural kinds”, reflecting objectively existing cause-effect relations. This line of thinking about business models goes back to Chesbrough (2007) and Teece (2010). In this line of thinking business models are seen as logic of value capture and value creation employed by the firm. Therefore, business models are seen as not equivalent to firms themselves or technology they are employing, but rather as a more general principle which can be abstract from both the firm and the technology.

While Chesbrough, in defining open business models, focuses more on the process of business model innovation rather than theorizing clear types, he was the first business model scholar who clearly differentiated between business model and technology: “Today, innovation must include business models, rather than just technology and R&D. Business models matter. A better business model often will beat a better idea or technology” (Chesbrough, 2007, p.12). Teece (2010) shares similar view that business models are separable from technologies: “Business models are often necessitated by technological innovation which creates both the need to bring discoveries to market and the opportunity to satisfy unrequited customer needs. At the same time ... new business models can themselves represent a form of innovation” (Teece, 2010, p.176). More recently this view has been developed by Baden-Fuller & Haefliger (2013): “Technology development can facilitate new business models the most obvious historical example is the way the invention and development of steam power facilitated the mass production business model. But, business model innovation can also occur without technology development, as occurred in the 1980s when the Japanese pioneered the “just in time” production system” (p.419).

However, Teece goes further to differentiate firm’s business model from firm’s strategy: “... a business model is more generic than a business strategy. Coupling strategy analysis with business

model analysis is necessary in order to protect whatever competitive advantage results from the design and implementation of new business models. Selecting a business strategy is a more granular exercise than designing a business model” (Teece, 2010, p.180). While both Teece and Chesborough recognise business model as distinct concept which can be abstracted from its immediate context and firm itself, they focus more on the process of business model design (in the case of Teece) and business model innovation (in the case of Chesborough), and stop short of developing business model as a category, or natural kind.

More recently there have been attempts of developing a concept of business model as a theoretically grounded way of classifying firms: “business model is not a complete description of everything the firm does, including the technology, but something more general that goes beyond explaining what has happened in a particular context to providing a configuration of cause–effect relations” (Baden-Fuller & Mangematin, 2013, p.419). The authors claim that they study business models “not just as “real phenomena” but as “cognitive instruments” (Baden-Fuller & Mangematin, 2013, p.418). However, they clearly indicate that, in their view, business models are real in a sense that they are “natural kinds” as they “embody important understanding of causal links between traditional elements in the firm and those outside” (Baden-Fuller & Mangematin, 2013, p.418).

It appears that the authors stress the cognitive aspect of business models because it is the cognitive engagement with the business models as natural kinds is seen as fruitful for both practitioners and academics: “Seeing business models as generalized but potentially alterable configurations can help industry managers think about how to act in future states of the world and can also assist researchers in developing new theories” (Baden-Fuller & Mangematin, 2013, p.419). In the paper the authors provide a framework which allows describing business models by answering questions about: 1) how a firm identifies the firm’s targeted user and customer groups; 2) firm’s value proposition (“bus” or “taxi”); 3) value capture system; 4) value chain and linkages, or mechanisms the firm uses to deliver its product or service to the customer. However, the authors do

not explicate the cause-effect relations between the identified components of the framework. This business model framework may be more useful for articulation of a business model of a given firm rather than a typology.

In fact, Teece (2010) points that the difficulty with the concept of business model (and with developing a typology of business models) stems from the lack of theoretical grounding in economics, as “economic theory implicitly assumes that trades take place around tangible products... there are no puzzles about how to design a business, it is simply assumed that if value is delivered, customers will always pay for it” (p.175). However, in reality, especially with the advent of internet, “intangible products are in fact ubiquitous, two-sided markets are common ... markets may not even exist, so entrepreneurs may have to build organizations in order to perform activities for which markets are not yet ready” (Teece, 2010, p.175).

Recently scholars have advanced theorizing on business models by further grounding it in economic theory and economic sociology. The starting point of this argument is that because relations with customers are central to business models, it is useful to theoretically root this concept in sociological-economic literature (Baden-Fuller et al., 2015). Specifically, Baden-Fuller and colleagues build on Granovetter’s (1985) embeddedness view and Simmel’s (1950) insights on the fundamental difference between social relations involving just two versus three or more parties. Following this view, there is a fundamental difference between single-sided business models and multi-sided business models.

Within traditional single-sided business models further differentiation is between product business models and work-for-hire business models (Baden-Fuller et al., 2015). This distinction is based on Grant (1996), who points out that making a product at scale requires a different process for dealing with and delivering its knowledge from providing work-for-hire. “Under work-for-hire business model, the user-customer is engaging directly with an individual or team in which

knowledge is typically embodied. In contrast, when the product is made at scale, there is a separation between the team making the product and the user” (Baden-Fuller et al., 2015).

Multi-sided business models were first described by Rochet and Tirole (2003). “The fundamental role of a two-sided platform in the economy is to enable parties to realize gains from trade or other interactions by reducing the transactions costs of finding each other and interacting” (Evans & Schmalensee, 2007, p.151). Multi-sided markets (and consequently, multi-sided business models in these markets) are the ones which satisfy the following two criteria: 1) two sets of agents interact through an intermediary or platform, and 2) the decisions of each set of agents affects the outcomes of the other set of agents, typically through an externality (Rysman, 2009, p.125). These businesses serve distinct groups of customers who need each other in some way, and the core business of the multi-sided platform is to provide a common (real or virtual) meeting place and to facilitate interactions between members of the two distinct customer groups.

Multi-sided business models play an important role throughout the economy by minimizing transactions costs between entities that can benefit from getting together (Evans & Schmalensee, 2007, p.151). There are many examples of such business models, such as search engines, newspapers, advertiser-supported (Rysman, 2009, p.125). Within multi-sided business models further differentiation is between market-matchmaking and platform business models. “Whilst the total economic outcome – e.g. volume, profits – generated on market-matchmaking structures is obviously dependent on the level of fees charged by the owner of the market; it is independent from the price structures (Rochet & Tirole, 2006) because the actual value for buyers and sellers lies in being matched together” (Baden-Fuller et al., 2015). Whereas in the case of a platform business model “the relation between two or more customer groups always requires the presence of a specific platform owner and a price structure such as a membership fee in addition to the price agreed between the buyer and the seller” (Baden-Fuller et al., 2015).

4.2. Business model conflated with firm

Another dominant theme in the literature has treated business models as descriptions of how business is done (Magretta, 2002), identifying the underlying elements or components that detail what the business model is at the level of the firm. Common to these approaches is that they conflate the notion of “business model” with that of “firm”.

A good example of this approach is - one of the most established perspectives in the field offered by Zott and Amit (2010) - which conceptualises business model as an interdependent activity system of a focal firm. While the authors share the broad view that a business model has to do with value capture and value creation, their focus is on the activity system that “enables the firm, in concert with its partners, to create value and also to appropriate a share of that value” (Zott & Amit, 2010, p.216). In this interpretation business model are seen as overlapping with the firm itself, and possibly extending beyond the boundaries of the firm: “firm’s activity system may transcend the focal firm and span its boundaries, but will remain firm-centric to enable the focal firm not only to create value with its partners, but also to appropriate a share of the value created itself” (Zott & Amit, 2010, p.217–218). Also, a business model is seen as tangible and not separable from a firm itself, rather than an abstraction: “An activity in a focal firm’s business model can be viewed as the engagement of human, physical and/or capital resources of any party to the business model (the focal firm, end customers, vendors, etc.) to serve a specific purpose toward the fulfilment of the overall objective” (p. 217-218). Zott & Amit (2010) introduce a dimension to their conceptualization of business model which hints at a classification: they mention four “design-themes” which orchestrate and connect the elements of an activity system:

- “Novelty: the essence of novelty-centred activity system design is the adoption of new activities (content), and/or new ways of linking the activities (structure), and/or new ways of governing the activities (governance);

- “Lock-in”: activity systems can also be designed for lock-in, their power to keep third parties attracted as business model participants. Lock-in can be manifested as switching costs, or as network externalities that derive from the structure, content and/or governance of the activity system;
- “Complementarities”: complementarities are present whenever bundling activities within a system provides more value than running activities separately;
- “Efficiency”: efficiency-centred design refers to how firms use their activity system design to aim at achieving greater efficiency through reducing transaction costs” (p. 221).

However, it remains unclear how exactly the authors arrive to this classification. They mention that conceptual and empirical research led them to identify those themes, but do not provide any elaboration or theoretical grounding for this. The authors neither make generalizations from their descriptions, nor explain the rationale behind the different business model kinds. In fact, it appears that in identifying novelty, lock-in, complementarities and efficiency business models they themselves employ similarity-based categorization: they identify types of business models based on perceived features common with an abstract prototype they have.

Casadesus-Masanell and Ricart (2010) also share the view that business model is an activity system (p. 203) and is inseparable from a firm, being realization of its strategy. In developing this view they draw analogy between a business model and an automobile, and focus on managerial agency in business model design and change: “... different automobile designs have different specific logics of operation... To assess how well a particular automobile works - or to create a new one - one must consider its components and how they relate to one another, just as, to better understand business models, one needs to understand their component parts and their relationships” (p. 197). The authors then proceed to explain that business models are made of “two different sets of elements: (a) the concrete choices made by management about how the organization must operate, and (b) the consequences of these choices” (p.198). They suggest using a causal loop diagram, where choices

and consequences are linked by arrows based on causality as a useful way of representing a business model (p. 198).

They then proceed to illustrate this approach by analysing business model of Ryanair, decomposing it to the elements (choices and consequences of those choices) and depicting it in a diagram (Casadesus-Masanell & Ricart, 2010, p.199). In this sense the diagram does reveal some perceived cause-effect relationships in the business model of the firm. In the paper the authors skilfully draw a convincing and useful representation of Ryanair's business model. However, they do not explain in detail exactly how to differentiate between choices which are consequential to the business model and which are not. In fact it appears that the authors focus on perceived features and develop their own representation of a particular's firm business model. In this sense what they do is consistent with similarity-based reasoning about concepts, and they do not develop a natural kind elaborating or theorising causes behind what they describe.

Some scholars, while still taking the causal-essential view of business models, point that there are also important cognitive elements. The first paper discussing cognitive aspects of business model is by Tikkanen and colleagues (2005). They conceptualize business model as "the sum of material, objectively existing structures and processes as well as intangible, cognitive meaning structures at the level of a business organization" (Tikkanen et al., 2005, p.3). By material, objectively existing aspects of business model they mean "the tangible elements of a company's strategy, business network, operations, and finance and accounting"; by the cognitive aspects of a business model they mean "the systemic meaning structures or the belief system of a company" (Tikkanen et al., 2005, p.3). As belief system is the driver for decision making and action, business model change comes from interaction between managerial actions and their outcomes manifested in realized economic exchanges and business results (Tikkanen et al., 2005, p.3).

More recently this view is picked up by Doz and Kosonen (2010). They suggest that business model can be viewed both objectively and subjectively (Doz & Kosonen, 2010, p.370): "Business

models can be defined both objectively and subjectively. Objectively they are sets of structured and interdependent operational relationships between a firm and its customers, suppliers, complementors, partners and other stakeholders, and among its internal units and departments (functions, staff, operating units, etc.). These “actual” relationships are articulated in procedures or contracts and embedded in (often) tacit action routines. But, for the firm’s management, business models also function as a subjective representation of these mechanisms, delineating how it believes the firm relates to its environment. So business models stand as cognitive structures providing a theory of how to set boundaries to the firm, of how to create value, and how to organise its internal structure and governance” (Doz & Kosonen, 2010, p.370–371).

Clearly, even some of those researchers taking causal-essential perspective to business models, also engage with the idea that business models may be residing in the realm of cognitive rather than objectively existing world (see Table 2 in appendix for summary). In a recent paper Furnari (2015) develops the view of business models as cognitive maps describing a business’ value creation and value capture activities. Specifically, this paper focuses on business model’s causal structure – “the pattern of cause-effect relations that, in top managers or entrepreneurs’ understandings, link value creation and value capture activities” (Furnari, 2015). The author gives the example of Kodak case, in which top managers had all the necessary elements to construct a new business model, but failed to see the connections between those elements. This inability to see the often hidden causal connections in business models leads to poor strategic choices. Conceptualizing business models as cognitive maps allows decision makers to reveal these hidden aspects of business model’s causal structure, and consequently, make better, more informed decision (Furnari, 2015).

It is interesting that the author implies that cognitive maps of business models, while are a product of cognitive process of managers, are in fact the correct representations of reality. Developing cognitive maps for business models is indeed a fruitful avenue for designing a useful tool for practitioners. However, assuming that cognitive maps reveal objective reality may be limiting for the

potential of the tool. Teece (2010) points that business models reflect implicit managerial assumptions about customers, the behaviour of revenues and costs, the changing nature of user needs, and likely competitor responses (Teece, 2010, p.173–174). Using cognitive maps for business models may be useful for revealing these implicit assumptions, which may originate in, for example as Tikkanen and colleagues (2005) point, industry beliefs system (Spender, 1989), such as product categories (Porac, Ventresca & Mishina, 2002). In fact, reasoning about business models as causal maps, or cognitive structures, is closer to similarity-based reasoning than causal-essential reasoning, because such conceptualization implies examining how different features of business models are perceived.

5. Business models as prototypes (similarity-based perspective)

Scholars of business models are increasingly paying attention to cognitive aspects of business models, where business models are often seen as “cognitive meaning structures” (Tikkanen et al., 2005, p.3), or prototypes that can be abstracted from a firm. These studies may or may not refer to business models as abstract or concrete prototypes. However, common to these approaches is that, like in case of similarity-based categorization, they focus on the cognitive processes which lead to the emergence of cognitive structures, which can be investigated, and are conscious that those structures arise from perceived elements of business models (see Table 3 in appendix for summary).

A good example of this emergent stream of research is a series of case studies by Martins and colleagues (2015). Their research builds on the cognitive perspective in strategy research (Barr et al., 1992; Gavetti et al., 2007; Gavetti & Rivkin, 2007; Narayanan et al., 2011). Martins and colleagues (2015) theorize “how two cognitive processes that individuals use naturally to cope with novelty - analogical reasoning and conceptual combination - can be developed as firm-level strategic processes to ideate and design new business models” (Martins et al., 2015, p.100). They theorise business models as schemas, or cognitive structures consisting of concepts and relations among them. These

schemas organize managerial understandings about the design of activities and exchanges, and “reflect the critical interdependencies and value creation relations in their firms’ exchange networks” (p. 105). Business models are seen as prototypes abstracted from firms and its immediate environments, although firms are seen as instantiations of these prototypes. Martins and colleagues (2015) analyse case of the Tesla Motors, which used the analogy with business model of Apple computers to position its distinctive technology favourably relative to the dominant design technology in the auto industry (Martins et al., 2015, p.107).

In fact, the important role of the process of analogical reasoning in business models design and innovation, which necessarily entails the view of business models as prototypes, is increasingly supported by research and practice. For example, there is a documented case of Nestlé: the company implemented its capsule-based espresso business Nespresso borrowing business model elements from other industries: their revenue mechanism reflected the “razor-blade/printer-ink model” of Gillette or Hewlett-Packard; their distribution system was based on a combination of a closed direct customer relationship, originating, for instance, in book clubs, and the exclusive premium boutiques similar to luxury fashion chains (IMD, 2003). In a recent study Enkel and Mezger (2013) find that companies engage in the process of cross-industry business model innovation through a process of abstraction, analogy identification and adaptation by deconstructing and mapping business model components based on their contribution to abstract, generic elements of the value proposition (Enkel & Mezger, 2013).

The studies drawing on the similarity-based way of reasoning about business models focus on the cognitive process of individual managers, entrepreneurs, and top management teams. Consequently, the resulting business model schemas reflect the outcomes of that process, rather than objectively existing laws. Research shows that managers’ prior experience and cognitive abilities guide their attention in search of source business model (Enkel & Mezger, 2013). Loock and Hacklin

(2015) argue that the cognitive process of business modelling is built on a set of limited number of heuristics – or prototypes – resulting from adaptive and individual managerial behaviours.

Moreover, in a wider social context, emergence of categories is both a cognitive, and a social process. However, surprisingly little has been done to explore the socially and culturally embedded aspect of business models. Scholars in the field of categorization sometimes unwittingly study categories which can be more appropriately described as business models types, rather than product categories. For example, emergence of Nouvelle Cuisine entailed profound change in the profession, as well as the logic of value capture and value creation (Rao & Durand, 2003). Byrkjeflot and colleagues (2013) in their study of new Nordic cuisine emergence find that use of an “empty” label without a previous meaning in food, yet with positive connotations in other domains, allowed establishing a positive abstract notion open to interpretations and different practices (Byrkjeflot et al., 2013, p.36). Chapter 2 of this thesis contributes to this underexplored area: it elaborates the notion of “iconic business models”, which function as culturally shared prototypes, and explains the process of “iconic business model” emergence as emergence of shared category prototype.

6. Business models as performative representations (goal-based perspective)

Goal-based perspective to categorization implies that the resulting categories, and concepts representing those categories, are emergent, and related to actors’ goals. Consequently, some researchers pose the question of functions of business models and the goals business models allow achieving (see Table 4 in appendix for summary). Instead of trying to abstract a business model from a firm or its context, they focus on how individuals and firms locally engage with a business model and their effects on the immediate context.

In this view scholars focus on business model in practice. Sosna and colleagues (2010), for example, show that business model development is an initial experiment followed by constant fine

tuning based on trial-and-error learning. Rather than being a blueprint or template invented by top management and given to the rest of the organization, business models are seen as discovered, or co-created, by different parts of organization. While business model change can be initiated at the top, it permeates all firm levels and activities for it to become a collectively shared view (Sosna et al., 2010, p.385). Business models come into being through experimentation, evaluation and adaptation - in a trial-and-error learning approach involving all echelons of the firm (Sosna et al., 2010, p.385).

Doganova and Eyquem-Renault argue that business model's function is not limited to a "reflexive exercise enhancing the rationality of the entrepreneur who is writing a PowerPoint presentation or a business plan" (2009, p.1561). They view business models as narrative and calculative devices addressed to third parties, such as customers or investors. Business models circulate across heterogeneous actors endowing it with a performative role: by circulating, it gradually builds the network of the new venture that it represents (Doganova & Eyquem-Renault, 2009, p.1561). Such conceptualization of business models differs from causal-essential perspective, in which business model is a description, or representation, of a reality that exists beyond it; rather it is a pragmatic perspective that envisages people and the tools that they use as performing collective action (Doganova & Eyquem-Renault, 2009, p.1562).

Just like it took some time to appreciate performativity of economic models (Callon, 2006; MacKenzie, 2006), it has only been recently that management scholars start paying attention to performative aspects of business models. Perkmann and Spicer (2010) conceptualize business models, similarly to Doganova & Eyquem-Renault (2009) as performative representation, which function in three main ways: as narratives that convince, as typifications that legitimate, and as recipes that guide social action (Perkmann & Spicer, 2010). Mason and Spring (2011) argue that there is no real separation between business models and market practices. They also recognize that "if business models are more than just descriptions of what a business does, they must have some sort of performative power to shape and influence the actions of others" (Mason & Spring, 2011, p.1039).

They argue that business models form a crucial part of markets; they are not purely detached external representations or virtual abstractions, but engines that make the markets tick (p.1039).

7. Conclusion

Business model is an appealing concept which allows differentiating between different kinds of firms, and there is a general agreement on this in the literature. However, business model scholars do so differently. Many literature reviews note the divergence in the business models conceptualizations, but usually do not reflect on the sources of such divergence. This chapter addresses this question by drawing on the insights from categorization theory, which allows questioning and clarifying authors' ways of reasoning about concepts and assumptions about the ontological status of business model. Some business model scholars envisage business models as manifestations of more fundamental cause-effect relations, some as a prototypes in the minds of managers and entrepreneurs, while others - as enacted by actors pursuing their goals.

Such diversion of views is often seen as making the field itself problematic. This is not necessarily the case. There are many theories of the firm "which both compete in offering rival explanations of the same phenomena, and complement one another in explaining different phenomena" (Grant, 1996, p.109). Similarly, there can be many perspectives to business models, offering complementary explanations of the same phenomenon. However, to achieve the much needed cumulative progress in the field, business model scholars should be more conscious of their own assumptions about the nature of the concept, make those assumptions explicit and be consistent in applying them.

8. References

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9. Appendix

Table 1. Categorization theories

	Causal-essential theory Rehder & Hastie (2001)	Similarity-based theories Rosch & Mervis (1975) Nosofsky (1988)	Goal-based theory Barsalou (1983)
Categorization principle	Based on human belief there are deep underlying features that constitute the essence of a category and result in observable properties; “carve nature as its joints” – categories come pre-determined and need to be discovered.	Categorization is the product of psychological principles of categorization, and based on similarity to prototype.	Individuals create categories according to their needs and goals.
Category membership	Objects that cohere with causal models of audiences.	Objects that share properties with the prototype, which defines the category.	Objects that support the achievement of a common goal.
Example-physical world	Birds can fly because they have wings. Hence robins are ‘better’ birds than chickens or than penguins.	If an animal has a beak, feathers and wings, it is a bird. Hence, robins, penguins, and chickens are birds.	Birds are edible. Hence, chickens are ‘better’ birds than penguins or than robins.
Example-social world	Economists differentiate between types of firms (monopolists, oligopolists, etc.) based on structure-conduct-performance paradigm, which explains heterogeneity in firm performance based on structure of the industry a firm operates in (Barney & Hesterly, 2006, p.127).	Prototype for “microbrewers” include features such as small-scale production, employment of traditional hand-crafted methods and ingredients (Carroll & Swaminathan, 2000).	Financial Conduct Authority categorises firms based on the impact of disorderly failure of a firm could have on markets and consumers ²³ .

²³ <http://www.fca.org.uk/firms/being-regulated/fca-firm-classification>

Table 2. Business models as natural kinds (based on causal-essential theory)

Authors, papers	Business model conceptualization	Ontological status of BM	Comments
<i>Business model abstracted from firm</i>			
Baden-Fuller & Morgan (2010)	Business model as scientific model: 1) means to describe and classify businesses; 2) operate as sites for scientific investigation; 3) act as recipes for creative managers.	Business models as models in the minds of managers or entrepreneurs, but are assumed to accurately reflect objectively existing cause-effect relations.	Managers are assumed to correctly envisage objectively existing cause-effect relations. The nature of the cause-effect relations is not explicated or theorised.
Teece (2010)	Business model articulates the logic and provides data and other evidence that demonstrates how a business creates and delivers value to customers.	Business models in the minds of managers or entrepreneurs, but are assumed to accurately reflect objectively existing cause-effect relations.	It is not clear Teece is consistent in his view of business models, as he also talks about business models reflecting managers' implicit assumptions about the world, which is different from business models as reflecting objectively existing cause-effect relations. The nature of the cause-effect relations is not explicated or theorised.
Chesborough (2007)	Business model as logic of value creation and value capture: articulates the value proposition; identify a market segment, define the structure of the value chain; specify the revenue generation mechanism for the firm; describe the position of the firm within the value network; formulate the competitive strategy	Business models in the minds of managers or entrepreneurs, but are assumed to accurately reflect objectively existing cause-effect relations.	It is not clear Chesborough is consistent in his view of business models: sometimes he talks about business models "a series of activities, from procuring raw materials to satisfying the final consumer, which will yield a new product or service in such a way that there is net value created throughout the various activities". The nature of the cause-effect relations is not explicated or theorised

Baden-Fuller & Haefliger (2013)	Business model as framework which allows describing business models by answering questions about: 1) how a firm identifies the firm's targeted user and customer groups;	Business models in the minds of managers or entrepreneurs: "not just as 'real phenomena' but as cognitive instruments". However, business models are assumed to accurately reflect objectively existing cause-effect relations: "embody important understanding of causal links between traditional elements in the firm and those outside".	Framework useful for articulation and description of business model. The nature of the cause-effect relations is not explicated or theorised.
Baden-Fuller & Mangematin (2013)	2) firm's value proposition ("bus" or "taxi"); 3) value capture system; 4) value chain and linkages, or mechanisms the firm uses to deliver its product or service to the customer.		
Baden-Fuller et al (2015)	Explicitly theorising business model as "natural kind": mutually exclusive and collectively exhaustive business model ideal categories (types)	Objectively existing basic categories of business models instantiated in firms.	The nature of cause-effect relations within business model is theoretically grounded in economic sociology and economics.
<i>Business model conflated with firm</i>			
Zott & Amit (2007)	Business model as activity system that "enables the firm, in concert with its partners, to create value and also to appropriate a share of that value"	Business model is seen as tangible, existing, embodied by firm's activities, not separable from a firm, rather than abstractions.	Focus on nuanced description of specific firms. Four types of business models identified (novelty, lock-in, complementarities, efficiency), but the basis for classification not explicated or theorised. The types are identifying seemingly based on common feature with author's own prototypes for business models.

Casadesus-Masanell & Ricart (2010)	Business model is: 1) concrete choices made by management about how the organization must operate (policies, assets and governance structures); 2) consequences of these choices.	Business model is a reflection of the firm's realized strategy, embodied in choices regarding policies, assets, governance structure of a firm.	In creating a representation of a business model, it is not clear how authors decide which choices are consequential for a business model. It is assumed that the causal relations identified by authors are correct descriptions of reality. The nature of the cause-effect relations is explicated, but not theorised.
Tikkanen et al. (2005)	Business model is "the sum of material, objectively existing structures and processes as well as intangible, cognitive meaning structures at the level of a business organization"	Business model is both part of subjective minds of managers and entrepreneurs (reputational rankings, industry recipes, boundary beliefs, product ontologies), as well as embodied in the firm (strategy and structure, network, operations, finance and accounting)	One of the first papers to explicitly talk about the role of cognition in business model, while still maintaining that business models objectively exist embedded in specific firms.
Doz & Kosonen (2010)	"Business models can be defined both objectively and subjectively"	Business model is both part of subjective minds of managers and entrepreneurs (subjective representation of cause and effect relations), as well as embodied in the firm (operational relationships, procedures, contacts, routines)	While the authors describe business model as being embodied in the firm, they also mention "abstracting one's business model to its conceptual essence without losing sight of its possible contextual dependency", which assumes there is an objectively existing business model which exists regardless of specific firm.

Furnari (2015)	Business model as “the pattern of cause-effect relations that, in top managers or entrepreneurs’ understandings, link value creation and value capture activities”	Business models exist as cognitive structures in the minds of managers or entrepreneurs.	The author implies that cognitive maps, are in fact correct representations of reality, which is consistent with causal view of business models rather than of business models as prototypes, which are inherently subjective.
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Table 3. Business models as prototypes (similarity-based theories)

Authors, papers	Business model conceptualization	Ontological status of BM	Comments
Martins et al. (2015)	Business models as schemas, which “can be defined as cognitive structures that consist of concepts and relations among them that organize managerial understandings about the design of activities and exchanges”	Business models exist as cognitive structures in the minds of managers or entrepreneurs.	This conceptualization explains business model innovation as results of cognitive processes of analogical reasoning and conceptual combination
Enkel & Mezger (2013)	Business models as logic of value creation and capture.	Business models exist as cognitive structures in the minds of managers or entrepreneurs.	The paper does not claim so explicitly, but essentially it talks about business models as cognitive structures: “... focus on the cognitive process of business model innovation: “analysing structural similarities between industries on the level of these abstract elements linked to specific other components of the business model”

Table 4. Business models as performative representations (based goal-based theory)

Authors, papers	Business model conceptualization	Ontological status of BM	Comments
Sosna et al. (2010)	Business models is “the design of transaction content, structure and governance so as to create value through the exploitation of business opportunities”	Business model is discovered, or co-created, by different parts of organization	Goal-based: addresses the question “How does an established organization innovate its business model, which is currently still contributing revenues and profits, but whose future effectiveness is undermined due to changes in the external environment?”
Doganova & Eyquem-Renault (2010)	Business models as narrative and calculative devices addressed to third parties	Business model as performative representation	Pragmatic perspective that envisages people and the tools that they use as performing collective action.
Perkmann & Spicer (2010)	Business models as performative representations	Business model as performative representation	Business models as narratives that convince, as typifications that legitimate, and as recipes that guide social action.

Conclusion

The idea that business models are somehow related to cognition surfaces in many papers (Chesbrough & Rosenbloom, 2002; Tikkanen et al., 2005; Chesbrough, 2010; Baden-Fuller & Haefliger, 2013). Only recently scholars started to seriously explore this relationship (Loock & Hacklin, 2015; Martins et al., 2015). This thesis, by drawing on the broad literature related to cognition, consistently elaborates why and how business models are important for strategic cognition and practice of strategy.

Starting with the idea that language is important for cognition, and that people understand abstract concepts creatively, the thesis grounds understanding of “business models as models” in cognitive science. By doing so it becomes apparent, that the concept “business model” is inherently multifaceted: it is a simplified representation of reality, which can be both that of a particular firm, and of a broader class of firms, and which are there to be imitated. It also becomes apparent why business model as a tool is such an important phenomenon in practice: business model concept implies reasoning about the world by externalizing knowledge and manipulating objects. Acknowledging that business models, like scientific models, contain modeler’s assumptions about the world points as to how business model as a tool can be manipulated.

These representations do not form in the vacuum. Moving beyond individual cognition, this thesis explores the role of business models in social cognition by elaborating the notion of iconic business models – as exemplar prototypes representing categories of organizations. The thesis explores how these representations emerge, become socially shared, and eventually taken for granted and detached from the phenomenon they initially described.

Finally, this thesis reflects on the business model literature more generally, asking the question about ontological assumptions of scholars about business models. It clarifies different ways of reasoning underpinning different conceptualizations of business models, recognizing their merits and pointing to inconsistencies.

One of the key limitations of this work is that within the scope of this thesis I have not applied some of the ideas in the empirical setting. However, this thesis provides conceptual grounding for future work. Based on the ideas developed here, below I briefly outline some ideas for future research, further exploring the role of business models in strategic cognition.

Socio-cognitive process of new category labelling

Conceptualization of business models as socially constructed market categories developed in the chapter 2 of this thesis opens up multiple avenues for research, bridging research on business models and research on market categorization. For example, there are still many questions about emergence of market categories: the literature on categorization has moved away from studying disciplining consequences of market categories towards questions of categories emergence (Koçak et al., 2014; Glynn & Navis, 2013; Navis & Glynn, 2010). Scholars of market categories increasingly focus on the role of language (Cornelissen et al., 2015). Focus on language and communication may be particularly insightful for studying processes of category emergence, contestation and shifts in legitimacy as a result of interactions between producers and audiences and any relevant intermediaries (e.g., the media, rating and accreditation agencies) (Cornelissen et al., 2015, p.23). Particularly, the processes of category emergence can be traced by “focusing on how in the discourse of actors an initially rich set of figurative metaphorical expressions that is used in a tentative way ... settles and contracts over time into a discrete set of idioms and metonymic labels that are used in a standard way as shorthand expressions to designate the established category” (Cornelissen et al., 2015, p.23). This call builds on the work on cognitive linguistics of categories (Barsalou, 1991; Lakoff & Johnson, 1980), which positions language not as only reflective, but also constituting to categorization processes: “substantial empirical work on language and thought now strongly suggests that language has a causal but not a determinative role in shaping cognition” (Loewenstein et al., 2012, p.54).

Category labelling is seen as central to category emergence, as categories emerge with audience members recognizing similarities among groups of producers and labelling them as members of a

common set (Hannan et al., 2007). A number of recent studies (Koçak et al., 2013; Granqvist et al., 2013; Byrkjeflot et al., 2013) unpack the socio-cognitive process of category labelling. However, these studies so far have used a narrow understanding of market categories - as product categories serving as interfaces between producers and consumers and enabling market transaction. Meanwhile, as discussed in this thesis, firms are routinely categorised, both in practice and academia, based on their business models. Following this, the question of socio-cognitive process underlying emergence of business model category labels has not been investigated. Specifically, it would be interesting to focus on the roles and motivations of different audiences (consumers, media, incumbent producers, etc.) in construction of a new business model category.

While the complex knowledge structures underlying the labelling of products are understood only partially (Hannan & Fassiotto, 2014), even less is known about labelling of firms based on their business models. In this regard a number of questions can be asked: do business model-based labels behave the same as product-based labels? Do they serve as primary interfaces between producers and consumers for the purposes of transaction, and competition among producers, or do they serve some other purposes and audiences? What audiences are involved in creation of business model-based labels and what are their roles? Building on my work on iconic business models emergence, I am planning to investigate these questions in the context of sharing economy.

In order to address these questions, it may be useful to draw on goal-based perspective to categorization (Barsalou, 2010). While it has been known that ad-hoc categories may lead to emergence of taxonomic categories (Barsalou, 2010), ad-hoc (or goal-based) categories have received little attention in the organization studies (Durand & Paolella, 2013). However, there is an increasing recognition in the organization studies that such categories play important role in category emergence (Durand & Paolella, 2013). Drawing on the goal-based view of categories is particularly relevant if we want to address the socio-cognitive question of category emergence, which inherently incorporates questions about goals and motives of different relevant audiences.

The view of categories as “given” to market actors has moved towards the view where different audiences, including producers, play a role in emergence of categories (Zuckerman, 1999; Lounsbury & Glynn, 2001; Rao, Monin, & Durand, 2005; Hsu, Hannan, & Koçak, 2009; Kennedy, 2008). Market participants often attempt to strategically influence category formation. However, neither external audiences nor internal actors fully control the eventual identity of an organizational form (Fiol & Romanelli, 2012, p.606). Research in this direction shows that different audiences’ struggle over interpretation of a label is one of the sources of category renewal (Negro et al., 2011, p.1450). A number of recent studies has specified how different stakeholders, such as critics (Glynn & Lounsbury, 2005; Shrum, 1996), producers (Carroll & Swaminathan, 2000; Jones et al., 2012), activists (Rao et al., 2003; Weber et al., 2008), enthusiasts (Fiol & Romanelli, 2012; Kovacs & Hannan, 2010), and highly engaged consumers and users of products (Bingham & Kahl, 2013; Rosa & Spanjol, 2005; Schneiberg & Berk, 2010) influence category formation. Furthermore, recent research also demonstrates that producers’ self-categorization is not necessarily explained by their capabilities - market actors strategically engage with category labels (Granqvist et al., 2013).

Overall there is an increasing interest in the roles and motivations of difference audiences in the process of market categories emergences and change, which is consistent with the goal-based view of categories: the process of categorization is contextual, and driven by the goals that actors pursue, so that producers and audiences create ad hoc categories to support the aim of achieving a specific goal; audiences have different goals, so they create different categories whose members may lack feature similarity, but fulfil the same end (Durand & Paoletta, 2013, p.1101).

In my current study I explore the socio-cognitive process of multi-sided business model category emergence in the context of sharing economy (Mikhalkina, 2015). Preliminary findings show that during the early stages of the sharing economy market category emergence the main audience talking about Airbnb was the media itself. Airbnb mostly surfaces in the travel-related sections of newspapers, not business, finance, etc. A major theme related to Airbnb in 2010 was

journalists reporting their own experiences of using Airbnb, as well as reporting experiences of other people, giving vivid descriptions of them. Driven by the demands for “novelty, originality, and the ongoing delivery of news” (Rindova et al., 2006, p.52), journalists writing for general lifestyle and travel sections reported “pioneering” real-life experiences with the new business model. In doing so they educated other audiences about Airbnb’s business model.

Are business models useful tools?

Viewing “business model” concept as a metaphors itself allows asking new questions about the role of business models in cognition. There is strong evidence that metaphors have framing effect and affect decision making (Robins & Mayer, 2010; Keefer et al., 2011; Thibodeau & Boroditsky, 2011; Thibodeau & Boroditsky, 2013). Moreover, recent studies in both experimental psychology (Keefer et al., 2011) and organization studies (Cornelissen & Clarke, 2010) point at the relationship between use of metaphors and uncertainty in sensemaking. In a nutshell, when uncertainty is high, people seem to rely more on metaphorical reasoning. In real life organizational decision makers experience different types of uncertainty (Milliken, 1987), which have different consequences for action (McKelvie et al., 2011).

Recent experimental research shows that accurate mental models are an important source of superior performance outcomes in complex environments, indicating that decision makers do not need accurate mental models of the entire business environment, but rather an accurate understanding of the key principles of deep structure (Gary & Wood, 2011, p.570). Does thinking in terms of business models help practitioners cope with uncertainty by providing such partial accurate knowledge of some important cause-effect relations in environment? Furthermore, both this thesis and some prior work (Enkel & Mezger, 2013; Martins et al., 2015) indicate that analogical reasoning is an important cognitive process related to business model innovation. At the same time, in strategic cognition analogical reasoning is seen as the key mechanism for identification of cognitively distant opportunities, leading to differences in firm performance (Gavetti, 2012). Does thinking in terms of

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business models allow identification of more cognitively distant opportunities? All of these are very exciting questions laying the foundation for my future work.

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