Entrepreneurial formulas. Business plans and the formation of new ventures

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Business plans and the formation of new ventures

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ABSTRACT

This paper studies the new venture formation process, and thus aims at improving our understanding of how markets and the economy are constantly being re-populated with new business entities. It does so by empirically analyzing the ways in which business plans contribute to the formation of new firms, and to the shape of these new firms, based on the telling cases of three French academic spin-offs. Business plans, it is shown, participate in business formation by playing a major part, as inscriptions, in the textual and visual *formulation* of the new firms, on paper and beyond. Four different types of formulation are identified that coexist and complement each other within every plan. The first one is a market formulation, thanks to which the business plan constitutes the new firm's business model as the ultimate solution to a business problem—or opportunity. The second formulation is an organizational one, which puts forward the specific combination of resources, e.g. technological and human, needed to carry out the proposed business model. The third formulation is a financial one, which puts together the new firm as a worthy investment. The fourth formulation is a legal one, which relies on contracts, e.g. loan contracts and real-estate leases, to demonstrate the actual availability of the promised resources. The paper shows that these four formulations are best understood as actual 'formulas'—or 'small forms' of the firm, etymologically—and can be submitted to a highly heuristic comparison with, respectively, literary, chemical, mathematical and magical formulas. Further, it argues that the business plan as a whole, which articulates these four formulas, is also best described as a formula: a hybrid yet standardized entrepreneurial formula, which shapes and thus restricts the types of new businesses entrepreneurs are encouraged to carry out. This approach refreshes the study of entrepreneurship by focusing on entrepreneurial work, methods and tools. In studying how business formation derives from the formulation of new firms, it also constitutes a careful and original development in the analysis of the performative power of accounting.

KEYWORDS

Entrepreneurship, Business plan, Formula, Performativity, Economization, Start-up

INTRODUCTION

Millions of new businesses are created every year around the world. International business demography statistics are hard to compile, but they all highlight the importance of the phenomenon. On average, in OECD countries, more than one new business is created each year for every ten existing businesses—and the proportion is approximately the same in non-OECD countries such as, e.g., Brazil[1]. The birth of new businesses is not only massive statistically: it is also deemed important by policy setters, who often see it as a strong determinant of innovation and competition, as well consequently as of job creation and economic growth (Hart, 2003).

New business formation is a major component of the making of the economy. Markets may be socially and technically constructed—their legal and institutional forms designed, their goods and services commodified, their encounters between sellers and buyers orchestrated, their prices calculated (Çalışkan & Callon, 2010)—but they also and always need to be populated, and repopulated. New business beings are constantly generated and born. If one wishes to understand how "the economy" is produced and sustained, it is therefore necessary to describe how this generative process takes place.

In spite of the statistical, political and sociological importance of this problem, very little is known about the concrete process through which new business entities are created. The methods, tools and practices of business formation are the objects of a huge normative literature, which tells entrepreneurs "how to" set up their businesses, but research has long focused on the "'what' and the 'why of entrepreneurship" and "it is now left to deal with the 'how'" (Jarillo & Stevenson, 1990). This observation was made two decades ago already, but little progress has been made since then in this direction.

The gap is particularly obvious in the accounting literature. In their review of past research on accounting and entrepreneurship, Davila, Foster and Oyon indeed emphasize the need for new studies (Davila, Foster, & Oyon, 2009). More importantly, they only list and propose research which deals with young but existing businesses. The process of initial business formation, which takes place before the new entity starts its business activities, remains out of the picture.

This is all the more problematic that, very often, an accounting technology is at the heart of this generative process of business formation: the business plan. It is both an

[1] http://stats.oecd.org/Index.aspx?QueryId=29324#

instrument of financial accounting, submitted to external parties in order to ask them for funding or advice, and an instrument of management accounting, on which the entrepreneur or entrepreneurial team rely to design their project and keep track of its evolution. According to some authors, more than ten million business plans were produced every year in the 2000s (Karlsson & Honig, 2009), the consequence of a rapid rise of this technology in entrepreneurial finance and education in the second half on the twentieth century (Giraudeau, 2011, 2012).

The business plan is thus a crucial technology for what we propose to call the initial *formulation* of new businesses, which if a crucial part of their *formation*. Yet its role in the business formation process is seldom studied. The paper therefore chooses to open the plans, to analyze their contents and to understand their effects. This method allows us to account precisely for how business plans contribute to the entrepreneurial process, i.e. to observe directly what they do, both in terms of the constitution of the new venture in words, numbers and images and of its actual creation as a new business active on its markets.

What does one see, after lifting the cover of a business plan? The first observation is that these documents vary in their material form. Some don't even have a cover, in fact, as they are presented orally, summarized for instance in so-called 'elevator pitches'. Others are projected on a screen for more or less formal presentations. Others yet, or the same ones, circulate as computer files or paper documents. Business plans are thus hardly defined by their material—i.e. visual or oral—incarnation.

What seems to define them, rather, is a certain 'plan of the plan', an overall structure which appears to be extremely standardized across countries and kinds of entrepreneurship—be it for instance based on technological innovation or not. What entrepreneurs and their interlocutors call business plans indeed consistently starts with an executive summary and finishes with detailed financials, often followed by appendices, and passing along the way by more or less narrative parts, which describe the proposed firm's good or service, its markets, its competition, and its organization. This general structure legitimizes the use of a same name for something that takes different material shapes. It formats the answer to the typical question asked to entrepreneurs: 'what is your business plan?'

The paper analyses this standard structure of plans, in order to show in what ways and to what extent such plans shape the formation of new business ventures. It highlights, beyond the all-too-common distinction between narratives and numbers, the existence of four different types of formulation of the firm within plans: a marketing formulation (the statement

of the business model), an organizational one (the description of the system of resources required for production), a financial one (the accounting tables), and a legal one (the contracts and quasi-contracts present in the appendices). The specificities of each of these formulations are presented successively in the empirical section of the paper, following the order in which they typically appear within plans.

The discussion then reflects on the sequence and articulation of these different formulations within the plans. It explores the ways in which these distinct but connected formulations, and the business plan as a whole, may be considered as 'formulas' of the firm. They indeed appear to be formulas in the etymological sense of the word, i.e. 'small forms', which bring together the proposed firm in a dense, synthetic way, as a bounded whole. Further, business plans, and the four types of formulations they are made of, can also be considered as formulas in the active, transformative sense of the word: they are a specific method for generating firms, and thus a method with specific effects on the types of firms that are generated.

The making of this demonstration requires that we first introduce the reader, on the one hand, to the conceptual tools on which we rely and, on the other hand, to the methodology and data our empirical observations are based on. The first two sections of the paper, which immediately follow this introduction, are dedicated to these tasks.

LITERATURE REVIEW

The analysis of the contribution of business plans to new venture formation requires preliminary clarifications regarding three streams of research. The entrepreneurship literature provides us with first insights on what the process of new venture formation may consist of. We emphasize the widely shared notion, in this literature, that entrepreneurship involves the "combination of resources" and/or the "discovery of opportunities". We also highlight, however, that this view of entrepreneurial activities is based more on an ex-post analysis of their results than on how these results are actually developed in practice, as an effect of the on-going and techn(olog)ically equipped activities of the everyday life of entrepreneurs.

This difficulty calls for the combination of two approaches, focused on the process through which entrepreneurial practices, techniques and technologies engender a new venture. First we draw on Science and Technology Studies, which allow us to make sense of the contents and effects of inscriptions such as new venture business plans, and particularly of their role in the constitution of the economy—or "economization". Second, we draw on the

accounting literature to help us specify more accurately than is done in the STS literature what it is exactly that may be constituted by business plans, from business subjects to strategies, from performance to organisations, from entities to temporalities.

1. Entrepreneurial activities

A long tradition, originating in economics, has tried to define entrepreneurial action, i.e. what it is that entrepreneurs *do*. Its purpose, from the early twentieth century, has been to identify the market function of the entrepreneur, a function that had been erased from economic thought by Walrasian equilibrium theory. This tradition is led by Joseph A. Schumpeter, who equated entrepreneurship with development and defined it as "the carrying out of new combinations". "This concept covers the following five cases: (1) The introduction of a new good (…) or of a new quality of a good. (2) The introduction of a new method of production (…). (3) The opening of a new market (…). (4) The conquest of a new source of materials or half-manufactured goods (…). (5) The carrying out of the new organisation of any industry (…)*"* (Schumpeter, 1911).

According to this famous definition, enterprising consists in putting together entities that are novel in their form because they assemble productive resources (material or human, as well as financial) in a new way, or in a way that generates new outputs or markets—thus destructing existing combinations and markets, and fostering economic disequilibrium as a consequence.

A well-known alternative was proposed by Israel M. Kirzner, for whom the entrepreneur was on the contrary the person who notices ("discovers") opportunities on existing markets (Kirzner, 1973), these opportunities being sheer price differentials, which allow arbitrage. Hence defined, the entrepreneur is not a combinator but an arbitrageur who helps satisfy demand, and contributes to making markets converge towards equilibrium.

These two founding definitions of entrepreneurial action are pervasive in the entrepreneurship literature. Initially formulated in opposition to the Schumpeterian view of creative destruction, the Kirznerian view of a more "passive" and market-stabilising entrepreneur has been in part articulated with it, including by Kirzner himself (Kirzner, 1999). New combinations may for instance be seen as profitable answers to opportunities.

Numerous studies have enriched, often at the same time, the analysis of resource combinations and opportunity structures. Major contributions were especially developed thanks to network analysis, which has shown the importance of the personal networks of

entrepreneurs. The density of these networks facilitates the gathering of the necessary resources (Granovetter, 1995; Granovetter, Castilla, Hwang, & Granovetter, 2000) and their structure, which puts the entrepreneur in the position of a broker, generates opportunities (Burt, 1992, 2000). Similarly, the 'resource-based view' of the firm has been applied to entrepreneurship theory, in order to demonstrate the importance of numerous and heterogeneous resources, including cognitive ones, in both combination and opportunity discovery (Alvarez & Busenitz, 2001; Dencker, Gruber, & Shah, 2009).

Yet combination and arbitrage themselves have remained black boxes: the ways in which they are practically undertaken (and could possibly be modified) have not been interrogated. Schumpeter does provide a negative definition of the carrying out of new combinations in practice: it is *not* what managers and directors do on a daily basis, which consists in "mere 'work' like any other, comparable to the service of tending a machine" (p. 63). Enterprising is not work.

Worse, "thorough preparatory work, and special knowledge, breadth of intellectual understanding, talent for logical analysis, may under certain circumstances be sources of failure" (p. 64), because the carrying out of new combinations can only take place outside of the "fixed habits of thinking" and "routines" that define all other kinds of economic activities (p. 65). Kirzner's perspective de-emphasises even more entrepreneurial practice. Insisting on the "passivity" of the entrepreneur, he reduces entrepreneurial action to the momentary and possibly fortuitous "alertness" of the entrepreneur (Kirzner, 1973).

This view of entrepreneurial action has been continued by countless studies that see it as the expression of pre-existing psychological "traits" or socio-cognitive "resources", i.e. of who the entrepreneur is (Chell, 1991). This is highly problematic. It indeed turns the practical activities into a non-consequential black box, first by presenting them as a punctual and somewhat secondary act of vision, discovery, activation or mobilisation, and second by considering them as purely mental and therefore inaccessible activities.

We propose, in this paper, to open this black box, by recognising that new venture formation is a durable and creative process of "entrepreneurial work" (Giraudeau, 2007), and by taking into account the cognitive and observable technologies on which this work is based.

Schumpeter, even though he did not delve on their possible effects on entrepreneurial combinations, did hint towards the importance of knowledge technologies and even remarked on the importance of plans: "(The entrepreneur) must really to some extent do what tradition does for him in everyday life, viz. consciously plan his conduct in

every particular. There will be much more conscious rationality in this than in customary action, which as such does not need to be reflected upon at all; but this plan must necessarily be open not only to errors greater in degree, but also to other kinds of errors than those occurring in customary action" (p. 64).

If the entrepreneur "can give no account" of his activities, as Schumpeter noticeably said in a passage quoted above, he must still engage in some form of planning, however specific it may be, and thus produce plans that sometimes take a material, paper form. But what is the actual shape and role of such "open" plans?

Regrettably, empirical and theoretical research on new venture business plans has long been influenced by studies of the consequences of formal planning on business performance (Chwolka & Raith, 2012; C. C. Miller, Cardinal, L.B., 1994) and has thus mainly focused on the (weak) consequences of formal pre-start-up planning on the ulterior financial results or survival rates of new businesses (Bhide, 2000; Brinckmann, Dietmar, & Kapsa, 2010; Burke, Fraser, & Greene, 2010; Delmar & Shane, 2003; Gruber, 2007; Kraus & Schwarz, 2007; Lange, Mollov, Pearlmutter, Singh, & Bygrave, 2007; Lumpkin, Schrader, & Hills, 1998; Perry, 2001; Robinson & Pearce, 1983). The emphasis, in this literature, is on the existence of business plans and its distant consequences, rather than on their contents, uses and immediate effects in the business formation process.

Other authors, drawing on neo-institutionalist theory, have focused on the role of the demand for business plans, which emanates from funding sources (Kirsch, Goldfarb, & Gera, 2009) and particularly from government bodies in charge of supporting entrepreneurship (Honig & Karlsson, 2004), as well as educative institutions (Honig, 2004). The research conducted by these authors has the advantage of having taken into account the institutional context of business planning practices, but their conclusions regarding the role of business plans in the business formation process are limited.

The business plan, they argue, plays a primarily "symbolic" or "ceremonial" role in business formation. It would be used chiefly to gain legitimacy in the eyes of external parties and, secondarily only, as a learning tool, which could also eventually increase entrepreneurial efficiency. At best, early planning for new ventures thus has observable effects (even if they are indirect) on the confidence of entrepreneurs in the opportunities they try to seize, and therefore also on their perseverance, as well as, consequently, on the likelihood for their ventures to actually emerge (Dimov, 2009).

Here again, however, the focus is on the existence of business plans and not on their contents, as if all the hard planning work of entrepreneurs, who incessantly draft and re-

draft their business plans, took no part *per se* in the actual conception of new businesses. These approaches view (new venture) accounting as sheer myth and ceremony (Carruthers, 1995; J. W. Meyer & Rowan, 1977), a hypothesis which has been challenged strongly in recent years, including by proponents of the institutionalist approach (Lounsbury, 2008), some of whom have for instance highlighted the importance and impact of "institutional work" (Lawrence, Suddaby, & Leca, 2011).

The contents of business plans are thus only described in the literature as formulations of the new venture—mathematical formulas, in fact, for Schumpeter, who refers to "the production functions" of economics (p. 62)—resulting from prior mental processes, as if the business plan (as a format), the preparation of the business plan (as a process), and the contents of each proposed plan (as a set of formulations) had no effect on the type of venture it puts forward.

We contend that business plans are more than the result of prior thought processes. They are, rather, generative, constitutive, i.e. "performative" inscriptions, which play an important part in the progressive design and enactment of the new venture. Preparing a business plan—formulating a new firm—is not neutral: it has consequences on the characteristics of the business entity being created.

2. Economizing with inscriptions

We borrow this idea from Science and Technology Studies. Historians and sociologists of science have precisely shown, over the past three decades, that the activities of scientists themselves cannot in any way be reduced to purely punctual and mental ones. Entrepreneurial activities, like scientific ones, are not best summarized by the interjection "Eureka!"

The point, of course, is not only to emphasize that scientists—and, similarly, entrepreneurs—have *other things* to do besides proposing a certain, personal vision—like gathering funds and other resources, managing teams, etc. (Latour & Woolgar, 1979). The point is to say that entrepreneurial or scientific combination and discovery themselves, or vision and alertness, cannot be reduced to the mental results of a mental eruption and, as a consequence, that psychological traits and pre-existing cognitive resources may not be the only or even the most important factors to explain enterprising activities.

In the case of scientists, it has for instance been shown that specific kinds of 'work', along with the reliance on certain technologies, can explain intellectual creativity or discovery

better than sheer ‘intuition’. A botanist, for instance, may use separate cards to describe each of the plants she is interested in and spread these paper traces, or inscriptions, on her desk. This operation, which is both material and cognitive, will help her recombine the different types of plants into new categories, and eventually develop an innovative theory of their relations (Latour, 1993).

Bruno Latour, one of the leading advocates of Science and Technology Studies, hence concludes: “Most strokes of genius, most flashes of intuition that we impute either to the neurones of researchers or to ‘cognition’ can be explained by the proximity, on the tables of laboratories, of recombined traces” (Latour, 1985). The spiritual views of the mind are not so easy to differentiate from the material views of the body.

We therefore propose to revisit empirically the “carrying out of new combinations” and “discovery of opportunities” by entrepreneurs, on the basis of these advances in the study of so-called ‘intellectual’ or ‘cognitive’ practices. A strong emphasis is hence put on the suffix of the concept of combin-ation, a suffix that reminds us of the activities of combin-ing and discover-ing that precede the entity which may eventually result from them. An even stronger emphasis will also be put on the “tables” and “traces” that not only support and reflect these entrepreneurial activities but also possibly shape them, because of their particular ability to contribute to combination and/or discovery.

Science and Technology Studies have already gone some way in this direction, by being applied to a certain number of economic objects. First among these was the laboratory itself, understood as an enterprise, managed by researchers who behave as “the last remaining wild capitalists”, i.e. following a strict investment logic, where all efforts are oriented towards future returns—financial and non-financial (Latour, 1984). The main technology on which these returns hinge is the patent.

The writing of a patent is a long process of “translation of diverse interests”, so as to facilitate the “enrolment” of various parties such as sponsors, the patent agencies, potential users and the wider public (Myers, 1995). Catering to a different audience than the academic article (Myers, 1985), it requires specific formulation techniques, or “textual devices”, for instance in the way it refers (or not) to competing patents. The point of the patent is not just scientific proof, understood as the rational enrolment of other qualified scientists, but also, at the same time, the demonstration of technological novelty, and thus of potential industrial application and economic benefits. It is not a business plan, but it does share with this accounting technology its relative hybridity.

Other techniques and technologies share these characteristics. The public staging of scientific experiments, and the instruments of observation that facilitate it (such as Galileo's telescopes for instance), have long been used as "instruments of credit", allowing scientists to gather both non-financial *and* financial resources (Biagioli, 2006). Closer to us, the live demonstrations of new technologies by Silicon Valley engineers, in front of mixed audiences of scientists, engineers, journalists and business people, are commonly used to enrol various allies from the scientific and economic worlds (Rosental, 2007).

Noticeably, in all of these cases, the demonstration technology is part of an iterative and interactive process. Scientific invention, this 'recombination of traces on the tables of laboratories', is thus tied to its constituencies, who take a true part in it. The audiences are consulted on the way, and their reactions, comments and critiques fed back into the project. The patent, the experiment, the demonstration are revised to cater to the (financial and non-financial) interests of their respective audiences. The mediation operated by such "mediating instruments" (P. Miller & O'Leary, 2007) is thus part of the combination and discovery process.

The exact same phenomena have been observed regarding instruments that we may call 'techniques and technologies of financial demonstration'. Vargha has shown that the selling of loans within commercial banks involves such forms of iterative and interactive demonstration, when clerks perform and revise repayment simulations in front of customers to convince them of the advantages of a given product, i.e. give credit to credit (Vargha, 2011).

Closer yet to the case of start-ups, Giraudeau has analysed how strategic plans may be used within large industrial companies as "drafts of strategy", thanks to which strategic options are proposed, simulated, explored, discussed, rather than just closed down and imposed from the top (Giraudeau, 2008). This is all the more true in cases of smaller and earlier ventures. Doganova and Eyquem-Renault have demonstrated it clearly by following a same new venture proposal as it went from one investor to another and was revised to suit their interests, thus gaining support and weight, step after step (Doganova & Eyquem-Renault, 2009).

Business plans, we argue, are such a demonstration technology, which mediates between the interests of various constituencies, starting with those of the entrepreneurs and investors, but including also those of the future customers, suppliers, etc., of the new firm. Yet business plans are not patents, nor publicly held scientific experiments, nor live demonstrations of new technologies. They are not either loan repayment simulations, nor

even large-scale strategic plans of existing companies. What business plans bring about while mediating between the heterogeneous interests of entrepreneurs, investors and others is a specific kind of entity. They take part in the invention—in the iterative and interactive combination and discovery—of a new business entity, not of a scientific theory, a novel technology, etc.

The question, therefore, is to understand *how* it is that business plans take part in bringing about a new venture, i.e. what exact "textual devices", or formulations, business plans draw upon to put together the firm as a consistent, fully formed entity appealing simultaneously to all of these interests.

How are economic beings formulated and formed? Science and Technology Studies have started providing answers to this question, notably through the concept of "performativity", according to which a specific type of texts—those of economic theory—take a major part in the formation of the economy. For the proponents of this idea, "economics does not describe an existing external 'economy', but brings that economy into being: economics performs the economy, creating the phenomena it describes" (MacKenzie & Millo, 2003), which was notably supported by the empirical observation of the ways in which prices generated by a pricing formula (Black-Scholes) happen to be involved in the formation of actual market prices.

Following this view, "the economy" itself, as an identifiable part of the social world, can be seen as a by-product of the discipline of economics (Mitchell, 2008). Such phenomena have more recently been accounted for through the broader notion of "economization", which refers to the ways in which such an entity as the economy, or such processes that can be called "economic" may be produced (Çalışkan & Callon, 2010).

This approach has thus made important progress in helping us denaturalize "economic" phenomena and, more importantly, in helping us understand the technologies and processes that take part in naturalizing and maintaining these phenomena, in turning them into taken-for-granted and durable parts of the social world, along the idea that there *is* such a thing as the economy, which imposes its constraints on other portions of social life.

Yet the studies of performativity and economization have chiefly focused on the creation of such economic entities as markets and national economies. To this date, their attention has borne almost exclusively on processes of "marketization", "commodification" or eventually "calculation"—but understood mostly as the calculation of prices (Çalışkan & Callon, 2010). The formation of business organizations, and especially new ventures, has

remained out of the scope of such studies, possibly, in part, because of their excessive focus on economics as the main discipline of economization.

Some management scholars have taken over the task regarding processes of "organizing", whereby organizations are produced and maintained (Czarniawska, 2009; Putnam & Cooren, 2004). In doing so, they have pursued an original Latourian intuition, which put the emphasis on the role of *scripts* in the constitution of organizations: "it is a typical feature of organizations, explained Latour in 1996, to present each and every activity, each and every action, under two different forms: the first being the script, and the second the realization of the script" (Latour, 1996).

The business plan is such a script, which must therefore be studied in relation to its realization. Contrary to other inscriptions used on markets as mediators between supply and demand, such as those found on product packaging for instance (Cochoy, 2002) or even, up to a point, the written simulations of standardized bank loans, the business plan does not represent, or refer to, a pre-existing content. Like other plans and budgets, it is a *proposal*, which puts forward an entity-to-be, and thus seems to have a distinct type of performative ability (Latour, 2013).

But the business plan also differs from other organizational scripts like strategic plans. Students of organizing have indeed generally focused on the human and technical coordination of internal resources, thus neglecting the financial and economic dimensions of business organizations, i.e., to phrase it differently, their inscription within numerous markets, which appears in a striking way in business plans. We insist, here, on holding together the organizational, financial and economic constitution of the firm as a business entity. This can only be done with the help of the conceptual apparatus of accounting studies.

3. Performative accounting

If entrepreneurship studies have paid too little attention to entrepreneurial work, methods and tools, and especially to accounting ones, accounting studies on their side have only rarely focused on entrepreneurship, and even less so on new venture formation. Nonetheless, accounting scholarship provides us with helpful notions to explain how an accounting tool such as the business plan may contribute to new venture formation. This stream of research, which we would happily call the studies of 'creative accounting' if only this phrase did not refer to earnings management, reveals the constitutive effects accounting

can have on various objects, ranging from financial results and strategy to entire business entities.

Accounting techniques and technologies have traditionally been seen as hindering innovation rather than fostering it. 'Creativity' and 'control' would not fit well together. If the use of management control systems to assess the performance of innovation processes can "add perspective" to them by emphasizing the importance of wider concerns relevant to the whole organization or outside markets, it nevertheless generates "tensions" (Mouritsen, Hansen, & Orts Hansen, 2009) by imposing challenging "trials" onto technological innovations (Revellino & Mouritsen, 2009). From this perspective, at the very early stage of the firm as a *project*, accounting formalization would be at its lowest, and entrepreneurial creativity at its peak.

'Creativity' and 'control' have however been reconciled in varied ways within the accounting literature. On the one hand, some authors have insisted on how a careful design of control systems could make them compatible with or even supportive of innovation, for instance if they were able to reinforce the intrinsic motivation of innovators (Adler & Chen, 2011) or if they could be used interactively, for innovators to feed back important information to their managers (Bisbe & Malagueño, 2009). On the other hand, and much more importantly for our purpose here, some authors have suggested that accounting could take a direct part in creative processes, rather than just framing them from the outside in a more or less constraining way.

This is indeed what the literature on accounting and strategy tends to reveal, following the lead of Robert Simons (Simons, 1990). Various studies thus show how strategizing, i.e. strategy design and not just strategy implementation, fed itself on accounting information (Langfield-Smith, 1997). A special emphasis has usually been put, in these studies, on the use of non-financial information in strategizing (Bhimani & Langfield-Smith, 2007; Cardinaels & van Veen-Dirks, 2010; Jorgensen & Messner, 2010), but some studies have also emphasized the importance of numbers for rhetorical purposes in the formulation of strategy (Denis, Langley, & Rouleau, 2006), in line with the role of accounting as a powerful "ammunition machine" (Burchell, Clubb, Hopwood, Hughes, & Nahapiet, 1980). Such strategic uses of accounting information have also been evidenced more broadly, i.e. at various management levels rather than at the sole level of corporate strategy-makers (Hall, 2010).

Yet, is the provision of usable information—financial and non-financial—the only role of accounting in creative processes? The question deserves some attention, because there

is growing evidence that accounting can also play another part within such processes, and more specifically a constitutive, or performative part. The use of accounting information for strategy-making can indeed have some strong effects on the organization which uses it, as well as on its environment. The accounting data used may indeed portray the available "strategic options" and the "external economic conditions" of the organization in a very specific way, and thus favour a certain shape for its strategy, affecting in return its employees, consumers, funders, etc. (Skaerbaek & Tryggestad, 2010).

Further, it is not only predetermined accounting information that can have a constitutive role in creative processes, but also accounting techniques and technologies. Scholars within the field of strategy have been particularly attentive to such phenomena lately, especially among those interested in studying "strategy-as-practice" (Johnson, Langley, Lein, & Whittington, 2007; Whittington, 1996, 2011). Some of them have for instance shown how strategic planning methods (Spee & Jarzabkowski, 2011), as well as budget making activities (Fauré & Rouleau, 2011), but also strategy-making tools such as PowerPoint presentations (Kaplan, 2011) and long-range scenarios (Kornberger & Clegg, 2011) can have such a performative role, as they involve given parties and impose certain shapes to the strategies that will then be implemented.

Most interestingly for us here, a few studies have focused on the constitutive effects of *plans* on organizational strategies. While some authors have highlighted the strong and unilateral "power effects" of such plans within public organisations (Vaara, Sorsa, & Pälli, 2010), others have demonstrated how these performative effects of plans were dependent both on their internal degree of strategic openness (or closure) and on the uses that were made of them by top management (Giraudeau, 2008). In spite of the numerous critiques against the constraining power of strategic plans (Mintzberg, 1994), these tools are indeed often used in a flexible way, as laboratories for the formation of possible strategies (P. Miller & O'Leary, 1994).

Furthering such observations in the case of start ups, the detailed study by Doganova and Renault has shown how the iterative and interactive formulation of a business plan by the entrepreneur and venture capitalists, as well as other parties, was instrumental in the formation of the financial ties that are fundamental to the new venture (Doganova & Eyquem-Renault, 2009).

These studies, however, have focused exclusively on the formation of organizational strategies and financial ties. They have not emphasized what it means, and how it works, to put together an entire new business entity, with all of its dimensions. Such preliminary

observations therefore need to be complemented with further empirical analysis, to demonstrate how it is exactly that business plans, as accounting inscriptions, take part in the formation of whole economic beings, in their full complexity.

There is indeed a whole wealth of possibilities, when it comes to the performative power of accounting techniques and technologies. A whole (Foucauldian) trend of research has of course been devoted to the study of the way accounting contributes to the constitution of "modern subjectivities", be they defined as those of workers (P. Miller, 1992; P. Miller & O'Leary, 1987), of managers (Du Gay, Salaman, & Rees, 1996), of consumers (Fridman, 2010), of anyone of us (Rose, 1990)—and it has already been shown how business plans can take part in this "making of entrepreneurs" or "changing identity of producers" (Giraudeau, 2012; Oakes, Townley, & Cooper, 1998).

But the performative power of accounting goes beyond such subjectivation, as it has long been acknowledged, both from a general point of view (Burchell et al., 1980; Callon, 1998, 2007; Hines, 1988), and from more specific ones. Beyond the sole "recreation" (Espeland & Sauder, 2007) or "ordering" (Vollmer, 2007) of social worlds by accounting measures, studies have indeed revealed how specific accounting techniques and technologies may be instrumental in the constitution of corporations as large, divisionalized but manageable organizations (Chandler Jr & Daems, 1979; Nor-Aziah & Scapens, 2007), of entire industries or markets where firms coordinate with each other over time (Callon & Muniesa, 2005; P. Miller & O'Leary, 2007), or even the economy as a separate sphere of activities (Hopwood, 1992).

Does the formation of a new business entity with a business plan draw on any of these possibilities? Unavoidably, the business plan must put forward an organization that is a commercial entity rather than a sheer production organization (Ezzamel, Lilley, & Willmott, 2004) and it must, for that purpose, constitute the new firm as an accounting entity whose success of failure will be measurable (Kurunmaki, 1999; Kurunmäki & Miller, 2011; P. Miller & Power, 1995), and whose boundaries will be clearly defined (Araujo, Dubois, & Gadde, 2003; Biondi, 2007; P. E. Meyer, 1973).

Yet, contrary to more commonly studied accounting techniques and technologies, the business plan cannot 'just' transform an existing organizational entity into an entity of another shape or nature. It has to combine and discover this new entity altogether, to formulate and form it from scratch, or at least from rawer materials than the ones on which accounting techniques and technologies usually apply their powers. In many respects, the new venture

thus originates within the business plan itself, and this is why a study of its formation requires that we open up the plan, so as to study its constitutive powers from the inside.

METHOD AND DATA

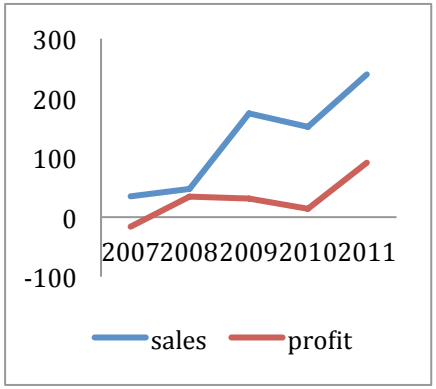
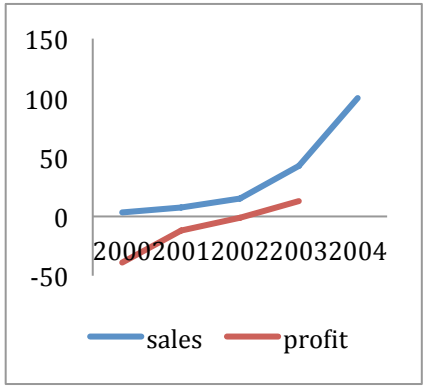
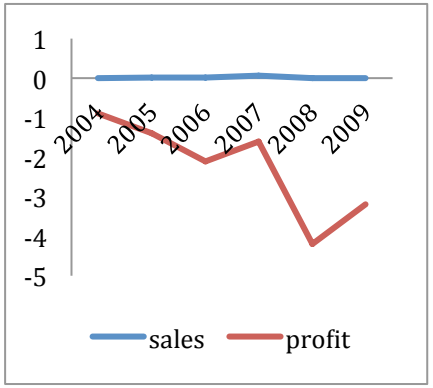
Our analysis draws on a sample of business plans that were collected as part of a research on academic entrepreneurship, that is, the creation of start-up companies by scientists willing to commercialize the results of their research (Doganova, 2012). The number of such "academic spin-offs" has significantly increased since the 1990s, as the transfer of knowledge and technologies generated in public research organizations has become a key objective of innovation policies and a wide array of measures (e.g., changes in the ownership of intellectual property and in the employment status of researchers, development of technology transfer offices, incubators, seed capital funds, start-up competitions, etc.) has been implemented to encourage scientists to engage in entrepreneurship.

The writing of business plans is central in this process through which scientists become entrepreneurs and academic spin-offs are created. Academic entrepreneurship constitutes a privileged locus for an analysis of the roles of business plans in business formation, because it entails creating a business activity out of something—i.e. knowledge or technology—which initially belongs to a non-commercial environment. Further, the founders of academic spin-offs often lack business training, which makes their entrepreneurial work more easily observable, and their reliance on entrepreneurial methods and tools possibly stronger.

While our initial research included the construction of a database of 399 academic spin-offs founded until 2006 in France, as well as interviews in 25 of these companies, for the purpose of this study we decided to focus on the business plans produced by three of them (for a similar approach, see Mouritsen, Larsen, and Bukh (2001)'s analysis of intellectual capital statements). Our sample consists in seven business plans, which were written by the three start-ups at different moments in time (see Table 1).

Thus, for each start-up, successive versions of the plan are available, which makes visible the learning process that the authors undergo and leaves traces of the negotiation with those to whom the plans are addressed (Myers, 1985, 1995). In addition to analysing the

Table 1: Presentation of the empirical material and of the three start-ups

	Mobility	**Shopbot**	**Biotech**
Founders	Scientists (academia)	Scientists (industry)	Scientists (academia)
Born in	2006	1999	2000 (1st investment in 2013)
Died in	2012 - bankruptcy	2004—bought by Yahoo! for 465 million €	2010—bankruptcy
Life trajectory	Evolution of sales and profit (000€): 	Evolution of sales and profit (M€): 	Evolution of sales and profit (M€): 
Technology transferred	Algorithm that allows processing data incoming from vehicles in order to calculate travel times	Software that allows accessing heterogeneous and distributed data	Knowledge about the ubiquitin-proteasome pathway of protein degradation
Business model	1) Software editor: sell software components to service operators who supply traffic information to companies operating professional vehicle fleets 2) Service operator: sell travel time predictions to private customers via smartphone and website	1) Software editor: sell customized software to large organizations that need a unified view of their distributed data (e.g., internet service providers, banks, universities) 2) Shopping robot: operate a website that provides a free price comparison service, and draw revenues from advertisement and affiliated online merchants	1) Develop therapeutic and diagnostic tools in the fields of cancer, chronic inflammation, neurogenerative diseases and viral infections 2) Develop a drug discovery platform for compounds targeting protein degradation, and use it to develop anti-fungal and anti-cancer drug candidates
Empirical material examined for the case study	Documents: 2 business plans (2006 and 2007), presented at a competition for public subsidies Interviews: 2 interviews with the founders	Documents: 2 business plans (spring and autumn 1999), presented to investors Interviews: 2 interviews with the founders and 2 interviews with the investors	Documents: 3 business plans (2000, 2004 and 2005), presented to investors Interviews: 1 interview with the founder and 1 interview with the investors

contents of the business plans, we conducted interviews with the start-ups' founders and investors, in order to gain further insight about the preparation and the uses of these documents. This methodology allowed us to observe the creation of business entities both *in* and *with* the plan.

Our sample of business plans was constituted with the objective of maximising diversity between the studied plans within our sample (see Table 1). While our methodology entailed focusing attention on a limited number of documents in order to provide a detailed description of their contents, we thus ensured that the conclusions drawn are valid for different types of plans, whose contents vary within the shared "plan of the plan". We could thus show the varying forms of internal coherence established by business plans and examine the relative flexibility of the plan across different settings. Two criteria guided our selection: the diversity of the ventures and of the conditions of production of the business plans.

Diversity stems first from the characteristics of the three selected start-ups. The first one, which we will call Mobility[2], was founded in 2006 to commercialize applications for an algorithm developed to compute predicted travel times by processing data sent by moving vehicles. The second start-up, Shopbot, was founded in 1999 to commercialize another type of information technology: software components developed to access heterogeneous data distributed in multiple locations. Finally, Biotech was a biotechnology start-up founded in 2000 to develop new drugs by exploiting a recently discovered mechanism of protein degradation. None of these companies is still in operations as an autonomous entity today: while Mobility and Biotech went bankrupt, respectively in 2012 and 2010, Shopbot was sold to a leading multinational internet corporation for nearly half a billion Euros five years after its creation.

A second source of diversity stems from the conditions of production of the plans. While all of them were written with the objective to seek funding, Mobility's plan was addressed to a French national competition for the creation of innovative start-ups organized by a public agency, and Shopbot and Biotech's plans were addressed to private investors. Moreover, while Shopbot's plans (both from 1999) date back to a period when the creation of spin-off companies and the internet industry were still in their infancy, the writing of Mobility's plans (2006 and 2007) and Biotech's later plans (2004 and 2005) followed more stabilized templates and procedures and was accompanied by professional advisors (Mobility was part of an incubator, and Biotech's CEO benefited from the services of a coach).

[2] For confidentiality reasons, the names of the companies have been replaced by fictitious names.

A common structure of the document can be identified across the seven business plans. While the plans vary in their length and in their contents (see Table 2), they all include four standard components. They typically start with the description of a market opportunity and of the business model that the firm will adopt to exploit this opportunity. The second component is the presentation of the human and technological resources of the firm. Towards the end of the document appear the financial projections, explaining how much revenues the firm will generate and how much funds it needs in order to achieve this. Finally, to the body of the plan are attached a number of appendices, which contain further details on the firm's founders, technology and market, financial performance, prospective customers, etc.

Table 2: Structure of the seven business plans

	Mobility *(section titles and length)*	Biotech *(section titles and length)*	Shopbot *(section titles and length)*
Version 1	Summary (1) Presentation of the project (5) Market and competition study (2) Commercial study (1) Technical study (2) Human resources and managerial team (1) Company structure (1) Financial needs and forecast funding (1) Appendix	Summary (2) Founding team (1) Scientific strategy (4) Research and development (7) Operational program for research and development (5) Proprietary intellectual rights (1) Value creation, positioning in industry and business model (5) Appendix	Introduction (3) The market (4) The competition (3) Market positioning (2) Marketing plan (5) Business plan (8) Funding plan (2) Appendix
Version 2	Summary (2) Introduction (1) Presentation of the project (9) Market and commercial objectives (8) Technical study (1) Human resources and managerial team (2) Financial needs and forecast funding (1) Company structure (1) Appendix	Executive summary (6) Biotech's drug discovery approach (4) Drug discovery programs (8) Technology platform (6) Competition (2) Management (4) Financial data (14) Appendix	Executive summary (4) Presentation of the company (2) Services offered on "shopbot.com" (2) Strategy (2) Business model (2) Service development plan (6) Launching plan (4) Projected revenues (1) Contract with "pilot customer" (1) Key milestones (1) Management (2) Appendix
Version 3		Summary (2) Company overview (1) "Biotech" is targeting protein degradation to discover and develop novel drugs (5) Program for indication X (9) Program for indication Y (4) Intellectual property (1) Management team (2) Strategy and future milestones (1) Appendix	

In the next section, we analyse how these four components bring Mobility, Shopbot and Biotech to existence by formulating them. We introduce the four components in the same order as they appear within the plans, so as to make visible the linear structure of business plans and its capacity to produce something out of nothing: as each plan unfolds, a new entity—the future firm—gradually takes shape and gains reality. We analyse the different definitions of the firm, temporalities and demonstrative techniques to which business plans resort in each of their components.

FOUR FORMULATIONS FOR THE FIRM

1. An opportunity and a business model: the firm as a source of value

The first thing that one is given to see when she opens a business plan is an "opportunity". While the opportunities pursued vary from one venture to another, several standard features can be identified in the narrative deployed to formulate them. First, it puts in play three typical characters: users who have unmet "needs", the new venture which can satisfy these needs, and incumbents who have hitherto failed to do so. Second, it is organized around a two-step plot: an initial situation, which is problematic in so far as it begs for action to be taken; the arrival of the new venture, which offers a "solution" to the problem. Third, the temporality of this narrative is that of *kairos*, rather than *chronos:* it denotes a timely moment, "the right time" to act, "a passing instant when an opening appears which must be driven through with force if success is to be achieved" (Bartunek & Necochea, 2000; White, 1987).

Let us illustrate these three features with the opening scene of Mobility's business plan. Here, the role of the unsatisfied users is played by drivers, and that of the failing incumbents is played by the providers of existing navigation tools. The initial situation is constituted thanks to the textual formulation of the unmet needs of drivers, who are said to travel without knowing when they will arrive at their destination; the arrival of the new venture is presented as bringing a solution to this problem by providing drivers with predicted door-to-door travel times. The narrative creates a sense of urgency and calls for action to be taken now, for the addressed problem is no longer bearable: drivers appear to suffer.

The first paragraph of the plan, positioned next to a picture of a traffic jam, sketches a world in which drivers are deprived from the ability to move and to predict: *"In big cities road infrastructure develops less quickly than do travel needs. Drivers undergo chronic and* ***unpredictable*** *travel* ***difficulties*** *which engender significant* ***stress****."* Navigation tools meant

to help drivers do exist, but *"most often only meet a punctual need: searching for an itinerary in an unknown territory"* and thus miss the type of information that *"the majority of users vote for"*: information on travel times on a known itinerary, like that between home and work. It is at this moment that the new venture appears: *"Mobility offers an answer to this problem by providing **predicted** door-to-door **travel times** for **a given route**."* Follow a series of *"benefits"*: users can *"choose **the best moment to leave** (…), know the **arrival time** and inform those who are waiting for them (…), **better manage** their **schedule**, **eliminate** an important factor of **stress**."*[3] (emphasis in the original).

The initial situations depicted in Biotech's and Shopbot's plans are not built around such emphasis on a problem to be solved and a need to be met, but they are made problematic: they are said to contain a potential that is ripe for harvesting; and hence they require a response, they call for something to be done, they trigger action. The first sentences of Biotech's business plan argue, *"Protein degradation has recently emerged as a major opportunity for novel drug development in several therapeutic areas. Beyond the attention drawn to the subject with the award of the Nobel Prize in 2004, the field **has already caught the attention** of leading pharmaceutical companies."* The trend that Biotech targets is described as rising but fleeting: that others have seen the opportunity provides evidence that it is valuable but also raises the threat that it may not last long, for others may be ready to exploit it. Shopbot makes the following *"proposition to investors: invest in the future leading European electronic hypermarket, **at the precise moment** when electronic commerce on the Internet **is exploding** in Europe"*.

If the first step of a business plan is to sketch an opportunity—a problematic situation characterized by the urge to take action and the new venture's capacity to do so (e.g., satisfy users' unmet needs, ride a rising trend)—, its second step is to transform this opportunity into future economic value. The transformation is twofold: from benefits, such as the lesser stress that a driver experiences when she knows her arrival time, into economic value and firm profits; and from the *kairos* temporality of the right moment to act into the *chronos* temporality of a linear future. The "business model" can be analysed as a textual device that performs this twofold transformation (Doganova & Muniesa, forthcoming). To illustrate how this device works, let us turn back to Mobility's business plan.

After having depicted the problematic situation (drivers are stuck in traffic jams, cannot predict their arrival time, suffer from stress…) that the new venture proposes to

[3] The quotations used, in italics, in this section ("Four formulations for the firm") are drawn from the seven business plans that constitute our sample and the interviews that we conducted with the three start-ups' founders and investors. Authors' translation and emphasis added, unless specified otherwise.

"*solve*", the plan presents in further detail the imagined solution. It consists in three technical artefacts: a widget, a website, and a smartphone. Each of these artefacts is presented in a twofold manner: as proposing a service to the user and as generating revenue for the new venture. For example, the description of the smartphone on which the predicted travel times computed by Mobility's algorithm will appear intertwines narratives about how users value the artefact (e.g., *"a device appreciated by 76% of the people surveyed"*), textual and graphical representations of how they interact with it, and a "business model". The business model explains how these user/artefact interactions generate revenues for the new venture: e.g., *"while the sleep mode is free, the guiding mode is not (…); two options are offered: an hourly use of the service for X€; a monthly subscription for Y€"*. We can thus see how the business model transforms user benefits into economic value, and an urgent need to solve a problem into a stream of future payments which, whether they occur on a regular (e.g., monthly) or ad hoc basis, whether they are compulsory or optional, are all captured by the new venture and feed in its revenues.

The space devoted to the exhibition of the new venture's business model varies from plan to plan. In the case of Biotech, for example, there are hardly any explanations regarding it. In fact, in the biotechnology industry the repertoire of business models is limited; there are few recipes that entrepreneurs can follow and they generally end up choosing between two "model" models (Baden-Fuller & Morgan, 2010): one that is oriented towards product development, worldwide markets and fast growth, and one that is oriented towards services, local markets and long-term profitability (DiVito, 2012; Mangematin et al., 2003). The sentence that opens Biotech's plan—*"Biotech is a product company focused on the discovery of new ubiquitin-based drugs to treat fungal infections and cancer"*—clearly indicates that the new venture has opted for the product development model. Behind it lies a scenario that industry players know by heart: fund the early stages of drug development through venture capital investment and sell the resulting assets and/or the whole firm to a corporate buyer (through a tradesale) or to the capital market (through an IPO).

The description of the business model also varies across the successive versions of a given start-up's business plan. Comparing the drafts that entrepreneurs write, present to investors and other potential partners, and then revise following comments and criticism, reveals the work that is required to formulate a business model. The case of Shopbot sheds light on the techniques that entrepreneurs learn over the months (and sometimes years) that they spend searching for funding and presenting their plans, as well as on the impact left by negotiations with investors on the shape of the future firm. Shopbot's first business plan enumerates examples of settings in which the "*need*" that the start-up proposes to "*satisfy*"

appears to be present: a large bank, a hospital, a big university city, an internet service provider—*"all sorts of organizations that have the same fundamental need: to access information"*. By contrast, its second business plan encapsulates the service offered by the firm in a single phrase: a *"giant virtual hypermarket"* that online shoppers can visit to compare the products available on hundreds of merchant websites and search for the best price. In its first business plan, the new venture was to sell software and services to large organizations in different *"domains of application"*, while in the second business plan the business model rests on *"the generation of audience (…); revenues are generated by advertisement and the sale of services to merchant websites".*

According to our respondents, this change was triggered by the encounter between the scientists-entrepreneurs and venture capitalists. The latter conditioned their investment on the adoption of this *"new business model"*: use the start-up's technology to build a search engine that would allow internet users to find the best price for a product, and hence allow internet merchants to attract these willing-to-buy customers, in exchange for an annual subscription and a commission on sales. The advantage of the "shopping robot" model over the one that entrepreneurs had initially designed lied in its capacity to generate a stream of regular, almost continuous, payments flowing from online merchants to the new venture (a capacity brought to its climax with the "pay per click" business model, invented by GoTo.com and popularized by Google, which Shopbot actually ended up adopting a few months after the start of its operations).

These examples shed light on how entrepreneurs and investors use the business model as a tool to transform an opportunity into an entity capable of generating future economic value. The invention of a problematic situation makes the new venture's offer *valuable*, while calling for action to be taken *now*; from this situation, the business model derives *economic value* projected onto *a linear future*. Mobility's travel times, for example, appear as *"beneficial"*, by contrast to an initial state of affairs characterized by traffic jams, unpredictability and stress. However, this is not enough for investors to be enrolled. The trick performed by the business model is to position the firm as the source of a stream of services and a flow of payments. Producing economic value, the business model also produces a future. Certainly, the density of time greatly varies with different business models. In Biotech's business model, time consists in a few events: the venture capitalists' investment rounds, the achievement of project-specific milestones and industry-wide drug development phases, and the sale of the new venture to an incumbent company or to capital markets. In Shopbot's and Mobility's business models, time is denser, as payments may occur in every interaction with users or customers. Beyond these variations, one finds a common template:

the ordering of time into a linear sequence. This transformation of *kairos* into *chronos* temporality is crucial for the continuation of the business plan, for it facilitates the implementation of economic calculation (Araujo & Easton, 2012), as well as the deployment of planning and the definition of the next steps to be taken, as we will see in the following sections.

2. Technologies and people: the firm as a compound of resources

We have seen how the first sections of a business plan sketch an opportunity and convert it into economic value through the mechanics of the business model. So far, the description of the new venture has been limited to the set of products or services that it intends to place on the market. As the document unfolds, the new venture is given a different shape: that of a compound of resources. The business plan starts listing the elements whose combination will constitute the future firm as a production entity—mainly, technologies and people. What is to be included in the list? What counts as a valuable element, i.e. as a true "resource"? And where does the list end? In what follows, we will address these questions and show how the business plan bonds the firm's constitutive elements and, in doing so, also draws the frontiers of the future firm.

The raison d'être of academic spin-offs is their technology—a technology that has been transferred from a public research organization in view of its commercialization. While the technology in question may refer to very different things (a mathematical algorithm and a database, in the case of Mobility; a molecule screening platform and a protein degradation mechanism, in the case of Biotech; software components and a website, in the case of Shopbot), a common characteristic is its "innovativeness", expressed by terms such as "*disruptive"* and *"novel"* (a term that appears 23 times in Biotech's business plan). While innovativeness is depicted as an asset, it also raises a problem: how can the value of a technology that is new, and generally still in the process of being developed, be demonstrated to the partners whom the business plan aims to enrol?

Two (complementary) demonstrative techniques can be identified. The first articulates a past for the technology: business plans stress, for example, the *"preliminary technical studies that have been carried out"* (Mobility) or the *"achievements"* of a drug development program (Biotech). The second one articulates a future: a range of prospective applications is drawn, to suggest that the technology is valuable due to its manifold possible uses. For example, in Biotech's business plan, the *"very large therapeutic potential"* of the technology is emphasized, and its *"broad biological activity against a large spectrum of*

pathogenic [agents]" counts as a major *"advantage"*. However, a broadly applicable technology is not necessarily considered as a valuable resource by investors. Such a valuation gap was experienced by the founders of Shopbot when they presented their first business plan to venture capitalists. The entrepreneurs recall this business plan as *"beautiful, because it was very complete: all the alternatives were there, (…) to show the potential (…), so that the investors could see the different possibilities"*. Conversely, for the venture capitalists to whom it was presented, this was *"a technoid* (sic) *plan, not a business plan; [it was] a plan centred on: 'So, here it is: my technology can do this, so I will target these markets…'; but a plan is about asking customers what their needs are, where it hurts, and checking what kind of solution we can bring to them."*

While the studied business plans emphasize technology as a key constitutive element of the future firm, it appears that turning an early-stage technology into a valuable resource, both on paper and in the lab, is a process fraught with uncertainty. Indeed, a venture capitalists' adage is that they do not invest in technology—they invest in a team (Macmillan, Siegel, & Narasimha, 1985; Mason & Starck, 2004). Unsurprisingly then, business plans devote a section to the description of the people who (will) work for the new venture. These "human resources" include three main elements: a management team, an advisory board, and (current or future) employees.

It is to the presentation of the management team that business plans grant most space. The team is exhibited as a collection of individuals, portrayed through short stories and endowed with specific competences. For each member of the team, a short bio presents her educational degrees (e.g., PhD, MBA), work experience (e.g., positions held in companies or research centres), skills (e.g., team coordination, project management, drug/software development), and achievements (e.g., publications, discoveries, distinctions). In some business plans, the management team is complemented by an "advisory board". Its members have shorter bios, and are introduced by the positions they hold in a (typically large and, when possible, prestigious) public or private organization, and/or by their status of "experts" in a given field. By contrast, lower-level employees are either absent from the business plan or summed up into a homogeneous mass, characterized by its volume and broken down into standard categories corresponding to different corporate functions and hierarchical levels.

This contrast reflects a definition of the firm according to which the valuable human resource of a new venture lies in the personal qualities of the entrepreneurs. But to what extent are the firm's managers' past achievements a reliable indicator of their fit for *this* new

venture? Similarly to the case of technological resources discussed above, this question is raised by venture capitalists, who are all the more worried that they believe that academic entrepreneurs tend to be better at science- than at market-related activities. The idea that entrepreneurship requires specific skills, which are at odds with the ones cultivated in the world of science, is indeed widespread among investors[4]. Be it justified or not, such a conception of the entrepreneur triggers a certain mistrust towards the scientists willing to found a company. Investors tend to either push them aside from the management of the future firm[5], or engage in building the skills that they are said to lack.

In this respect, the business plan itself is used as a training and testing device. Indeed, a recurring theme in the academic and practitioner literature on entrepreneurship is that writing a plan enhances the managerial skills of the entrepreneur (Delmar & Shane, 2003). Furthermore, our interviews emphasize the pedagogical function played by business plans (Oakes et al., 1998), as through their writing and revision scientists-entrepreneurs are directed into thinking and acting in a certain way: demonstrating the qualities that are expected from them (and that they are suspected of lacking), espousing investors' views on what is valuable and shaping the future firm accordingly. The plan thus serves to fit the entrepreneur to the investor. As one of the venture capitalists whom we interviewed explained, "*we must reach an agreement with the company both on a long-term plan—saying 'this is the potential market that we can address'—and on a short-term plan—saying 'this is what we are going to do next year'".* Neither the managers' self-proclaimed qualities listed in the plan, nor the accuracy of the plan's predictions, are sufficient to convince investors; as explained by one of them below, it is the plan, as a whole, that counts:

"Not a single second do we [venture capitalists] believe in the [projections of the] plan. The business plan serves to ***test the capacity of management****, to demonstrate that management is able to think of everything. And that it has* ***coherence****. And since, of course, nothing will happen like in the business plan, we have to make sure that management pays enough attention to* ***all the elements****, so as to change, as soon as things start moving. But we never apply the business plan. (…) The business plan (…) has a pedagogical function, internally, to make sure that everything has been thought of, that everyone is more or less*

[4] For example, one of the investors whom we interviewed shared his belief that a scientist is characterized by long-term thinking, solitary work and a big ego, while an entrepreneur is driven by the pursuit of new deals and works in team.

[5] It is noteworthy that in the cases of Shopbot and Biotech, that is, the two new ventures that succeeded to raise venture capital, the scientists-entrepreneurs who founded the firms were first moved from the position of CEO to that of CSO, and left the company a few years later.

aligned. And for the people outside, it serves to test for coherence, that's all. But no budget, of any company, has ever been met."

Two criteria are put forward in the above quotation: exhaustiveness and coherence. A good plan is one that includes an exhaustive list of elements and bonds them together in a coherent whole. The requirement for coherence, however, is not limited to the inside of the entity that is constituted through the combination of technological and human resources. As we have seen, emphasis is also put on the fit between entrepreneurs and investors, and between technologies and customers, i.e. external coherence. In fact, the very frontier between the future firm's inside and outside is yet unstable. The users of a price comparison website may become the most valuable resource of an internet start-up whose business model is based on the generation of audience: it is those users that Shopbot will "sell" to the company that acquired it a few years after its founding. The reverse movement can be observed in the case of Biotech since, the business plan explains, *"most of the company's medicinal chemistry is outsourced to companies who operate under the direction of [Biotech's] chemists and under the supervision of experienced chemists who are acting as [Biotech's] operational advisors"*: a movement brought to a climax in the "virtual biotech" model that has gained increasingly popularity today, for its capacity to "maximize cash efficiency" (Chakma, Calcagno, Behbahani, & Mojtahedian, 2009).

By listing the elements that constitute the future firm, the business plan draws two lines of demarcation. A first line sketches the frontiers of the firm, separating its inside from its outside (e.g., employees vs. subcontractors, managers vs. advisors, products vs. users). A second line distinguishes, within the firm, valuable resources (e.g., the people who compose the management team) from costly assets (e.g., the firm's employees). These demarcations have important implications when it comes to distributing the economic value that the firm is supposed to generate in the future, as we will see in the following section devoted to the financials of business plans.

3. Revenue projections and the use of proceeds: the firm as an investment

The sketching of an opportunity, the coining of a business model and the combination of resources take up almost the entire body of a business plan. Little space, typically a few pages at the end of the document, is devoted to the financials of the future firm. A new type of formulation of the new firm is introduced here: lapidary, expressed in the format of the table and in the language of accounting. It installs the firm as a financial entity: not only a market actor that offers products and services and an organization that possesses

a set of resources, but an investment opportunity characterized by a certain set of costs and revenues that will be generated in the future and that those who take a stake in will have to bear. We will focus on two recurring formats in the plans' financials—revenue projections and the use of funds—in order to shed light on the valuation chain from which the very precise but highly uncertain numbers that business plans display result, and on the forms of accountability that they institute.

On the penultimate page of Mobility's business plan appears a table with the new firm's P&L statement budgeted for the next five years. One can read, for example, that Mobility's revenues will increase from a little less than 150 thousand euros in the year of its founding to almost 7 million euros after five years of existence. How are such calculations, which delve into the future, produced and assessed? The method with which these numbers are computed (in this case, by adding up the revenues generated by Mobility's three main sources of revenues: subscriptions, fees on text messages, and advertisements) and the precision with which they are expressed (e.g., €4.014.823 sales in 2010) are indeed surprising when one recalls that at the time when they are written there are neither customers who buy subscriptions and send text messages, nor third party companies who place advertisements on Mobility's website.

Mobility's business plan evokes 4 million euros of sales to be generated in 2010 a few pages before the financials, in a section entitled *"market and commercial objectives"*. Here, this number appears as the result of a different calculation, which puts in play the nominal, ordinal and numerical scales of valuation (Guyer, 2004). It starts by defining the new venture's target market (*"the European market for LBS (location-based services) for urban mobility")*, describing its size and growth prospects, and drawing its *"value chain"* by means of a diagram. Mobility is *"positioned"* in one of the links of this value chain, which is occupied by *"LBS operators"*. Labelled as an *"LBS operator"* and placed in a category, the new venture can be compared to other firms which lie in the same position. The comparison proceeds by outlining six *"product advantages"* of Mobility over the *"existing supply"*. The following conclusion is then drawn: given the fact that available studies estimate that the *"European LBS market (…) will be worth 250 million euros in 2010"*, and that Mobility has these *"product advantages"*, the new venture is expected to achieve a market share of 1.5%, which corresponds to a turnover of almost 4 million euros.

The mention of a totality that will be *"worth 250 million euros"* and the claim of a 1.5% share of it allow the authors of the plan to translate a loosely defined and still non-existing product into a very precise amount of future revenues. In this translation process, the

"value chain" diagram and the *"market share"* figure serve as a "trope": a conversion operator that pegs different valuation scales to each other by establishing an equivalence between them—equivalence which is local and indeterminate, for *"one scale is not exactly reducible to the terms of another, [and hence] a margin for gain lies in the negotiation of situational matching"* (Guyer, 2004p. 51).

Another common trope in business plans is the *"number of users"* metric. This is the case in Shopbot's second plan, where projected revenues for the next three years are presented in a table derived from a symmetrical table with projected users, growing from 0 at the time of the start of operations to 1 million in the beginning of the second year, then 3 million in the beginning of the third year, to reach 9.972.000 at the end of the third year. The number of users drives Shopbot's business model (which, as explained above, consists in offering a free guide to internet shoppers, while "selling" these users to online merchants and to third party companies); but also, similar to the market share percentage and the value chain diagram in the case of Mobility, it allows for numerical scales to come in play. Users mean both revenues coming into the new venture, with online merchants and advertisers being ready to pay a certain amount to attract or display themselves to internet shoppers, and expenses coming out, for each user has a *"cost of acquisition"* (e.g., $10 per user in the first year).

This form of reasoning is not straightforward. The comparison of the two successive versions of Shopbot's business plan illustrates the learning process that entrepreneurs undergo in their planning endeavours. In the first business plan, revenue forecasts are derived from a selection of six *"representative deals"* (*"their commercial profile*, explains the document, *is hypothetical, but they are based on past, current or projected experimentations"*). For each of these deals, information is provided on the generated turnover, the *"resources consumed",* and the extent to which the deal is *"reproducible".* In the second business plan, written after the entrepreneurs' encounter with venture capitalists, revenues are no longer calculated through the addition of singular and potentially *"reproducible"* deal-types, but through the automatic conversion of millions of users into a steady flow of payments. They are laid down on a time scale, along which they show a consistent growth; by contrast, costs increasingly lag behind. Revenues amount to 7 million francs in the first year, then 40, then 220, and then, needless to say, even more; already in the first year of its existence, the start-up, as remodelled by venture capitalists, is supposed to generate more revenues than it would have done in the most optimistic scenario envisaged in the first business plan (i.e., 1.7 million francs).

The spectacular generation of revenues depicted in Shopbot's business plan does not occur without a counterpart. The counterpart is an *"investment need of around 100 million francs"*. This need is given a central place in the executive summary where the *"the transaction proposed"* by the entrepreneurs to the investors is made explicit: the new venture, as it exists in the plan, *"aims at raising a minimum of 20 million francs in the first financing round"*. Explanations follow on *"the use of raised funds"*: e.g., to finance technical development and an advertising campaign, to recruit staff, to develop sales and marketing activities. Albeit devoid of numbers, these paragraphs institute a form of accountability for the future firm, which is indebted to investors not because it has to reimburse the money it would have been lent, but because of the commitments made as to the uses of this money.

The use of funds, or *"use of proceeds",* is all the more important in the business plans written by biotechnology start-ups, for—as we have already explained—a dominant model in this industry consists in funding the early stages of drug development through venture capital investment and licensing the resulting assets or selling the whole venture to a pharmaceutical company. In the "calculative frame" (Beunza & Garud, 2007) established by this model—a model which was vividly described by an entrepreneur whom we interviewed as *"a bathtub that is emptying itself and gets filled from time to time"*—, neither "revenues" nor "profits" can be a key performance measure. Indeed, none of these words is part of the vocabulary of Biotech's business plan. The ultimate page of the plan explains that Biotech *"is raising €9 million to provide adequate working capital and funding [in the next three years]";* in exchange, the start-up will not generate revenues, but it will *"create value by reaching [three] milestones"* (corresponding to the completion of different phases in the drug development process) and will *"position itself to become increasingly attractive to pharma companies or large biotechs in order to provide its shareholders with an exit strategy through a trade sale."* A *"use of proceeds"* table explains the ways in which the €9 million will be spent in the next three years, distinguishing between R&D and G&A costs. A *"monthly burn rate"*, measuring the amount of cash that will be "burnt", or "sunk in the bathtub", each month, accompanies the use of proceeds table in another version of this business plan.

While they both use the language of accounting to delve into the future, revenue projections and the use of funds institute different types of accountability. When it comes to estimating future revenues, the only constraint appears to lie in the imperative for coherence (the numbers, albeit uncertain, need to be correctly calculated, that is, to respect established calculative frames and combinations of the nominal, ordinal and numerical scales of valuation) and in the normalized financial expectations of venture capitalists (the numbers

need to be high, and growing). With the use of proceeds, what is written in the plan entails a form of commitment and positions entrepreneurs as accountable towards investors.

4. Proofs and contracts: the firm as a real(istic) entity

When such a precise figure as the €4.014.823 revenues projected for the fourth year of a yet unoperational firm pops up in Mobility's profit and loss statement, one cannot help but fear illusion. This is in fact the idea behind many critiques of business plans, which attack their fictiveness and, ultimately, their deceitfulness (see, e.g., (Blank, 2013)). But the business plan includes a fourth type of formulation, which can be understood as an anticipated response to such critiques. This formulation aims at giving a new kind of weight to the assertions made in the previous parts of the plan, i.e. to make them more "real"—or at least, we will show, "real" in new ways, beyond the undeniable but yet limited reality of the plan itself.

This formulation relies on two complementary components. The first component prepares the advent of the new business being into the world by demonstrating that it will be welcome within this world. This part of the formulation draws on scientific ideals of proof (Power, 1996), and on an instrument like the market study, to reveal the *realism* of the proposed project: the way the new firm fits within existing markets, the way it may satisfy existing customers, etc. The second component of this kind of formulation goes further. It also draws on an ideal of proof, but the proof this time is not primarily scientific: it is mainly legal. The *reality* of the future firm is indeed pre-constituted thanks to the inclusion within the plan of (more or less) binding promises, in the form especially of contracts and quasi-contracts.

Business plans contain a constant call on "reality". It is instilled throughout the document, by the use of various textual devices. The market study is the main one of these. We have seen already that market studies are mobilized by business plans' financial formulas: estimates of Mobility's future revenues, for example, are conditioned upon its *"positioning"* in *"the European market for LBS (location-based services)"*, which allows both for the new venture to be compared to *"the existing offer"* and for its *"product advantages"* to be translated in terms of *"market share"* and hence sales. Let us now look in further detail at this *"positioning"*. It takes place in a section of the business plan entitled *"Market and commercial objectives"*. The section starts by describing a *"target market"*:

*"Different LBS services **are already proposed** by mobile operators. (…) The consultancy firm [XXX] foresees a high growth of the LBS market in Europe. In 2010, the market is estimated at around 622 million euros for Europe, that is, 4 times more than in 2005." (emphasis added)*

There are two important pieces of information in this quote. First, the market that the future firm targets is said to be *"already"* there. Second, it is said to be going to grow—a statement supported by the reference to an expert (a consultancy company) and by two graphs that display ascending curves representing user numbers and revenue amounts.

The next step is to place the future firm within the existing (and expanding) market thus established. This is done by means of two visualization tools: a value chain diagram and a geographical map. The value chain diagram consists in a series of links, moving from suppliers upstream to end customers downstream. One of the boxes is occupied by location-based service providers, among which Mobility figures. The geographical map represents a subset of European countries, in each of which a mobile operator is nested (e.g., SFR in France and in the UK, Vodafone in Spain and Sweden), with whom Mobility is likely to initiate a partnership. The business plan thus draws a present context, both industrial and geographical, in which the future firm can insert itself. The new venture, the plan appears to be claiming, has its place in our world.

The fit between the future firm's product and present users' needs is further adjusted in the business plan by means of another type of market study which focuses no longer on a general "target market" but on the specific product or service that the new venture intends to commercialize. Mobility mentions three such studies: "*a techno-economic feasibility study conducted by the consultancy firm [XXX] for Mobility; a study of the receptivity of Mobility's offer conducted by the consultancy firm [XXX] for Mobility; interview with operators' marketing services conducted by the Mobility team*."

If we take the example of the second study, its results appear early in the business plan, when the three technical artifacts on which Mobility's offer rests (a widget, a website and a smartphone) are introduced. The description of the widget, for example, is a mix of images, explanations about the type of information displayed and about the free or paid services proposed, and references to how "receptive" the prospective users were shown to be in the study: "*The design, the functionality and the ease of use of the Mobility widget were hailed by potential customers during the different phases of the study. It is this enthusiasm that allows us to think that the Widget is the natural entry point of users into Mobility's paid services. (…) The statistics are very encouraging: 93% of the respondents aged 18-25 are*

interested. However, the Widget is not only the 'young trendy people's' solution; it satisfies, for example, 67% of the respondents aged 35-45 and 83% of those aged 55-65."

How much credit should to be given to such claims, and to the methodologies through which they are produced, is of course unsure. But, because they demonstrate (however well) the existence of a place for the future firm in the coming world, such documents indeed constitute a first, although more or less strong step in the transubstantiation of the plan into an actual firm.

Yet some elements called upon within business plans go much further in the realization of the proposed firms. Indeed, contrary to what is generally assumed, plans don't entirely describe future, as yet inexistent firms. Part of what a plan puts forward is indeed already out there, existing in another form than the paper—or digital—form of the plan. We indeed observed some elements of pre-realization of the plan during the planning process.

It was the case, especially, regarding technology development, in line with what we already started analysing when we considered the transformation of technology into a valuable resource for business. In order to evidence this business value of their prospective technology, and to convince venture capitalists that it is worth investing in, entrepreneurs resort to a number of demonstrative techniques, which are visible mainly in the appendices of the plans (cf. Table 3).

Table 3: Contents of the appendices of the business plans

Mobility	Biotech	Shopbot
Managers' CV Applications Working capital and funding plan 2007-2011 Letters of interest from prospect customers	Description of the Ubiquitin Proteasome Pathway Detailed Description of Biotech's Drug Discovery Processes Bibliography	White paper describing the technology Technology transfer agreement Competition Profit and loss statement Revenue projections - amounts & sources Costs Cash flow accounts Salaries Human resources Launching plan

Academic publications, at an early stage in the projects, are such a proof of existence of the technology. Patents are another, crucial one, which provides legal assurance of novelty and protection against imitation. What is thus revealed as existent is more than the technology; it is already a technology with specific intellectual property

attributes that make it valuable for business. Further, and for example, the fact that Shopbot already had a first customer provided it with a significant demonstrative advantage, as explained by one of its investors:

"The best way to check that a technology works is to have a first customer, who has already made all the work of expertise, and says: 'I've been around the world, and of course I have asked the large established companies, but I have not found anything, and so I must resort to a small fragile company—which, by the way, is run by a bearded researcher—in order to solve my problem. So I am taking a mad risk, but this is because of the quality of the technology.' This, this filter here, is an excellent filter."

However, even the presence of a first customer is not enough to prove that *"the technology works"*. First of all, as explained by another investor, there is *"the problem of managing large numbers"*, that is:

"In investors' buzz, how does [the technology] scale; in technoid (sic) *language, how do you support rump-ups with a number of simultaneous connections. (…) For when [the new venture's website] will be deployed, there will be millions of users. And the real difficulty is to maintain performance with millions of users. (…) There is the initial technology, and then quickly comes a moment when one says: 'everything needs to be redesigned, relative to the specific context of the [website] application'. This cannot necessarily be done at the first attempt; this is done step by step, by trial and error. It would be interesting to ask what is finally left from the initial technology…"*

Moreover, a first customer may turn from a resource into a constraint as the business model of the new venture evolves. This is what happened in the case of Shopbot. When the entrepreneurs presented the first version of their business plan, they proudly displayed the contract they had just signed with the internet portal of a major French telecommunications company. But in the eyes of the venture capitalists, this contract, albeit signaling the quality of the new venture's technology, had a serious drawback:

"We were embarrassed by this contract with [the internet portal] because it was an exclusive contract, which is very stupid. We understood that [the entrepreneur], from a managerial point of view, had taken risks which were in line with his project [i.e., a business model in which the software and services are sold to a few large companies who have idiosyncratic needs]. For him, selling the search engine, on an exclusive basis within certain domains, was not a problem, because he also intended to sell it elsewhere. In [the venture capitalists'] project, this was becoming a problem."

For innovative companies, the injunction to pre-realize the plan while it is being written can thus be ambiguous. The legal formulation of the firm has the advantage of reassuring investors regarding the realism of the project, but this realization is also synonymous with irreversibility, with closure of the possibilities available to the new firm—which may deter certain investors from getting involved. Noticeably, in the Shopbot case, the slightly distorted realization of one part of the plan (i.e. the giving of exclusive rights on the technology to a single customer) compromised the full realization of other parts of the plan (e.g. the funding plan).

The issue here is thus one of priorities, between the multiple contracts which will ultimately be tied into the whole "nexus of contracts" that will make up the fully operating firm (Williamson, 1986). Where does one start, in order to realize the new firm? What appears in the example analysed above is the expectation, by venture capitalist, that it is their own contracts with the firm—i.e. the establishment of the company's financial structure—that should come first.

The "use of proceeds" table, especially, serves as a basis for the negotiation of the schedule along which certain milestones will have to be achieved for each new round of funding to eventually be kicked off. These milestones (e.g. four of them in the Shopbot case) are inscribed in the "term sheet", around which discussions between partners and other shareholders take place, before they are formalized into a durable and legally enforceable agreement ("*pacte d'actionnaires*", in French law). Such temporary use of quasi-contracts, or pre-contracts, also takes part in the legal formulation of the new firm, but only as one intermediate step in the progressive transubstantiation of the plan into an operating firm.

The plans, as sheers promises, go through various revisions and translations before they can be turned into binding contracts. There is thus a twilight zone of existence through which new firms have to go before they can have a full existence on the markets they are destined to populate.

DISCUSSION

Drawing on our analysis of a sample of business plans, we propose to elaborate on the notion of *formulation*, to summarize the specific way in which the business plan proceeds in giving shape and reality to a future firm. As we have shown, the business plan puts together the new firm in four complementary but clearly distinct ways. Each of these four formulations of the new firm accounts for it in a nutshell: it offers a small form of the firm.

Based on the etymology of the word, we suggest to call “formulas” these small forms that result from the activity of formulation of the plan.

The notion of formula, besides its ability to convey this meaning of “small form”, has the advantage of highlighting the different dimensions of how business plans constitute new firms (Giraudeau, 2009). Its polysemy indeed resonates with the four components that we have analysed above: the plan’s operating mode can be accurately described as that of 1) a “literary formula”, when it narrates the opportunity that will be pursued and the business model that will be espoused; 2) a “chemical formula”, when it lists and bonds the elements that compose the future firm; 3) a “mathematical formula”, when it presents the firm’s financials; 4) a “magical formula”, when the plan’s requirements for producing evidence engage the entrepreneurs in actually setting up their businesses. In what follows, we will explain each of these four points, before outlining how the notion of formula can shed new light on the making of the economy by accounting technologies.

In his study of popular culture, Cawelti (1977) defined a literary formula as “a structure of narrative and dramatic conventions” and identified two common usages of the term: “The first usage simply denotes a conventional way of treating some specific thing or person. Homer’s epithets—swift-footed Achilles, cloud-gathering Zeus—are commonly referred to as formulas as are a number of his standard similes and metaphors—“his head fell speaking into the dust”—which are assumed to be conventional bardic formulas for filling a dactylic hexameter line. (…) The second common usage of the term formula refers to larger plot types. This is the conception of formula commonly found in those manuals for aspiring writers that give the recipes for twenty-one sure-fire plots—boy meets girl, boy and girl have a misunderstanding, boy gets girl.” (Cawelti, 1977, p. 5)

In a similar vein, our analysis of business plans has identified a common narrative structure, made up of a set of characters and plots types. The characters are those of needing users, failing or interested incumbents, and a somehow heroic new venture that comes in to satisfy the former and surpass or entice the latter. In a standard start-up plot, a problematic situation is first drawn, and then processed through the mechanics of a business model, which is designed so as to transform an opportunity into a flow of future revenues. The narrative puts the future firm’s product at the centre of a bidirectional stream of outgoing services offered to users and incoming revenues, through which activities such as knowing one’s travel time, searching for information or degrading proteins are turned into market transactions. A peculiar characteristic of this narrative is its *kairos* temporality: an opportunity opens up and has to be seized now, at this very precise moment, before it vanishes away.

The scope of the business plan is not confined to new products and their users; it is also concerned with building the organization that will deliver the product in question, and capture the revenues stemming from its encounter with users. When the plan turns to these issues, its operating mode shifts to that of a chemical formula: a presentation of the nature, proportion and bonds of the elements that constitute a given compound. These elements here are the so-called technological and human resources—but it is precisely the business plan that makes up these technologies and humans as *resources* valuable for business. They are indeed listed in the plan, and the relevance of their inclusion in the list is demonstrated by references to past records and future prospects: for example, an innovative technology is deemed valuable because it has originated from a prestigious public research organization and attracted a first customer, or by virtue of its manifold potential uses. While bringing together the elements that make up a firm, the business plan's chemical formula also lists the ones that lie beyond its still unstable frontiers: a more blurry network thus takes shape behind the spotlights, made of users, who are turned into productive resources, subcontractors, to whom non-strategic activities can be outsourced, and employees, who are swallowed up in the mass of workforce involved in standard functions such as production or marketing.

The mathematical formula lists and binds items too, but in a different way. It indeed takes a step further by making all of these items commensurable in money terms, and thus bringing them together as quantities to be added to or deducted from each other—not as specific qualities to be articulated. This is what the business plan does when it delves into financial issues. It thus approaches the firm as a new type of object: an investment vehicle. This object lends itself better than others to a tabular formulation, which espouses formats such as that of revenues projections and the use of proceeds. The temporality at play here is that of a *chronos* future time—a time paced by next months, next years, and next milestones. The series of numbers that financial tables exhibit is intended to demonstrate the capacity of the new venture to achieve a long-term stability, or to generate short-term cash flows through the sales of its products or services, and/or of itself.

Magical formulas can be understood in two different ways, depending on whether or not magic is taken seriously: there may be the treacherous magic of the prestidigitator, and each of the first three formulas can surely include some of that, as critiques of business plans have often mentioned; but there can also be genuine magic in the transubstantiation of the paper plan into an actual, operating firm. It is to this second understanding that we refer when we propose that business plans can act as magical formulas. The plan prepares the advent of a new business being into the world by demonstrating that it will be welcome within

this world. Further, the reality of the future firm is also pre-constituted thanks to the inclusion within the plan of the (more or less) binding promises of contracts and quasi-contracts. Here, the plan does not only assert its realism: it also takes part in constituting the reality of the new firm, by including various categories of (more or less) legal documents, ranging from patents to letters of interest written by customers, from term sheets to financial agreements between shareholders, etc. Thanks to these, the future of the plan is folded back onto the present of business, and hence brought into a first, although imperfect, debated and sometimes irreversible form of existence.

The specificity of business plans lies in great part in the way they hold these four formulas of the firm together. Literary, chemical, mathematical and magical formulas have idiosyncratic operating modes; and yet, they appear to coexist in a rather peaceful manner in the business plan format. More, they follow each other in an orderly process where each formula operates on what another has produced, so as to produce something else. The mathematical formula, for example, could not come to function without the work done by its literary counterpart, which has transformed an initial problematic situation into a stream of economic value deployed in the chronos temporality of calculation and planning. Nor could it do without the list of valuable or invaluable, and internal or external, resources established by the chemical formula. At the same time, none of the preceding formulas could stand alone without the finishing touch of the mathematical formula, which puts its own technologies in play to derive revenues, costs and profits, thereby making the firm appear not only as a producer of value and a compound of resources, but also as a vehicle for investment. In turn, fine-tuning the latter entails adjustments in the literary and chemical formulations of the business plan, until they are able to engender an entity amenable to investors.

Pulling the strings of literary, chemical, financial and magical formulas, the business plan appears as a hybrid *entrepreneurial formula* of its own kind. It is a multidimensional "small form" of the future firm, which puts it together as a consistent whole—able eventually to impress those to whom it is circulated. In doing so, the business plan reveals a broad constitutive power that must be highlighted. Through each of its four components, the business plan shapes the future firm as a very specific kind of entity: one that is all at once a market actor, an organisation, a financial entity, and a legal entity. Through the business plan, it is thus possible to understand how scientists are initiated into the mastery of entrepreneurship, how technical objects are transformed into products and services, how investors and customers are enrolled, but also how new business beings emerge, and newborn firms come to populate the economy.

Envisaging business plans through the analytical lens of formulation has several advantages. First, it allows moving beyond analyses that are framed in binary terms of 'narratives vs. numbers'. In business plans, narratives and numbers are inextricably interwoven – and so much so, even, that they barely exist as such distinct textual forms. For example, narratives about the entrepreneurial opportunity and the future firm's business model are punctuated by estimates of market growth and firm revenues; in return, the numbers displayed in financial projections and accounting tables, deprived of the reference to past records, can only hold true when anchored in the world drawn by the rhetoric of unmet user needs, new product promises and convenient market positions.

The interplay between narratives and numbers has been documented in many other instances ranging from the making of corporate strategy (Froud, Johal, Leaver, & Williams, 2006) to the production of intellectual capital statements (Mouritsen et al., 2001). Yet the notion of formulation may allow to go beyond such analyses by focusing attention not only on the separate presence and interaction of narratives and numbers, but on the multiple ways in which they can be articulated, that is, how these ingredients are mixed up and tinkered with in search of a right dosage and a stable formula.

Second, the notion of formula puts an emphasis on the possibility for experimentation. Goody (1977p. 123)'s analysis is helpful here too (p. 123). When reflecting on the equation as a typical mathematical formula, he identified manipulation and reversibility as two of its peculiar characteristics. This formula makes it possible to perform operations on each side of the equal sign while retaining balance. The graphical display of the formula is central here, for, as Goody puts it, "the visuo-spatial mode permits the development of a special kind of manipulation". It also allows moving from one side to the other and vice-versa, as Goody shows in the following example: "God is love, wrote Jean the Evangelist. Turn this into a formula using the equals sign and we arrive at the statement God = love. But the meaning is different for the second statement implies reversibility."

Manipulation and reversibility allow a particular form of experimentation, which we can observe in the crafting and revision of business plans. For example, putting the number of users and the firm's future revenues in such a relationship that an increase in the former implies an increase in the latter, and vice-versa, opens up the possibility to fine-tune revenue projections (notably, to fit investors' expectations), by moving back along the proposed value chain – for instance by adapting estimates of the number of users and, moving further back in the plan, adapting the firm's business model and the opportunity that it pursues.

Third, the notion of formula captures a fundamental tension between replication and innovation. The Modern use of the word “formula” dates back to the early 17th century, when it referred to a “fixed form of words (for use on ceremonial or social occasions)”, derived from the diminutive of *forma* in Latin, meaning “shape, mould” (Oxford University Press., 2002). The formula thus appears as an instrument of replication, a standardized form, a tool for reproducing similarity. However, as noted by Goody (1977) in his analysis of literary formulas in oral cultures, the formula can become a “flexible instrument” in the user’s (in his example, the singer’s) hands, serving not only the search for repetition, but also that for “creative modifications” (p. 117-118). Similarly, while business plans certainly follow a certain “plan of the plan” (as summarized in the four components that we have outlined above), put in play a set of typical characters and plots, and resort to standard accounting formats and legal templates, they do allow for variation, as entrepreneurs draw on existing repertoires to arrange the elements that they contain into tentatively novel combinations.

This perspective opens new directions for a critique of business plans: rather than assuming that they impede innovation because the very action of planning would be contradictory with creativity (Mintzberg, 1994), we can investigate whether and how business plan formats, as imposed by entrepreneurship textbooks and venture capitalists’ templates, along with dominant business models, such as the financialized model in the field of biotechnology (Andersson, Gleadle, Haslam, & Tsitsianis, 2010), shape the new firms and products that populate our economy.

CONCLUSION

What plans do is thus, literally, to entre-prise: to hold together sparse and heterogeneous elements into a bounded mold, by binding them to each others in multiple ways, so as to form a business entity, with a durable existence.

This challenging task of formulation of the firm is not entirely specific to business plans. Many other accounting documents indeed rely on one or more of the four constitutive formulas we highlighted in this paper. Strategic plans, budgets, project review reports, etc.: forward-looking documents, in particular, are prone to formulating coming action in ways that resemble what is observed in business plans. Annual reports themselves, with their growing strategic dimension, forward-lookingness and reliance on words besides numbers, contribute to the regular re-constitution of the firm, at the end of each accounting period, as an economic, an organizational, a financial, and most surely an existing, operating entity.

Yet business plans are the paragon of such formation through formulation. They indeed constitute the firm as a whole and from scratch. A budget for instance focuses on the financial re-constitution of the firm for a new accounting period, but does not take part in helping the firm connect with its markets, jointly mobilize a specific set of resources, or ensure they are durably available—this in great part because a budget is usually based on a set of already existing resources in an already existing firm.

For that reason, the business plan is often seen as a model instrument for the formation of all kinds of projects in society. Guidebooks have for instance been published, explaining how to prepare a business plan for the body (Karas, 2001), for the soul (Henry, 2003), or for the family (Allvine & Larson, 2003). More significantly, the same hybrid formulation of projects found in business plans seems to have influenced other forms of plans in recent decades. It is the case, for instance, with political programmes or manifestos, which used to give a much more secondary role to the financial formulation of their projects than they do nowadays, especially in the aftermath of the financial crisis (Lemoine, 2008). The same may be said, in academia, about the evolutions that research proposal formats have gone through. The business plan type of formulation of projects seems to have colonized numerous areas of activity.

Project formulations akin to business plans may now be found across society—but what does it change? Looking at the longer history of business proposals helps clarify this point. In the early modern England and France, for instance, projectors would submit applications for patents or privileges to the royal administration, in order to be granted the right to set up their business, but also various other possible advantages, such as a monopoly, funds, etc. Application formats varied across countries, and even within countries, but what can be noted for our purpose is how different the overall entrepreneurial formula was from the one we presented in the paper. Drawing in many cases on arguments of piety and public service, they would eventually put forward an opportunity, sketch out the compound of resources needed, and calculate the profits they could make out of the project, but they would also formulate the contribution of the project to other types of goods than the satisfaction of private needs, the functional combination of resources, or the balancing of accounts (Yamamoto, 2011).

These other formulations would give their projects a radically different shape than that of today's business enterprises. A mining project would for instance be presented as a religious venture in the service of public improvement, and "this godly framework was no rhetorical ornament" but had radical consequences on the type of mining company that was

designed. Today's very standardized entrepreneurial formula, in comparison, prevents the formulation of all kinds of otherwise imaginable entities.

Following the bursting of the dot-com bubble, business plans have been accused over the past decade of being sheer paper firms (Blank, 2013). They are deemed "fictional" or "unrealistic", and entrepreneurs are advised to stop using them: "The business plan is dead!" (Wofford, 2008), "Burn your business plan!" (Gumpert, 2002). Yet the problem with business plans may well be quite different—especially given that their supposed lack of reality tends to be compensated nowadays by the effective device that we have called the 'magical formula'.

To put it bluntly, it may even seem, quite on the contrary, that business plans are not fictional enough, not unrealistic enough! Following their format, entrepreneurs are caught, rather, in the strict requirements of the constitution of a solution to an opportunity, of a compound of resources, of balanced accounts, and even of a whole set of scientific and legal proofs. The challenge, then, for anyone wishing to renovate the calculations of the contemporary entrepreneur so as to include within them other values than those of the markets, of organizations and of finance, and to allow for the emergence of radically new types of ventures, is to add new formulas to the tightly knit ones of the current planning formats. If entre-prising can be refreshed, and the economy thus populated with new types of beings, it is through the careful re-invention of the business plan—without which there can thus be no truly *new* economy.

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