What do business models do?
Innovation devices in technology entrepreneurship

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\textbf{A B S T R A C T}

Building on a case study of an entrepreneurial venture, we investigate the role played by business models in the innovation process. Rather than debating their accuracy and efficiency, we adopt a pragmatic approach to business models — we examine them as market devices, focusing on their materiality, use and dynamics. Taking into account the variety of its forms, which range from corporate presentations to business plans, we show that the business model is a narrative and calculative device that allows entrepreneurs to explore a market and plays a performative role by contributing to the construction of the techno-economic network of an innovation.

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\section{1. Introduction}

Open innovation (Chesbrough, 2003) involves various protagonists who contribute to its funding, generation and commercialization, and it is located in networks rather than in individual firms (Powell et al., 1996). Such techno-economic networks (Callon, 1991) are composed of heterogeneous actors: big firms, entrepreneurs, universities, customers, investors, regulators and the intermediaries that circulate among them. The distributed nature of innovation calls for new modes of coordination and management devices, such as platforms (Robinson et al., 2007). What these devices are and how they manage the tensions inherent in collective innovation are crucial, yet under-researched issues. In this paper, we focus on a specific device that is pervasive in entrepreneurship and that, we contend, embodies the uncertain and distributed nature of innovation: the business model.

Business models are strange entities. On the one hand, since the dotcom explosion and subsequent burst in the 2000s, business models have populated the economic world in an increasingly expansive manner. On the other hand, there is growing scepticism about them being sound depictions of the future prospects of enterprises. Are they operational tools that rationally inform investment decisions in a judicious way? Or are they rituals that fulfill, at best, some symbolic function but lack a genuine economic meaning? What purposes do they serve, if any? These and similar questions about the use, meaning and rationale of business models have been raised in the management literature in recent decades (Baker et al., 1993; Honig and Karlsson, 2004; Magretta, 2002). For instance, in an influential article Porter (2001, p. 73) criticized the “fuzziness” of the business model that he defined as “an invitation for faulty thinking and self-delusion” to blame for the failure of many e-businesses. The dotcom bubble and its aftermath did, somehow, put an end to the interest of management scholars in the business model as a management tool; yet did not halt its use by practitioners. Indeed, it proliferates in daily practices, especially in technology entrepreneurship (Chesbrough and Rosenbloom, 2002; Delmar and Shane, 2003). Puzzlement may arise from the fact that, whilst cogent analysis from management science tends to debunk the calculative power of the business model, investors and entrepreneurs continue to consider it a key ingredient of their economic endeavours.

In this article, we show that business models can be fruitfully analyzed as “market devices” (Callon et al., 2007) — one among the many intermediaries that circulate in the techno-economic networks of innovation. If business models appear to be torn between usefulness and uselessness, it is perhaps because of a failure in the way scholars account for their use and operations. What do business models really do? In order to make sense of this question, we have chosen to depart from a perspective that would consider these artefacts to be transparent vehicles of the representation and appraisal of an entrepreneurial project. Symmetrically, we have avoided a position that would consider their widespread empirical use a symptom of a collective preference for opaqueness. Instead,
we examine business models as intelligent collective devices in contexts of uncertainty. Our approach is pragmatic. It is opposed to an essentialist view, which considers the business model as a more or less faithful description of an objective reality beyond it, as well as to an instrumental analysis, which defines ex ante functions of the business model and measures its performance relative to them.

Our main argument is that the business model works as both a calculative and a narrative device. It allows entrepreneurs to explore a market and to bring their innovation – a new product, a new venture and the network that supports it – into existence. The business model’s function cannot be limited to a reflexive exercise enhancing the rationality of the entrepreneur who is writing a PowerPoint presentation or a business plan. The narrative and the calculation that it performs are indeed addressed to third parties, such as customers or investors. Moving around various actors and coordinating their action, the business model appears to act as a boundary object (Star and Griesemer, 1989). We therefore consider the business model “in action” (Latour, 1987) and follow its trajectory. We argue that the flexible mix of narratives and calculations within the business model enables it to circulate across heterogeneous actors, which, in turn, endows it with a performative role: by circulating, it gradually builds the network of the new venture that it represents.

In this paper, then, we investigate the role of business models through the case study of a new venture. Combining interviews with the analysis of internal and publicly available corporate documents and presentations, we identify the specificities of the business model as a market device that, as we argue, enable the management of the tensions inherent to the entrepreneurial process. The first section of this paper is devoted to a review of three different approaches to business models: the essentialist and the functionalist views that prevail in the extant literature, and the pragmatic stance that we propose here, building on the recent stream of research on market devices. After a presentation of our methodology, we study the case of a French entrepreneurial venture by analyzing different documents that describe its business model and by following their circulation in space and time. We show that the narrative and calculative techniques implemented in these documents enable the business model to act as a boundary object and to manage the tension between framing and overflowing (Callon, 1998a) inherent to the explorative nature of entrepreneurship. We then discuss the conditions of possibility and implications of business models acting as boundary objects. The paper closes with some reflections on the performative roles of business models.

2. From an essentialist and functionalist view towards a pragmatic approach of business models

2.1. On the truthfulness and usefulness of business models

The extensive use of business models by practitioners since the 1990s (Shafer et al., 2005) has increasingly drawn the attention of scholars. The reputation of business models has followed the rise and fall of their best known users: internet start-ups. The failure of dotcoms has been sometimes associated with the ambiguity of the business model which “seems to refer to a loose conception of how a company does business and generates revenue” (Porter, 2001, p. 73) and lacks a shared and precise definition in the management literature (Alt and Zimmermann, 2001). In response to such criticism, scholars have attempted to stabilize the business model by fixing a definition thereof. Some authors define the business model broadly as a description of a company’s logic of value creation (Ghaziani and Ventresca, 2005). It “spells out how a company makes money by specifying where it is positioned in the value chain” (Chesbrough and Rosenbloom, 2002, p. 533) and “depicts the design of transaction content, structure and governance so as to create value through the exploitation of business opportunities” (Amit and Zott, 2001, pp. 494–495). It answers managerial questions such as: “who is the customer?”, “what does the customer value?”, “how do we make money in this business?”, “what is the underlying economic logic that explains how we can deliver value to customers at an appropriate cost?” (Magretta, 2002, p. 4). Then, this broad definition is sometimes detailed through the identification of the components of the business model, which can be grouped into three building blocks. First, the value proposition clarifies what value is embodied in the offerings of the firm (e.g. Afuah and Tucci, 2001; Dubossor-Torby et al., 2002; Magretta, 2002). Second, the architecture of value lists the partners and channels through which value is produced and delivered (e.g. Afuah and Tucci, 2001; Hamel, 2000; Hedman and Kalling, 2003; Timmers, 1998; Weill and Vitale, 2001). Finally, the revenue model is the bottom line of the business model: it translates the two former dimensions in costs and revenue flows (e.g. Dubossor-Torby et al., 2002; Magretta, 2002; Weill and Vitale, 2001).

All of these definitions share a common view of the business model as a description, or representation, of a reality that exists beyond it: the firm. Such an essentialist view of what a business model is and how it could provide an accurate depiction of the underlying logic of value creation of a firm fails to answer the criticisms raised by strategy scholars such as Porter (2001). Instead of reducing the vagueness of the concept, it centres discussions back on the issue of the truthfulness of the description made by business models. The essentialist view is even more problematic when new ventures are considered, for the reality beyond the model has yet to happen. Thus, entrepreneurship scholars have approached business models in a different manner. The question that they address is not “what are business models?”, but “what do business models do?”. The business models crafted by entrepreneurs are prospective; they envisage a future venture and the value creation logic that it will entail. Hence, they are part of a planning activity that relies mainly on the writing of business plans. The business model of a new venture describes “how [the firm] plans to make money long-term” (Afuah and Tucci, 2001, p. 4). Scholars in entrepreneurship have therefore shifted from a view of the business model as a depiction of an objective reality to a functionalist, or instrumental, perspective. The business model has become “the method of doing business by which a company can sustain itself” (Rappa, 2001, p. 1) by articulating the value proposition, identifying the market segment, estimating the cost structure and profit potential, etc. (e.g. Afuah and Tucci, 2001; Chesborough and Rosenbloom, 2002; Dubossor-Torby et al., 2002). In entrepreneurship, the relevance of the business model no longer lies in its ability to faithfully describe the firm. Rather, its usefulness stems from its explicative and predictive power in regard to the value created by a new venture (Amit and Zott, 2001). Nevertheless, by focusing on its instrumental efficiency, scholars bring back into the debate the question of the performance of the business model: do modelling and planning make the new venture more robust or more profitable?

In that matter, business plans have been widely studied in the literature on entrepreneurship. They have been considered an internal management tool or an instrument for finding partners. Delmar and Shane (2003) argue that business planning helps firm founders anticipate problems and information needs, turn
broad goals into concrete milestones and correct quickly deviation from objectives. On the contrary, Honig and Karlsson (2004) put emphasis on the weakness of business planning as a monitoring tool by showing that, once written, business plans are never used by entrepreneurs for internal management purposes. For Bhide (2000) and Carter et al. (1996) business planning spoils resources and time that could be more profitable to the venture if employed for more necessary marketing activities. Others, such as Delmar and Shane (2004a), view business plans as a legitimizing means by which the entrepreneur renders the new venture more reliable for investors and thus facilitates access to external resources. The question of the usefulness of the business model has been examined through the lens of its performance efficiency. For instance, quantitative analyses of the relation between business planning activity and the profitability or survival of the firm have been undertaken (Delmar and Shane, 2003, 2004b; Locke and Latham, 2002). However, empirical findings on the instrumental efficiency of business models and plans fail to provide convergent results.

2.2. Business models as market devices

The debates that business models trigger among management scholars resemble, to some extent, to the ones generated by other types of economic communicative devices such as financial analysts' reports. In their sociological study of financial analysis, Beunza and Garud (2007) have indeed identified an opposition between two extreme interpretations: one that considers analysts' reports as unbiased, objective accounts of the financial performance of a firm, and one that demystifies analysts' objectivity whilst pointing to their role in social mechanisms of collective belief and influence. Against this simplistic binary vision, Beunza and Garud (2007) develop an interesting sociological alternative. They suggest that financial analysts serve the purpose of economic calculation, though not in a linear, straightforward manner. What analysts' reports provide are calculative frames: elements of commensurability and comparability that frame the field of references upon which investors may draw. From this point of view the analyst's report appears as a “market device” (Callon et al., 2007), i.e. as a market-enabling instrument that operates empirically for the enhancement of socially-situated practices of calculation and decision-making.

In this paper, we adopt a similar approach to business models and examine them as market devices. We draw on a stream of literature situated at the crossroads of economic sociology and science and technology studies, which takes into account the material and relational aspects of technological and economic settings. Analyses in this line of research share an attention to the agency of non-human entities in the heterogeneous networks of which they are part (Callon, 1986; Latour, 1987, 1988) and a trend towards the “decentring of the human subject” (Pickering, 1993, p. 561) and the distribution of cognition (Hutchins, 1995) across a variety of actors whose list is not limited to humans. Initially focused on science and technology, this approach has been extended to the study of markets and the economy. Markets imply “calculative agencies” (Callon, 1999b, p. 3), the emergence of which cannot be understood by resorting to solely cognitive or institutional explanations. The source of calculativeness, Callon argues, lies in the networks of which these agencies are part and which constitute their action. These networks do not only consist of human beings, as the notion of social network might lead us to think, but also of tools and instruments. Of particular interest are the intermediaries (Callon et al., 1997) that circulate within techno-economic networks, be they support materials, written documents, people or money. This perspective puts emphasis on the relations between people and the instruments that they use as well as on the interactions between human agents as mediated by the material entities that they put into circulation.

Out of this body of literature, the notion of market devices has emerged, defined as “the material and discursive assemblages that intervene in the construction of markets” (Muniesa et al., 2007, p. 2). The study of market devices has embraced a wide set of market arenas, which range from financial markets through distribution to accounting, and a variety of objects such as the stock ticker (Predo, 2006), financial formulae (MacKenzie and Millo, 2003) or consumer credit scoring (Poon, 2007). Beyond the variety of the objects that they have examined, these analyses share a common focus on the materiality and the agency of market devices. By describing what these devices are and asking what they do, scholars have moved away from an essentialist and functionalist view – a move which shifts the analysis from a debate on the accuracy and usefulness of these devices towards a pragmatic perspective that envisages people and the tools that they use as performing collective action. For example, Beunza and Stark (2004) demonstrate that the practice of arbitrage in financial markets involves a calculation that is distributed across the different desks of a trading room, the various tools, such as screens and computer programs, with which arbitrageurs continuously interact, and the arbitrageurs themselves. Like the instruments of scientists without which new phenomena could not be seen, the tools of traders reveal opportunities that isolated human agents could not have discovered alone.

In addition to playing a part in the emergence of individual calculative agencies, market devices contribute to the making of markets by mediating the relationships between these agencies and coordinating their action. The analysis by Miller and O’Leary (2007) of two instruments in the microprocessor industry – Moore’s law and technology roadmaps – provides a powerful illustration of the role that market devices play in the heterogeneous networks in which they circulate. The authors recount the development of Moore’s law – which links the complexity and functionality of integrated circuits with their cost – and its gradual transformation from a mere prediction to an industry norm. They show how Moore’s law and the associated technology roadmaps mediate between actors (e.g. the manufacturers of semiconductors and the manufacturers of inputs for semiconductors), seemingly distinct imperatives (technological innovation and cost reduction) and domains (science and the economy). A central point put forward by the authors is that the capacity of the model to circulate depends on its material features (Moore’s law was expressed in graphs) and on its translation into related instruments (the chart of the technology roadmap for semiconductors) that enact the model by guiding and coordinating action.

2.3. The business model: a boundary object made of narratives and calculations

Two insights of the literature on market devices are particularly relevant for our purpose here. First, whilst acting as intermediaries (Beunza and Garud, 2007) or mediators (Miller and O’Leary, 2007), market devices circulate. Second, their capacity for circulation is linked to their materiality. Thus, a first step in the analysis of business models as market devices consists in a careful examination of their multiple locations and material features. In other words, investigating what business models do implies scrutinizing what they are made of. The literature on business models provides us with a point of departure by highlighting their ubiquity (business models circulate across a wide range of actors and intersecting worlds) and some of their distinctive contents (they consist of words and numbers). We pursue this path and approach business models by drawing on the notions of boundary objects, narratives and calculation, which will instrument our empirical analysis.
One of the most striking features of the business model is its circulation. It is addressed to audiences as diverse as investors, journalists, partners, customers or management students (Chesbrough and Rosenbloom, 2002; Magretta, 2002; Shafer et al., 2005; Warnier et al., 2004). Entrepreneurs present their business plan to venture capitalists (Chen et al., 2009); explain their business model to journalists, pitch it to investors, display it on their website, visualise it in numerous corporate documents and PowerPoint presentations, post it in a logo or a catch phrase to attract customers and partners, and recount it to entrepreneurship students and scholars. Thus, business models appear to act as “boundary objects”, which “both inhabit several intersecting social worlds [...] and satisfy the informational requirements of each of them” (Star and Griesemer, 1989, p. 393). Capable of circulation and coordination, boundary objects seem particularly relevant when innovation is open (Chesbrough, 2003) and agency is distributed across heterogeneous actors (Garud and Karnoe, 2003). It is not surprising, then, that examples of boundary objects involved in innovation activities – such as sketches and drawings – are recurrent in the literature (Carlile, 2002; Henderson, 1991). Bartel and Garud (2009, p. 111), for instance, view boundary objects as a solution to the coordination challenges of innovation and investigate the case of innovation narratives which, the authors argue, “can serve as boundary objects, as they are both coherent enough to bring together individuals subscribing to different organizational realities and pliable enough to let them draw inferences that fit their unique contexts”. Here lies one central characteristic of boundary objects: they are “both plastic enough to adapt to local needs and the constraints of the several parties employing them, yet robust enough to maintain a common identity across sites” (Star and Griesemer, 1989, p. 393). This tension between flexibility and unity is also present in the business model. For example, Ghaziani and Ventresca (2005) identify the circulation of the business model across diverse management communities with locally tailored frames whilst evidencing its inscription in a global theme, namely value creation. Yet, the question of what endows the business model with the properties of a boundary object and enables it to circulate across different spaces remains, and will be addressed in what follows.

Content-wise, business models are distinctive in so far as they provide a mix of story-telling and calculation. Magretta (2002, pp. 4–5) describes business models as “stories” (with a plot, a set of characters and their motivations), but peculiar ones, for their “narrative [is tied] to numbers” (hence the concomitance of the expansion of the business model in the advent of the spreadsheet). She argues that these two dimensions are both critical to the business model since, in order to be successful, a business model must pass “the narrative test” (is the story coherent?) and “the numbers test” (do the maths work?). If business models tell stories and perform calculations, what are the specificities thereof? In order to provide us with the means to address this issue in our empirical analysis, we need to draw on the literature on narratives and calculation in management and economic sociology.

A narrative refers to a set of events and the contextual details surrounding their occurrence. It depicts a situation in a sequentially structured manner (Bruner, 1986; Czarniawska, 1997; Pentland, 1999). The plot is a crucial part of a narrative, for it ensures its meaningfulness and coherence. It connects the “three elements [of a narrative]: an original state of affairs, an action or event, and the consequent state of affairs [...] into a meaningful whole” (Czarniawska-Joerges and Hopfl, 2002, p. 168). Bartel and Garud (2009, p. 111) view the combination of surface-level details and the plot as what makes innovation narratives able to act as boundary objects: surface-level details are ordered “into one totalizing whole that is made comprehensible through the presence of a plot”. As a conventional theme (Bruner, 1986) that is general enough to refer to many situations, the plot indeed establishes coherence and comprehensibility. It links the different addressees of a narrative to a larger scheme that they all share and is therefore understandable by individuals coming from different economic settings. Drawing on this literature, we will investigate the specificities of business model narratives by addressing the following questions. What is the initial situation, what is the sequence of events and who are the characters involved? What is the plot of the business model and how does it drive the story?

In order to examine the calculation that the business model is said to perform, we retain Callon and Muniesa’s (2005) broad definition because it avoids the opposition between qualitative and numeric valuation and thus maintains the possibility to include what we could call qualification, judgement, or story-telling, within the scope of calculation. Callon and Muniesa (2005, p. 1231) describe calculation as a three-step process in which the entities taken into account are first “detached” and “arranged [...] in a single space”, before being “associated with one another and subjected to manipulations and transformations”, so that – and this is the third step of the calculation – a result is extracted. A good is made calculable through its endowment with objectified properties (“objectification”) and its incorporation into the buyer’s world (“singularization”). Using the heuristics provided by Callon and Muniesa (2005), we will investigate the specificities of business model calculations by addressing the following questions. What are the entities that are detached and associated in the business model, and for what results? What are the goods that are objectified and singularized?

3. Research Design

This paper presents results from a case study of the first years of a new venture. The research design employed an inductive approach in order to provide meaningful insights on the role of the business model as a device for the commercialization of a technology. Drawing on the literature about case study research and qualitative methods (Glaser and Strauss, 1967; Miles and Huberman, 1984; Yin, 1981, 1984), we built our research strategy to provide descriptions (Gersick, 1988) of business models and their role in the process of entrepreneurship. Our approach is exploratory since the business model has few theoretical underpinnings in the literature and its materiality and use have not been studied yet.

The new venture that we study here is an academic spin-off. We chose to focus on academic entrepreneurship because the commercialization of a technology through the creation of a venture emanating from a non-commercial environment constitutes a polar-type (Eisenhardt, 1989). Indeed, academic spin-offs lack commercial resources (Vohora et al., 2004), face huge uncertainty regarding both their technology and their market (Bower, 2003) and often “start up without a clear idea of how they will create value in the beginning” (Mustar et al., 2006, p. 293). In such extreme situations, the role of the business model as a vehicle for bringing a technology on a market is exacerbated and hence more “transparantly observable” (Petrigrew, 1990, p. 275).

As a first step of our research process, we met 20 founders or CEOs of French academic spin-offs from diverse sectors in order to generate preliminary insights on their business models. We identified in particular the fast evolution of the business model in the

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3 Academic spin-offs are new ventures founded on the basis of formal or informal transfer of technology or knowledge generated in a public research organization (Smilor et al., 1990).
very infancy of these new ventures. We chose, therefore, to select a young spin-off named Koala4 and to study it during the first years of its existence. Koala was founded in July 2006 by a senior researcher (Alexander) and a PhD student (Robert) from a French public research institution specialized in computer science. The entrepreneurs aimed at commercializing a technology based upon an algorithm that allows processing data incoming from vehicles in order to calculate travel times. When we first met Robert in 2007, the company did not have any customers yet and worked mainly on technology development. It was located in an incubator, which was to be its home for the first two years of its existence. Until 2009, when our case study came to an end, Koala had raised no venture capital, although it had received public subsidies twice (in 2006 and 2007) as a winner of the two stages of the National competition for the creation of technological innovative firms5 organized by the French agency for Innovation (Oséo6). When we met Robert again in 2009, Koala employed five people (including its founders), had a few customers and was about to begin its road-show in order to find investors.

In the analysis of Koala’s business model, we focused on the material forms that it takes, on its circulation across various actors and on its evolution. We realised a longitudinal study and conducted two 2h open-ended interviews with Robert in March 2007 and February 2009. The presence of two interviewers allowed for the triangulation of investigators (Pettigrew, 1990). During the first interview, the description and the evolution of Koala’s business model were discussed. In the second interview, we focused on the entrepreneurs’ encounters with potential partners during which Koala’s business model had been presented and we paid special attention to the documents used during these meetings. An interview was also conducted with the director of the incubator that hosted Koala, in order to shed light on the role of the building and evolution of Koala’s business model and, more generally, on business modelling activity. In addition, we were given several internal corporate documents describing Koala’s business model (corporate presentations and business plans), which we completed with publicly available data. Cross-checking subjective and objective information enabled us to triangulate, to overcome the bias introduced by the use of retrospective data, to gain access to the materiality of Koala’s business model and to compare its different forms. The documents which we considered in our analysis are listed and briefly described in Table 1.

### 4. Narratives and calculation in Koala’s business model

For their participation in the first stage of the National competition for the creation of technological innovative firms, Koala’s founders submitted an application in which the business model of the new venture is described in great detail. The application consists of a 25-page document that is divided into the following sections: introduction, project presentation, market and commercial goals, technology, entrepreneurial team, financial needs and structure of the company. We will focus on the three first sections, which make up the major part of the document,7 and scrutinize Koala’s business model through the lens of its narrative and calculative aspects.

#### 4.1. The product and the customer: Koala answers an unmet need

The document starts with a one-page introduction that provides an account of the project by resorting to a typical narrative technique: it creates a tension, which puts in motion a sequence of events, and introduces characters, which are endowed with plausible motives. The initial situation is characterized by an urging need of drivers who “undergo chronic and unpredictable travel difficulties that create an important stress”. This need constitutes an opportunity for those able to answer it. Indeed the existing solutions are not satisfying: “navigation devices (…) rarely do more than meet an occasional need for searching for an itinerary in an unknown area”, whilst “the largest part of users gives the thumbs up to information on travel time (…) on well known and recurrent itineraries for which a guidance function would be useless”. The knotting of the plot lies in Koala’s ability to fulfill the need thus identified in an appropriate way: the new venture “puts forward an answer by providing predicted door-to-door travel time for a given itinerary as well as a real-time trend based on traffic evolution”. The introduction of the document thus presents a sequence of events that punctuate different states of the world: the spread of navigation devices, which are not capable of resolving the initial tension; the arrival of Koala whose solution is defined by opposition to the existing offer (it provides travel time, instead of guidance, for a recurrent, instead of an unknown, itinerary) and fits drivers' needs. The sequence closes with the appearance of a new character: the user. Contrary to other drivers who experience stress due to unpredictability, the user of Koala’s services can “choose the best departure time”, “know her arrival time” and “share [this information] with the people waiting for her”, thereby “better managing her schedule” and “getting rid of an important source of stress”. The making of such a serene driver is enabled by Koala’s solution, which is “easily accessible on a widget (desktop and mobile), on the Web and on Smartphone”.

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4 To ensure confidentiality, the names of the spin-off and of its founders have been replaced by fictional names.
5 The French national competition for the creation of technological innovative firms has two categories. In the category “Emergence”, entrepreneurs submit a project that needs technical, legal and economic maturation and can be awarded funding up to 45,000 euros. In the category “Creation and Development”, financial support up to 450,000 euros is provided to the award winners just before the founding of their companies.
6 Oséo is a French innovation agency that provides assistance and financial support to SMEs.
7 The four final sections are confined to the last five pages of the application.
This small story is meant to catch the reader’s attention. The initial tension is the narrative element that puts the plot of the business model in motion and makes the first characters of the story interact in a sequence of events or actions that will be further detailed as the document unfolds. By identifying the motives of Koala’s targeted customers, which is to say by explicating what is of value for them in Koala’s offerings, the introductory narrative draws a boundary around a set of characters. The tension enables for the world thus sketched to appear as a coherent ensemble, a world inhabited by road infrastructure, drivers, GPS, navigation devices, stress, (un)predictability, Koala, the users of Koala’s offer, widgets, websites and Smartphones. Thereby the narrative justifies the focus on a finite number of entities that are to be taken into account. In the subsequent pages, some of these entities will be detached from the world constructed by the narrative in order to be linked to other entities through a process that simultaneously objectifies their properties and singularizes them in a network of associations, thereby making them calculable.

The next section of the document ("Project description") opens with the users that Koala targets (people who travel everyday on a route that they know well, such as commuters) and the three technical artefacts upon which Koala’s offer rests (a widget, a website and a GPS Smartphone). Both the user and the technology are introduced as distinct graphical entities, separated by the lay-out of the page in which each entity is framed in its own paragraph. Two pages later, they are associated in a diagram in which each technical artefact (the widget, the website and the GPS Smartphone) is described as a list of features, with each feature consisting in the actions of the artefact (e.g. it displays information), of the user (e.g. follow a link, send a message) or of third parties (e.g. advertising). The user is thus endowed with actions (she handles the artefacts and is provided with services), the conditions of possibility of which are defined by the amounts of the fees that she needs to pay in order to access Koala’s services. Symmetrically, the description of the interactions between the user and the artefacts gradually defines the latter as a product, a good. The new venture’s customer and product are therefore the first result of the calculation that is performed in this document. Koala’s product is made calculable through its objectification (it provides a travel duration and an arrival time) and singularization, or insertion into the user’s world (the user knows when she arrives and can warn her entourage).

Then the narrative intervenes again in order to stabilize the entities thus calculated (the product and the customer). Each of the three pages following the diagram is dedicated to one of the three artefacts of the product: the widget, the website and the Smartphone GPS. The value that the third artefact, for example, creates for the user is stated in its description as “the clever assistant that helps me manage my travel time”. We hear the voice of the user and what she would value in Koala’s offerings. To assert the plausibility of this valuation, the narrative draws on data from qualitative and quantitative surveys: for example, the document mentions that the Smartphone GPS is “a device well-liked by 76% of the people surveyed”. The narrative combines pictures and a series of bullet points that list the properties of each artefact and the potentialities that it offers to the user. For example, below the picture of a phone displaying Koala’s solution on its screen, one can read that the Smartphone is equipped with “a switching mode, in case of a traffic jam alert, which suggests going back to (…) a navigation interface so as to follow the quickest alternative”. The text describes these features and explains how they answer the initially unmet need: “The switching mode is a real plus. Indeed Koala provides the user only with the information that she needs. Why having a navigation interface when the itinerary is already well known? (…) The real issue is to know when I will arrive and let my relatives know too.” Finally, the description of each artefact closes with its contribution to the company’s income: “If the screensaver mode is free of charge and downloadable without restriction, the navigation mode with its switch and traffic jam alert are charged”, either one Euro for a 1 h use, or 10 Euros for a one-month subscription.

4.2. The new venture and its partners: from value to profits and costs

To sum-up, the first two sections of Koala’s application are dedicated to the new venture’s product and customers. The introduction creates a tension by emphasizing a gap between drivers’ needs and the existing offer. This tension leads to the knitting of the plot which delimits a world and the entities that are to be taken into account. Some of these entities are endowed with objective and singular properties through calculation, by means of their detachment and association. Koala’s product and customer that result from this calculation, are gradually stabilized through narratives. However, this is just part of the story. We have to turn to the next section of the document ("Market and commercial objectives") to see new characters hit the stage and new entities being calculated. This section opens with a narrative that sketched a new world: the “European market of location-based services (LBS) for urban mobility”. Its denizens (e.g. content providers, service operators, distributors) are sorted out and aggregated in a diagram, which represents the value chain of the industry of location-based services. The association of Koala with these newly detached entities leads to the transformation of the new venture, which is now “positioned” within the value chain as a “LBS operator”. The other entities sorted out become its competitors – to whose “existing offer” Koala’s product displays a series of advantages – or its partners. Thus, the second result of the calculation that is performed in this document is another new entity: Koala as a service operator in the industry of location-based services.

Once again, calculative and narrative techniques operate hand in hand: a world is delimited; entities are calculated, then further stabilized and turned into characters who interact in the story of the business model. The value chain diagram structures the narrative by organizing it according to the different categories of actors identified. The reader understands what piece of value is produced by each link of the chain and by Koala in particular. Upstream the value chain, suppliers provide content and cartography that Koala needs to build its offerings. Downstream the value chain, mobile operators must be turned into allies so that Koala’s service can be materialized on the user’s Smartphone. The narrative attributes plausible motives to these potential partners by explaining what they would value in Koala’s offering: for example, “[looking] for new sources of growth”, mobile operators “[perceive] the LBS service offer as a means for differentiation”.

Now the new venture has not only customers, but also partners. A final transformation then leads to the extraction of a numeric result: customers are translated to product price and number of products sold, whilst partners (namely suppliers) are turned into costs. Following a simple arithmetic operation, these figures further stabilize the new entity, Koala, by providing it not only with an environment (partners, the existing offer), but also with expected costs and turnover. Koala is thus endowed with objective properties through its association with the other companies operating in the industry of location-based services, or through its insertion in the world of the value chain of this sector.

The sequence of events is now complete. It begins with the identification of drivers’ unmet need – a tension and an opportunity – to which the new venture answers. The plot provides the storyline of this answer and justifies the ordering of events. Could a sustainable and profitable organization be built whilst pursuing the initial opportunity? The first part of the story deals with the answer that Koala provides to the unmet need. The customer and the product are narrated and calculated; they are (re)counted. The
reader understands what Koala’s product consists of, who its cus-
tomer is and what motives drive the latter in her attachment to
and valuation of the former. Koala produces value, in the sense that
the “advantages” or “benefits” of its product are “sources of value
creation”. However, creating value is not enough for the new ven-
ture to be viable; Koala needs to deliver this value to its customers
capture (a part of) it. This is what the second part of the story
deals with. The new venture is positioned in a value chain, which
is inhabited by competitors and potential partners. The former are
over–performed, through the fit between Koala’s offer and users’
needs; the latter are likely to be enrolled, in exchange of value, be
it tangible (as in the case of suppliers, who are paid) or intangi-
ble value (as in the case of mobile operators, who gain “a means
for differentiation”). The story ends with the calculation of the cost
structure and the revenues of the new venture. Not only is the
initially unmet need answered, but Koala makes profit from the
exploitation of the initial opportunity. The plot is resolved.

4.3. Calculating encounters

To sum–up, the result of the narrative and the calculation per-
formed by the business model consists in two new entities: Koala
and its product. The product and its customer ensue from the asso-
ciation between the technological artefact and its user. Koala is
calculated through its links with other companies in the value
chain, which in turn become its partners or competitors. New prop-
certies can then be attributed to the new venture: its expected costs
and revenues. The former entail a demand for financing and the
latter a potential for profit. In other words, whilst calculat-
ing new entities, the business model also calculates relationships.
Koala’s costs and revenues, for instance, are not only a further detail
in the description of the new venture, but they translate the value
of a relationship with a particular partner — here, an investor. The
business model thus appears as a “configuration [that] calculate[s]
encounters” (Callon and Muniesa, 2005, p. 1242). These encounters
are not limited to investors: they also involve other partners and
customers, in whose worlds the new venture and its product are to
be inserted.

In the case of the document examined here, the business
model was written by the entrepreneurs in order to make Koala’s
project calculable for the body that organizes the competition and
grants subsidies (Oséo). The business model enabled the encounter
between the new venture and this particular investor, because sub-
mitting the application was required in order to take part in the
competition. However, its role did not stop here. Koala’s application
was accepted and the entrepreneurs presented their venture to a
jury. This second encounter was shaped by the business model too,
even though it took up another material form here: a PowerPoint
document was projected to an audience, as a means to supple-
ment an oral presentation and discussions. The business model is,
in fact, multiple; it circulates in space and time, thereby config-
uring encounters between the entrepreneurs and the allies that they
list, in the business model, and endeavour to enlist, by the business
model. By adopting different modes of existence, it enables and
shapes encounters. In turn, it is also gradually forged by them (as
we will see in the following section, in which we let the business
model circulate and follow its journey).

5. The circulation of Koala’s business model

5.1. Continuity and adaptation in Koala’s business model

Whilst applying for the National competition for the creation of
technological innovative firms, Koala’s founders were also search-
ing for other partners who were likely to provide them with
investments or grants. For example, they participated in a yearly
contest organized by a major player in the location-based services
industry, in which promising new concepts proposed by developers
and entrepreneurs are awarded. They also took part in a network-
ing breakfast dedicated to embedded technologies. The business
model was present at both events: in the contest, a PowerPoint doc-
ument was presented to a jury composed of journalists, investors
and firms operating in the industry of location–based services; and a
one–page form filled in by Koala’s founders was distributed to a set
of investors, industrial companies and other innovative start–ups
participating in the networking breakfast. Through the compari-
son of the three forms of Koala’s business model, which were presented
to the audiences involved in the national competition, the sector–
specific contest and the networking breakfast, we examine how the
business model acts as a boundary object, capable of circulating in
different spaces and making sense to various actors, whilst main-
taining its unity as the business model of one particular venture,
Koala.

The continuity of Koala’s business model along the three dif-
ferent forms under consideration here is ensured through the
presence of the main narrative and calculative elements that we
identified in the Section 4. Drivers who travel every day and “know
by heart their ways to destination” 8 can “manage [their] travel time”
and “know at what time they will arrive” thanks to Koala’s “door–
to–door travel–time prediction” or “personalized travel–time”. The
association between the user and Koala’s offering rests upon the
technological artefacts that were described in further detail in
Section 4. The one–page form synthesizes this association in a sen-
tence, by mentioning that Koala’s “contents can be accessed before
departure (Web and on road (GPS and Smartphone)”, whilst the Pow-
erPoint presentation visualises it on a slide, by linking the pictures
of the widget, the website and the Smartphone through an arrow.
Koala is briefly positioned as a “software editor (Saas) in the infor-
mobility area” in the former and as “B2C and B2B LBS” 9 in the latter.

However, the relative proportion of narrative and calculative
elements significantly varies between these three forms of Koala’s
business model. For example, the numeric result of the calculation
– Koala’s expected profits and costs – is absent from the business
model presented at the contest and at the networking breakfast.
Little space, if any, is devoted to the knitting of the plot; instead
the narrative relies here on the common “wordings” promoted by
the large players in the industry, such as “Software as a Service”
(SaaS), 10 which allow the entrepreneurs to spare part of the plot
and the inputs of the calculation. Moreover, depending on the type
document emphasis is put on one or the other of the two entities
calculated. The presentation made at the contest focused almost
exclusively on Koala’s product, that is, on the three technological
artefacts that constitute it and their association with the user. Con-
versely, the form circulated at the networking breakfast centred
on the new venture Koala and left room for the presentation of its
investors, customers and competitors, as well as its financing needs.

These differences are not accidental. The business model
involves an audience, to which it is made to fit. For example, Robert
explains that the presentations given to customers and investors
were “of the same kind [but] adapted”, with financial tables and mar-
ket data added for the latter. He views the business model as both

8 The quotations used in this section are extracted from Koala’s presentations at
the contest and at the networking breakfast, as well as from the authors’ interviews
with its founders.

9 B2B stands for “business to business”, B2C for “business to customer” and LBS for “location based services”.

10 Robert explains that “Software as a Service” is “a Microsoft wording” which means that “we sell access; our software modules are hosted by us, in our data-centres; people pay for they use”.

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continuous and adaptive: there are no contradictions between its different contemporaneous forms, it is “homogeneous”, but “the presentation must be adapted to the audience”, just like a job applicant would customize her résumé for a particular position. The definition of the audience does not correspond to general categories of addressees, such as customers or investors. Instead, it is idiosyncratic to each presentation. For example, when Koala presented business angels with “the same vocabulary, the same selling tools (presentations, business plans)” as the ones used for venture capitalists, it failed to catch the investors’ interest. Variation continues within these categories: “some venture capitalists are known to fund only projects with a deep technological component. In this case, we will stress [our technology], in terms of presentation”.

Adaptation is crucial for the insertion of the new venture and its product in the world of each audience. Yet, it should be balanced with continuity, in order to ensure that these documents are different forms of the same object: Koala’s business model. One means for achieving this balance is through copying and pasting. Robert explains that presentations made to potential customers were based on the same PowerPoint document, with only the last slide changing to explain what the two partners “could do together”. The entrepreneur draws on existing documents and recombines parts of them to build targeted presentations. He uses a library of slides and selects the useful ones in order to demonstrate Koala’s value, in terms of profit, for an investor, or in terms of advantages, for a customer or a partner.

Koala’s business model, which has no material existence outside of the documents in which it is embedded, is not more stable than the various forms it takes. Their circulation in space triggers the business model’s variation in time. The business model is not only an input of the encounters between the entrepreneurs and the allies that they seek to enrol, but also an output thereof. It is adapted to and by the audience to which it is presented. In order to investigate this aspect of the business model, we now turn to its circulation in time and its potential transformation by the encounters that it configures.

5.2. The evolution of Koala’s business model and the exploration of a market

The three forms of Koala’s business model that we examined are but one stage (February–March 2007) of a journey on which Koala’s founders embarked two years earlier. The technology that Koala attempted to commercialize was developed during a research project in which Robert and Alexander’s laboratory was involved. It is based upon an algorithm that processes data incoming from equipped vehicles and computes the travel time between two points of a road network. These travel times are “a bit like the weather forecast. The content can be applied to so many things. There are applications for consumers, but also for professional customers”. “The whole problem, Robert concludes, lies in the business model of this thing”.

The entrepreneurs’ first idea was to position the company as a software editor. The corresponding business model was embodied in PowerPoint documents, such as Koala’s application for the first stage of the National competition for the creation of technological innovative firms in 2006. “Infrastructure for transport” was the catch phrase of Koala’s business model by then. The need to be satisfied were those of companies operating professional vehicle fleets, which would have been able to optimize their management by equipping their vehicles with navigation terminals prescribing the route to follow to professional drivers. The envisaged customers were service operators supplying traffic information in whose offer Koala’s components would have been integrated. The competitors were companies that offered software for traffic information. As for the technology, a logistics management software was to be installed on the server of the operator and vehicles were to be equipped with an on-board unit.

Koala’s first business model allowed “framing” an initially “overflowing” (Callon, 1998a) situation, which was characterized by the multiplicity of possible but uncertain applications of the technology that Robert and Alexander aimed at commercializing. The entrepreneurs needed to choose a path to follow, to “refine their positioning”, and to limit the list of the entities to be considered so that a calculation could be possible. The business model drew a line between the actors who were to be taken into account (e.g. professional drivers) and those who were not (e.g. private drivers). It framed the initially overflowing situation and thus made it calculable. Nevertheless, for the framing to continue, a large set of associations needed to be realized: between Koala’s software, the pre-existing fleet management systems in which it was to be integrated, and fleet managers on the one hand, and between Koala’s on-board unit, the vehicles, and the drivers on the other hand. In order to realize these associations, the business model had to be put into motion.

With a PowerPoint presentation at hand and the objective to “understand the actors, the market, how it works, who interacts with whom”, the entrepreneurs started searching for potential partners and meeting executives from two main types of companies: immobility service operators (such as Mappy11), on the one hand, and tracking operators, which sell services to the vehicle fleet managers in transport companies, on the other hand. They devoted one year to “[going] round the actors of the market”. Robert underlines the fact that they had more ideas than tangible technologies at that time: “Our strategy was to sell dreams, to sell to service and info-mobility operators their own dream. We sold something that did not exist, this was slideware. (…) Some operators wanted to invest in our company but we could not say yes because our project was too early stage. Yet it allowed us to make talk”. However, the association between Koala’s software, service operators, fleet managers, professional drivers and their vehicles, which had been built by Koala’s business model at that time, did not succeed in passing the test of the encounters between the entrepreneurs and the partners that they aimed at enrolling. No potential partner seemed interested in Koala’s technology, which was deemed either too innovative or too sensitive to be outsourced. Moreover, at the first stage of the National competition for the creation of technological innovative firms in which Koala took part and was awarded a prize, the consultancy firm that had to assess the quality of the project (Ernst & Young) concluded that the business model presented in the application was not viable. Following Ernst & Young’s advice and considering the failure to sign any contract with the actors of the market, Koala was constrained to change its business model and decided to focus it on private customers, who had thus far been viewed as mere prospects, instead of the main target of the new venture. This led to Koala’s second business model, the different forms of which were examined in Sections 4 and 5.1.

How can we account for this variation in Koala’s business model? As the entrepreneurs showed their PowerPoint presentation to potential partners, other agencies were involved in the calculation performed by the business model which in turn became a source of overflowing. Koala’s “software editor” or “infrastructure for transport” business model did not succeed in framing the technology for it failed to associate traffic service operators and fleet managers to Koala’s software. Yet, the circulation of this business model allowed new links to be created around a new actor: the private customer, who had been present in the business model but up to then neglected. Thus, the business model framed an

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11 Mappy offers maps and road planning services.
initially overflowing situation, whilst at the same time, by circulating, it gave rise to new opportunities for overflowing. The process of framing and overflowing, which led to the reorientation of Koala’s business model from professional to private drivers (or from B2B to B2C), was costly. With the removal of professional fleet managers and service operators, and the association of private customers, the whole network built by Koala’s business model had to change. Software was not enough to hold Koala and its customers together. The construction of a new user entailed a change in the technology so that the former could be attached to the latter. In order to bring a valuable solution to private drivers who seek to minimize their travel time, Koala had to change its technology from software editing to service providing. This turn was illustrated by the transformation of Koala’s motto from “Infrastructure for transport” to “I know when I will arrive”. This new business model allowed for Ernst & Young’s validation of Koala’s new positioning, which in turn paved the way to the association of the organizer of the competition (Oséo) to the new venture and hence to the granting of an award which included a significant amount of money.

However, Koala’s new business model did not succeed in building the network of partners which could bring it into existence. The main reasons that Robert puts forward to explain this failure lie in Koala’s inability to enrol two important actors: venture capitalists, whose investment was indispensable in a B2C strategy, and Koala’s technology itself, which was not yet robust enough to support a web portal visited simultaneously by thousands of users willing to optimise their itineraries in real time. At the time of writing, the process of framing and overflowing continues and, following the opportunities generated by the introduction of Apple’s iPhone, Koala is currently investigating a new path. Its current business model extends the list of private users beyond drivers and their vehicles (to include public transportation and pedestrians), focuses on one technological artefact (the mobile phone) and relies on new partners (mobile manufacturers and service operators).

6. Discussion

In their exploration of a market for a data processing technology applicable to the computation of travel times, Koala’s founders have been making extensive use of the business model that they embedded in various material forms which varied across space and time and circulated across a wide array of actors. The analysis of Koala’s business model supports its assumed function of a boundary object. In this section, we discuss our findings by addressing the question of the conditions of possibility and implications of the business model’s acting as a boundary object.

Taking the narrative and calculative aspects of the business model as a point of departure, we examined a series of documents describing Koala’s business model in order to outline the entities that are calculated in these documents and the characteristics of the stories that they tell. The business model calculates entities: the new venture and its product. Both are simultaneously objectified and singularized, which is to say incorporated in the worlds that they construct or transform: the customer’s world and the value chain of the sector. However, the value chain is not the world of the investor, to whom the calculation is addressed. The investor’s world is made of competing projects. In a venture capital firm, for example, “each project is carried by a partner and this partner has to convince the other partners of the quality of her project versus the projects carried by the other partners”.12

The calculative arrangement of the business model does not allow inserting the new venture into the world of the investor, for it does not position the new venture into the wider set of projects presented to the venture capital firm. Therefore it generates a calculative asymmetry (Callon and Muniesa, 2005) between the entrepreneur and the investor, since only the latter can complete the calculation of the new venture. Nevertheless, this asymmetry is balanced by the one generated through underplaying technology. In Koala’s business model, the three technological artefacts are precisely defined in the very beginning of the document, before being associated with any of the other entities taken into account. The new venture’s technology does not undergo any transformation in the calculative process to which it is considered as an input, which helps it to escape uncertainty. If the investors benefit from a higher calculative power in regard to the relative value of the new venture project, the entrepreneurs take hold of technological (un)certainty.

We relate the insight that business models underplay technology in their calculations to the translation function of innovation narratives (Bartel and Garud, 2009). Technology entrepreneurship is knowledge-intensive and hence often hardly understandable for investors, customers or partners. By telling what value is created and shared, the business model gives a synthetic explanation of complex processes and allows addressing a coherent portrait to an audience. Like the entrepreneurial stories described by Lounsbury and Glynn (2001, p. 549), the business model told “strives to make the unfamiliar familiar by framing the new venture in terms that are understandable and thus legitimate”. Its appropriateness to entrepreneurship, which suffers from uncertainty and from the liability of newness (Stinchcombe, 1965), stems also from the ability of narratives to overcome the need for external sources of validation by rooting their validity in the coherence of the story itself and in the absence of contradictions in it (Fisher, 1985). The coherence of the business model’s narrative is ensured by its plot, which lies in the tension between an opportunity and the new venture’s ability to exploit it. Contrary to retrospective narratives, the temporality of the business model is not that of chronology, but of kairos: “a passing instant when an opening appears which must be driven through with force if success is to be achieved” (White, 1987, p. 13), in other words, a moment to be grasped. The kairos temporality used in the business model is in line with the focus of entrepreneurship on the discovery, creation and exploitation of opportunities (Alvarez and Barney, 2007; Shane and Venkataraman, 2000).

In the business model, narratives and calculations are complementary: the narrative draws a world and justifies the selection of the entities to be taken into account; the calculation detaches and associates these entities to create new ones, which are then stabilized and transformed into the characters of the story told. The combination of narratives and calculation is particularly relevant in situations of uncertainty, in which the worth of resources can be proven by drawing on diverse repertoires of justificatory principles, for the “units and instruments of measurement [needed for calculation] are deeply structured by accounts of what can be of value” (Stark, 1996, p. 1013).13 In addition to the uncertainty inherent to innovation, the business model as a narrative and calculative device also meets the requirements entailed by the distributed nature of entrepreneurship (Garud and Kano, 2003). By varying the balance between the narratives and calculations that it contains, the business model adapts itself to the different audiences to which it is presented in the encounters that it configures. Fine-tuning the dosage of narratives and calculations whilst maintaining its unity,

12 This quotation is extracted from the authors’ interview with the director of the incubator in which Koala was hosted.

13 A similar point is made by Garud (2008) who shows that, in emerging fields, the very meaning and metrics of performance criteria, such as efficacy, are to be negotiated and gradually stabilized.
the business model is both continuous and adaptive and therefore able to act as a boundary object.  

Acting as a boundary object, the business model succeeds in managing the tension between framing and overflowing (Callon, 1998a): it is robust enough to make the initially overflowing situation calculable and capture the interest of potential partners, but at the same time it is flexible enough to allow for the changes required by the enrolment of these partners. It is precisely from this ambiguity (Stark, 2009) of the business model, which Porter (2001) criticizes, that we contend, the appropriateness of the business model for entrepreneurship stems. Dealing with innovation (Drucker, 1985) and therefore marked by uncertainty, whilst requiring the cooperation of the heterogeneous actors across which it is distributed, entrepreneurship is as a process of collective exploration (Doganova, 2009), which poses specific constraints on the devices for the implementation of which it calls. On the one hand, exploration involves a high degree of uncertainty (Levinthal and March, 1993; March, 1991) and therefore needs less structure and more autonomy (e.g. McGrath, 2001). Devices for exploration thus need to be flexible enough to prevent lock-in and allow for the inclusion of alternative scenarios and actors. On the other hand, gathering a collective around a common purpose requires these devices to be coherent enough to support a shared understanding among the various participants. The business model, which is both continuous and adaptive, is a device apt for entrepreneurship because it handles the tension between collective action and exploration, between framing and overflowing. Examined through the lens of its devices, entrepreneurship appears as an iterative process in which a frame needs to be presented as stabilized to potential others, but then disassembled and further circulated.

7. Conclusion: the performative roles of business models

The word model is polysemous. A model may be a “schematic description of a system, theory, or phenomenon”; a “small object, usually built to scale, that represents in detail another, often larger object”; or, it can be something or someone “serving as an example to be imitated or compared” (Morgan, 2001); they enable manipulation and experimentation (Maki, 2005). In architecture, for example, the purpose of scale models is not merely to “visualize invisible substances”, but to “gather a number of things – human and non-human actors, and their concerns, requirements and disputes – and to ‘accommodate’ them into objects that can be subjected to design experiments” (Yaneva, 2005, p. 872). As scale models are presented to actors whose engagement needs to be secured for the process of innovation to succeed (e.g. resource providers, future customers or regulators), they are caught in a dynamics of trials, that is to say, they are not passive representations, but contribute to the emergence of a new entity (e.g. a new building). Rather than a description, a scale model is a demonstration, “situated on the crossroads of a probationary approach (…) and of ostentatious conduct” (Rosental, 2007, p. 35). Like demonstrations, business models aim at providing evidence for the feasibility of an innovative project and at gaining the interest of third parties by mobilising the repertoires of both proof and persuasion, and the logic and rhetoric elements that they include. In this perspective, understanding what business models do requires considering not only the object that they represent (a new venture), but also the audience, for which this object is made visible and put into words, and which is “constructed contemporaneously with the demonstration” (Callon, 2004, p. 123). Business models are performances (Stark and Paravel, 2008) – encounters in which an entity is materialized in a particular form (often a PowerPoint presentation) and displayed, exhibited to an audience. They are also relational tools (Rosental, 2007, p. 73), for they enable such encounters and thus a mutual adjustment between the artefact that is being demonstrated and the public to which the demonstration is offered.

Approaching business models as demonstrations instead of as descriptions allows us to go beyond the debate on their truthfulness and usefulness. In our view, the business model is a scale model of a new venture, which aims at demonstrating its feasibility and worth to the partners whose enrolment is needed. The scale model is built for the purpose of producing encounters, in which it is performed by its inscription in a document and its display to an audience. The collective involved in the performance – the entrepreneurs, their business model, their potential partners – is shaped through these encounters. As a demonstration, the business model is performative, for it constructs both the object and the public of the demonstration: the new venture and its network. In the process of making the demonstration, it enlists the actors that make the new venture’s worth possible. If it represents a new reality, it is because it is a “spokesperson” (Akrich et al., 2002) thereof, and a tool for building it.

Indeed, the market creation path of the entrepreneurial team can be described as a series of trials, which consist of encounters with partners whose “interessement” (Akrich et al., 2002) and enrolment are sought. Be they successful or not, these encounters lead to the transformation of the network being built by the entrepreneur’s innovation. When partners are not interested, the entrepreneurs cannot pursue their framing endeavour with the current business model. When partners get interested that they add to the network of the innovation results in its reconfiguration: some links have to be cut so that others can be created. Any change in the “sociogram” of the innovation entails a change in its “technogram”, and vice versa (Latour, 1987). Encountering and enrolling partners is not a smooth process: each encounter puts the entrepreneur’s business model to a test and may lead to costly changes in the technology and in the entrepreneur’s alliances. If the business model resists, the associations that it builds gain in solidity and the business model becomes more and more real (Latour, 1987, 1988). This process gradually transforms the business model from a model into a business.

The circulation of business models is not restricted to the network of a single venture. When it moves from one venture to another, the business model becomes an example to be imitated or compared. When crafting their venture, entrepreneurs do not start from scratch. They “look for what [exists]” – for “it is difficult to innovate both technologically and in the business model” – and they

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14. We should note that any business model is not necessarily a boundary object. Indeed, the boundary spanning properties of objects are to be constructed (Meyer, 2009): A business model that is not made flexible enough or robust enough may not succeed in acting as a boundary object. On the one hand, excessive robustness may impede adaptation: for example, the business model that Koala presented to venture capitalists did not work for business angels. On the other hand, excessive flexibility bears the danger of contradiction or inaction. For example, Robert explained to us that when the business model “moves too much”, partners are difficult to find, for “one does not know what to tell them: you are our customers, or our competitors”.


define their business model with reference to existing ones, just as Robert explained whilst depicting Koala’s business model as “à la Oracle”. The business model thus becomes part of a repertoire from which entrepreneurs can draw. It is performative in the sense that it shapes not only the specific new venture that it represents, but also, through the process of replication, business models and new ventures to come. As a result of their circulation, some business models become working examples, or “templates” (Baden-Fuller and Winter, 2007), which support imitation, or at least comparison, by entrepreneurs, investors, customers or partners, and thus serve as inputs of the calculations involved in a venture-specific business model. Such paradigmatic business models can be found as stylized descriptions in press articles or books on successful ventures. They are also codified in books addressed to practitioners, which describe the method that an entrepreneur should follow to write her business model, and in the business plan templates available on the websites of venture capital firms, which those seeking financial support should use in order to be considered. The implementers of public policies fostering entrepreneurship, who work in incubators, technology transfer offices or science-industry parks, are also involved in the production of business plan templates and “methodologies for business modelling”.

We believe that our analysis of business models contributes to a better understanding of their function in the process of entrepreneurship, in which they are ubiquitous. Devices for collective exploration, business models play a performative role: as demonstrations, they involve a performance in which a narrative and a calculation are presented to a public; as scale models, they perform new entities by gradually bringing them into existence; as templates, they call for imitation and thus shape future ventures.

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