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Time and strategy: towards a multitemporal view of the firm

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Abstract This paper takes into consideration the main views underlying the theory of the resource based firm within strategy studies, underscoring their fundamental monotemporal nature and proposing a way to elaborate a multi-temporal view of the firm. By analyzing the link between the time concepts used as bases for the formulation of studies within the strategy field and the types of actor behavior implicitly (or explicitly) entailed by such time concepts, the paper shows the inadequacy of any one of the two monotemporal views of the resource-based firm to encompass all of the main actor behaviors on which the firm's survival and success increasingly rests. The paper draws on the Austrian process view in economic studies to formulate a methodological framework which consents the elaboration of a multi-temporal view of the resource based firm, in which different time concepts are bridged and in which all main actor behaviors crucial for prolonged firm success are encompassed. Finally, the paper shows how the multi-temporal view of the firm consents with the re-interpretation and maintenance of both the static and the dynamic concepts elaborated within the strategy literature and, eventually, also expands the causal relationships between strategic management and a number of other areas of inquiry in the management field, such as time-space relationships, the relationship between strategy and entrepreneurship, and the relationship between the former and the evolutionary perspective.

Introduction

In the light of the new phenomena, or the renewed attention paid to already existing phenomena, brought forth by the new millennium, the issue of time is burgeoning in both scale and scope receiving a large amount of consideration in various disciplines from economics to sociology and psychology, and in management specifically (Barkema *et al.*, 2002). The temporal aspect from which our study draws its initial inspiration regards the consequences for the field of strategic management of today's modifications in the environmental conditions with which a growing part of firms are having to come to terms and "master" in order to thrive and survive.

As more than one strategy author has affirmed, the increase in context turbulence and the constant nature of discontinuous change in today's economic and competitive environments (D'Aveni, 1994) make it crucial for firms to learn to govern contradictions (Nonaka and Toyama, 2002). The consequences of the environmental changes that have occurred in the recent past have, in fact, made it essential for firms to be capable to innovate more rapidly in order to keep up with the shortening of product/industry life cycles and with the general increase in global competition.

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However, it is also recognized that firms cannot base their survival on continuous innovation alone; contemporarily they must be able to gain stable rent flows from the competitive advantages they have created via innovation for a sufficiently long period of time, allowing the full remuneration of the investments these entail. The capacity to reap the rents of firm innovations typically implies the ability to govern environmental turbulence, reducing it to a level of stability which renders it possible to increase organizational efficiency and actively protect present competitive advantages. Firms must therefore learn to create the conditions that enable them to foster both firm efficiency and creativity, and that enable them to exploit the competitive advantages they already hold whilst exploring new sources of competitive advantages. In other terms, firms must learn to simultaneously lay the bases and nurture both value appropriation and value creation (Porter, 1996; Moran and Ghoshal, 1999; Venkataraman and Sarasvathy, 2001; Hitt *et al.*, 2001).

The field of strategic management has, however, treated these aspects independently and is still trying to come to grip with the formulation of theories and normative guidelines that may aid firms in these renewed environmental conditions. The analysis of the implicit assumptions underlying the strategic theory of the firm shows how the time concepts on which these studies rest are essentially two and dichotomic, i.e. either they are based on a Newtonian idea of time, or they are based on a Bergsonian idea of time. Therefore, within strategy studies there are basically two mono-temporal views of the firm which have, until now, remained separate from one another and irreconcilable within a single coherent framework of analysis. The additional consideration that none of the mono-temporal views of the firm elaborated till today in the strategy field are able to encompass contemporarily the issues relative to both value appropriation and value creation, render it necessary to analyze in more detail the fundamental theoretical building blocks on which the formulation of a strategic theory of the firm must rest. The present analysis shows how the concept of time adopted is the primary dimension on which the capacity to formulate a comprehensive framework rests and, by drawing on the Austrian economists' process view (O'Driscoll and Rizzo, 1985), sketches the basis for the formulation of a multi-temporal view of the firm which is able to accommodate the contradictory issues underlying firm survival and success in today's turbulent competitive environments.

The remainder of this article is organized as follows. The following section examines how strategy studies have developed in essence around two approaches (i.e., content and process), emphasizing how they are respectively related to two polarized concepts of time (i.e., Newtonian time and Bergsonian time) and examines the incommensurability of these two visions of the firm within a single unitary framework of analysis. In the third section we propose and discuss a methodological pathway towards the definition of a multi-temporal view of the firm. The fourth section is dedicated to the initial sketch of the multi-temporal view of the firm. In the final section, we eventually discuss a few relevant implications of the previous analysis helpful for both theory and practice and marshal the main conclusions of this study.

Monotemporalisms in strategic management

In their review of the ways in which time concepts are incorporated into dynamic strategy research, Mosakowski and Earley (2000, pp. 803-804) note how, although time is incorporated in many different ways, it tends to be conceived of as "objective time"

whereas a "subjective" view of time is generally absent from strategy studies[1]. Thus, the review of a broad part of strategy literature by Mosakowski and Earley (2000) shows how strategy research regrettably tends to be monotemporal in nature and allows to underscore some of the shortcomings of such a restricted view of time. This general picture derived from extant temporal research in strategy may be considered as a background for the present study; however this article focuses the analysis on a specific branch of strategy studies and, in particular, on what may begin to be seen as the "strategic theory of the firm". This choice is based on the aim to show the necessity of the elaboration of a multitemporal framework for the study of firm evolution between value appropriation and value creation. Furthermore, after a brief analysis of the monotemporal nature of the studies conducted in this area of scholarly inquiry, we propose a way in which it may be possible to elaborate such a multitemporal view.

The elaboration of a "theory of the firm" within strategy studies is a fairly recent endeavor: before the development of the resource based view of the firm (RBV) in the 1990s, and subsequently of the knowledge-based view of the firm (KBV), the consideration of endogenous firm characteristics and the mechanisms underlying its activities were generally absent from the strategy agenda. In the RBV, the capacity of firms to obtain rents from their activities depends on the system of resources they possess or control and on the way these are combined together to carry out the productive process that enable them to offer particular products or services on the market. The resource based (RB) firm is therefore identified as the stocks of productive factors (i.e., resources) that are possessed or controlled by the firm and the capabilities the latter develops to deploy these productive factors - combining them through organizational processes, systems and routines - in order to reach the firms' goals (Barney, 2001 p. 54).

Due to its particular emphasis on learning processes, and to its connection to the concepts of abilities and intangible assets, in the 1990s the debate on the notion of competences paved the way to the study of knowledge and the elaboration of the KBV. Initially, the vast part of the KBV considered the firm as an agent that develops superior capacities to protect (Porter-Liebeskind, 1996) and deploy the knowledge possessed by single individuals in the firm (Grant, 1996): knowledge in this perspective is one of the many resources firms possess, though it acquires particular strategic relevance vis-à-vis other resources (this approach can be termed KBV1). More recently, the KBV has evolved into a more dynamic perspective. Nonaka *et al.* (2000), in particular, describe the firm as a cognitive system, or more precisely as an entity that relentlessly creates new knowledge. The possession of knowledge resources and the capacity to generate and deploy this knowledge come to be considered the most important factors determining sustainable competitive advantages for the firm, as through them the firm acquires the ability to innovate, producing new goods/services/processes or manages to improve the existing ones. In this second perspective of the KBV, the firm is seen as a dynamic system of resources and capabilities whose *raison d'être* is the creation of knowledge. In fact, according to KBV2, it is possible to outline a Nonakian firm, conceived as a knowledge generator and incubator.

Though the outline of the strategic theory of the firm offered above is extremely succinct, it is possible to see how there is not a single vision of the firm based on resources and knowledge; rather it is possible to identify various concepts of the

resource based firm (Schulze, 1994) and, also, of the knowledge-based firm (Mocciaro Li Destri and Dagnino, 2003). Some of these are essentially static (Barney, 1991; Peteraf, 1993; Porter-Liebesskind, 1996), others instead have a more dynamic flavor (Amit and Schoemaker, 1993; Teece *et al.*, 1997; Nonaka *et al.*, 2000). It is beyond the aim of this paper to analyze these branches of study in depth; however it becomes relevant to describe the basic principles underlying each one of these two main categories of study in order to emphasize their monotemporal nature.

In the following subsections, each one of the two concepts of time on which the strategic theory of the firm rests are briefly described, along with a brief description of the strategic studies that derive from the adoption of such perspectives.

The Newtonian time concept underlying the content perspective

Content analyses of the RB firm are based on a Newtonian concept of time. In the Newtonian view, time is considered to be analogous to space: like space, also time can be represented as many dates along a line. In this perspective, time assumes the nature of a mere “temporal position” or a “container” that may be (but not necessarily is) filled with changes. The only aspect which distinguishes one point in time from another is its position; in any other respect each instant of time is homogeneous to the other. The complete independence of time from its contents implies that time may flow by without any change occurring and without actors learning anything.

Another characteristic of this time concept is that of mathematical continuity. This property of Newtonian time means that, no matter how many times one divides it into micro-instants, there is always a space between one instant and the others that precede or follow it. Therefore, each instant of time is isolated and independent of the others. The consequence of this property of Newtonian time is that it is unable to take into account the order in which the elements of a process occur and thus it eliminates the possibility that economic actors may learn as time passes.

The independence of time from its contents also implies that the mere fact that time flows by does not in itself produce or cause anything: if changes occur within the system as the variable time moves forward, then the determinants of these changes must be present in the initial state of the system. Therefore, Newtonian time is also causally inert, and, as a consequence, renders studies that are based on it deterministic.

Causal inertia of Newtonian time is not referable just to events and their occurrence but to time itself: thus, in this view, all agents within the system possess the same timeframe. As a consequence, agent interaction is facilitated by the elimination problems tied to coordination and synchronicity given the single time system which all agents refer to.

Given the closure and the stability of the system in which firms operate and the fact that agent coordination is facilitated by the reference to a single timeframe throughout the system, and considered the fact that the past represents a good guide for future action, it is possible to identify a strong notion of rationality behind agent action. Consequently, agent behavior resides on a Cartesian idea of rationality[2] in which reasoning may occur in a step-by-step fashion and is aimed towards maximizing behaviors.

Maximizing behaviors are intended as the conscious search for ways to better employ a stable set of resources given a fixed set of aims and preferences that characterize the specific system. The possibility for actors to adopt maximizing

behaviors depends in first instance on the stability of the framework of means and ends within which they may operate logical deductions in order to resolve problems they are already aware of. Therefore, the system actors operate in must present a high level of stability, as it is possible to maximize the results obtained from one's future actions only when the latter are relatively predictable (Heiner, 1983). Such predictability also entails that the actions taken by each individual do not generate significant changes in other actor's behaviors. Given the division of knowledge present in any one system (Hayek, 1948), even in equilibrium there is still the opportunity for actors to seek market imperfections and take advantage of them. These arbitrage behaviors do not, however, modify the logic behind agent interaction, as the efficiency criteria present in the system remain unchanged.

The content perspective

Studies conducted within the content stream – in accordance with the Newtonian time concept – focus on identifying resources and capabilities that are able to generate Ricardian rents (Peteraf, 1993; Dagnino, 1996) and on how to obtain sustainable competitive advantages from these resources (Grant, 1991; 2002). In this perspective, the RBV offers normative advice to managers seeking to understand, preserve or extend competitive advantages[3], but says little about the creation of new competitive advantages. Economic activity occurs in efficient markets, i.e. firms operate in closed economic systems in which the general framework tying means and ends present in (or the efficiency criteria that characterize) the system are given and established exogenously. Correspondingly, significant sources of change are exogenous to the system, as what is endogenous is known or knowable and thus prevents “real” learning (Hahn, 1973) within the system.

The portrait given is of a stable economic system, in which competitive advantages may be gained or eroded thanks to changes in the relative positioning of the firms competing against one another respect to the efficiency criteria present in the system, and in which previous conduct is a valuable guide for future conduct. This stream of thought provides a set of tools that can be used to identify, acquire or control, and protect factors of production that are currently capable of generating rents. The emphasis posed on sustainable competitive advantages is commensurate with the assumption of equilibrium conditions, as is the strong concern for preventing appropriation and/or imitation of valuable resources or capabilities (Lippman and Rumelt, 1982; Peteraf, 1993).

Given the representation of the economic system in which firms operate, agents face “parametric” uncertainty (Langlois, 1984), i.e. agents are able to gain knowledge regards the alternative “possible states of the world” but, seeing as they are unable to know which of these will actually occur, they are forced to reason in probabilistic terms. As a consequence, managerial behavior in this perspective is reduced to the maximization of arbitrage processes between the cost of the resources and capabilities that must be acquired or developed by the firm and the market prices of the goods and services that may be obtained by their deployment (Barney, 1986).

The Bergsonian time concept underlying the process perspective

Process analyses in the RB and KB firm are tightly associated to the Bergsonian concept of time. This time concept, which stems from the work of the French

philosopher Henry Bergson (1889), refers to his idea of qualitative time or as opposed to that of spatialized time. According to this representation, time is identified as the subjective experience of its elapse. Time is, therefore, a dynamic and continuous flow of new experiences: this flow of new experiences does not occur in time, rather it is time.

Bergsonian time presents the characteristic of dynamic continuity, seeing as every instant of time is tied to those that precede it through the memory of what has happened, and to those that follow it through the anticipation of what will happen in the future. The possibility of subjectively perceiving any particular event in any one point in time is given by the interaction between memory and anticipation. Therefore, from a subjective point of view, instants in time are not independent of, nor isolated from, one another. Nevertheless, the simple statement of the existence of a link between different instants in time is not sufficient to eradicate the concept of Newtonian time from an analysis. It is the nature of the interconnection between different instants of time that determines whether or not an analysis is truly dynamic. In the Bergsonian perspective, the elapse of time implies a necessary change in the way actors interpret the data set they face: they must, in other terms, change perspective. In this sense, each instant of time is heterogeneous from the others that precede or follow it. As time flows by, actors modify the interpretative functions with which they elaborate the events they live or have knowledge of and, thus, they value situations and act in a different manner than they would have done the period before.

Seeing as the mere fact that time elapses is a fount of novelty for the system, Bergsonian time possesses an independent and autonomous causal capacity and an independent creative power. In this perspective, all economic processes must, more or less implicitly, contain the transmission between and the growth of knowledge within single individuals and the system as a whole. In general, this dynamic perspective to economic phenomena shows that the endogenous power which pushes systems to change continuously resides essentially in the growth of human knowledge.

The causal capacity of Bergsonian time is referable also to time itself. Thus, in this perspective, the agents operating within a given social (and economic) reality operate simultaneously each one with his/her own subjective timeframe. This brings forth the idea of a plurality of subjective timeframes present in any system and highlights problems related to the intersection of these individualized timeframes. The latter problems relate, for example, to agent coordination, problems of synchronicity and periodicity and mutual time claims[4]. It is important to note that though the Bergsonian concept of time is one (and is thus at the basis of one of the two "monotemporal" views analyzed), once this concept is taken into consideration the system analyzed presents a plurality of subjective timeframes operating during the same period. Though the acceptance of the Bergsonian time concept implies the presence of a plurality of timeframes within the same system during a given period, there is not the possibility that amongst these one (or more) assumes the characteristics of a Newtonian timeframe as the conditions of the system in which agents operate are incompatible with the adoption of such a time view. Therefore, though Bergsonian time is at the basis of pluritemporal views of reality it does not encapsulate the Newtonian concept of time; as such, the two time concepts remain distinct.

The characteristics of Bergsonian time described above also imply that this concept of time is irreversible: processes produce changes that are not deterministically

predictable. The real nature of a process does not therefore reside in the mere recombination of a given set of data or variables, but must grant a critical role to surprise and unforeseen events.

Given the open and dynamic nature of the economic system in which firms operate, and considered that future events are not even probabilistically predictable but are largely still to be created, individual rationality may not be represented in a Cartesian sense. In this perspective, the notion of rationality acquires a weaker nature and comes to be intended as the capacity to learn and adapt to specific time-space contexts. From this standpoint, the ability of individuals to make sense of novel events through the interplay of memory of the passed and anticipation of the future become paramount, as it is thanks to this interplay that intuitions occur. Parallel to the adoption of Bergsonian time, it is not surprising that managerial behavior is represented as entrepreneurial.

The notion of entrepreneurial behavior rests on the work of Schumpeter (1934, 1942) and Kirzner (1973, 1979), and consists in the formulation of new frameworks that tie new and/or old means to new and/or old ends (Kirzner, 1979, pp. 158-192). In general, it can be distinguished from maximizing behavior because of the critical role played by creativity and because of its intuitive nature. The entrepreneurial learning process is aimed to try to foresee future changes that will take place in the system; changes that his own actions will contribute to determine, but that will not entirely depend on him because of the relevance for the final outcome of the reactions of other actors in the system to his behaviors. The intrinsically non deterministic nature of future events that occur once entrepreneurial action has been taken implies that the modification of the subjective framework, that guides this kind of behavior, cannot be the result of logical deduction or of the choice between a closed set of alternative courses of action, rather that these modifications are closer to "Gestalt radical leaps" that involve an uneliminable degree of risk.

The process perspective

The process perspective, as a consequence of the different time concept on which it is based, has different aims and presents characteristics that are at stark odds with the content approach. In fact, the process perspective focuses its attention on the creation of new competitive advantages (and not merely their protection). The creation of new rent flows entails (Schulze, 1994):

- learning new ways of managing existing sets of resources or capabilities;
- developing new sets of resources and capabilities; and
- achieving a match between changing environmental conditions and distinctive organizational resources and capabilities.

Drawing on the RBV and KBV perspectives, these studies consider the economic system to be open (DeGregori, 1987) and dynamic (Teece *et al.*, 1997; Nonaka *et al.*, 2000): the set of means and ends that define the efficiency criteria within the system are not given, but changeable thanks to both exogenous factors relative to the system or to forces endogenous to the system - namely firm innovations. The economic system is, therefore, constantly changing and not stable as in the previous perspective. This approach allows for a strong voluntaristic vein; firms are able to act upon the forces in the economic system and are able, when successful, to change the efficiency criteria within it. The motivation for innovative firms to change the "rules of the game" resides

in the possibility of gaining Schumpeterian rents (Dagnino, 1996), i.e. that derive from the innovative coordination and integration of resources and capabilities.

In this context, the past is an uncertain guide for future conduct and there is an irreducible ex-ante uncertainty associated with entrepreneurial firm behavior. The nature of uncertainty facing individual agents is “structural” (Langlois, 1986) or “genuine” (O’Driscoll and Rizzo, 1985). Structural or genuine uncertainty refers to situations in which there is not the possibility to identify all the alternative “possible states of the world” as – given the open nature of the system in which agents operate – these have yet to be created. Thus, firms try to anticipate the possible future evolutions of the system that are not logically deducible from the conditions and the circumstances present at the moment in which they formulate their views, with the aim of being prepared for them when (and if) they occur. In a nutshell, firms seek to develop strategic foresight and they hence promote the elaboration of various scenarios (especially in terms of setting timeframes) of the requisite configurations of new resources and capabilities and new knowledge. In an ongoing basis, this foresight-driven scenario building process is typically supported by the cultivation of the ability to piece together managerial vision and imagination (Fransman, 1994).

The impossibility of encompassing maximizing and entrepreneurial behaviors in any one of the two monotemporal views of the firm

The brief outline of the two main schools of thought in the RB/KBV of the firm offered above seems sufficient to be able to identify their monotemporal nature and their consideration of either maximizing or entrepreneurial behavior. If there were the possibility for any one of the two time concepts to encompass maximizing and entrepreneurial behaviors, there would be no real need for the elaboration of a multitemporal view of the firm.

However, if one takes into consideration the following criteria, it is possible to notice how each time concept accommodates only one of the two fundamental economic behaviors mentioned above: first, the strength of the ties between different time periods for the cognitive processes underlying the behavioral patterns analyzed, i.e. the degree to which there is the need for a strong integration between different instants in time through the memory of the passed and the anticipation of the future; and second, how the time concept adopted influences the main characteristics of the economic system agents operate in and, from the latter, determines whether there are the conditions to apply any one of the types of reasoning underlying the behavior patterns analyzed. Given the characteristics described earlier, it becomes clear that the possibility to resolve problems gradually that characterizes maximizing behavior necessarily implies a Newtonian concept of time. Furthermore, the latter is the only time concept that allows for the stability and closure of the system which consents agents to adopt rational choices in a Cartesian sense. On the other hand, entrepreneurial behavior is compatible only with Bergsonian time. In fact, the instantaneous nature of the moment in which the entrepreneurial intuition occurs is such that the role played by the tie between different time periods given by the memory of the past and the anticipation of the future is paramount and, consequently, cannot be conceived of if not through a Bergsonian conception of time. In addition, it is only thanks to the continuous change in the circumstances individuals face and in the events they live that there may be space for the growth in individual knowledge and for learning to take place.

This dynamic mutability of the system actors operate in is necessarily tied to a Bergsonian concept of time.

The methodological bases of the multitemporal view of the firm: the Austrian approach to strategy

The analysis conducted above shows that the time concept and the hypotheses on which the content and the process view of the firm are based are at stark odds with one another. If they are systematically compared they seem, at least in first approximation, difficult to reconcile within a single framework of analysis. The content view of the firm is based on a Newtonian concept of time, implies strong agent rationality, views the economic system as closed, is based on an allocative idea of efficiency and affirms the durability of system equilibria. The process view is, on the other hand, based on a Bergsonian concept of time, is nondeterministic and gives firms a strong voluntaristic power, implies weak agent rationality, views the economic system as open and changeable, is based on a dynamic idea of efficiency and assumes system equilibria to be transitory (see Table I).

In order to formulate a pluritemporal view of the firm, and therefore consider contemporarily both types of agent behavior, it is necessary to introduce an analytical framework that is able to integrate the two monotemporal perspectives considered earlier. In this study, we introduce the Austrian process approach within strategy studies (see Jacobson, 1992) to help elaborate such an integrative framework. From a methodological viewpoint, the aforementioned approach is sufficiently open and encompassing to consent the integration of concepts that, at first approximation, seem opposite to one another (Kirzner, 1997).

Herein we illustrate briefly the basic building blocks (i.e., typical and unique aspects of phenomena, a new notion of equilibrium, agent subjective rationality) that characterize the Austrian process approach[5] and successively we show how these fit together to form a multitemporal framework for the analysis of the firm.

Typical and unique aspects of phenomena

The Austrian approach focuses its studies on the analysis of recurring types of human interaction and aims to render these intelligible; i.e. it aims to find adequate causality relations between events and human actions. The condition that allows agents to act intentionally resides in the relative stability of their mental frames. The reconciliation of the need for stability of the mental frames guiding individual action and the uncertainty that derives from the flow of Bergsonian time, is based on the recognition that processes possess both unique and typical aspects - i.e. that there are aspects that are time dependent and others that are relatively time independent.

Typical aspects of phenomena can be identified as the regular or repetitive characteristics of events; i.e. both the characteristics of events that have in reality been repeated and the characteristics of events that in principle may be repeated. These aspects of events may be identified by agents probabilistically or with certainty, but the nature of their prediction remains deterministic either way. Typical aspects of phenomena have, therefore, a static nature[6]. Unique aspects of events are identified as those aspects that are time dependent and that are therefore not subject to repetition. It is thanks to these aspects that individual agents learn from the experiences they live and progressively change their mental frames and the way they interpret new events.

Methodological approach	Newtonian time based strategy studies	Bergsonian time based strategy studies	Integrated view: a multitemporal perspective in strategy
(I) <i>Macro-level – the economic system</i> Nature of economic system	Deterministic	Voluntaristic, subjectivist	Austrian subjectivist approach
Equilibrium of the system	Closed, static	Open, dynamic	Cyclic: closed/open, but always dynamic
Efficiency criterion of the system	Neoclassical	(Dis)equilibrium	Coordination between agent predictions regards typical aspects of future events
Origins of change in the efficiency criteria	Allocative efficiency	Dynamic efficiency	Both: allocative and dynamic efficiency – even contemporarily
Nature of environmental uncertainty faced by agents	System data and information given; modifications due only to factors exogenous to the system	Modifications due to factors both exogenous and endogenous to the system	Modifications due to factors both exogenous and endogenous to the system
Entrepreneurial rationality	Parametric	Structural (or genuine)	Both: parametric and structural (depends on the economic phase)
(II) <i>Micro-level – the firm</i> Competitive positions of firms	Strong and given by logical deductive reasoning (Cartesian Rationality)	Weak (subjective), capacity to learn from, and adapt to, potentially all types of situations	Situational approach: Cartesian if the situation is sufficiently structured. If not, weak (subjective); capacity to learn from, and adapt to, potentially all types of situations
Competitive rents accessible to firms	Durable, consolidated or possibility to consolidate them	Non-durable, transitional	Non-durable in the long run, but neither necessarily transitory in the short run
	Chamberlinian, monopolistic rents, Ricardian quasi rents	Schumpeterian rents	Chamberlinian, monopolistic rents, Ricardian quasi rents, Schumpeterian rents

(continued)

Table I.
Monotemporalisms and multitemporalism in the strategic theory of the firm

Table I.

Methodological approach	Newtonian time based strategy studies	Bergsonian time based strategy studies	Integrated view: a multitemporal perspective in strategy
Objective of entrepreneurial behavior	Deterministic Predict future events, intertemporal arbitrage between the value of resources, capabilities and knowledge and the value of the products and services obtainable by deploying them; medium/long-term planning	Voluntaristic, subjectivist Foresee future events that are not yet determinable; perceive and create new combinations of resources, capabilities and knowledge that modify the efficiency criteria of the system; adaptive changeable guide of the firm	Austrian subjectivist approach Managing contradictions; foster both the protection of competitive advantages already possessed (incrementing allocative efficiency) and learning aimed towards the creation of new sources of competitive advantages (increasing dynamic efficiency)
Results of entrepreneurial activity	Arbitrage; increase in the allocative efficiency of both the firm and the economic system	Innovation; increase in the productivity of the resources present in the economic system	Both: arbitrage and innovation issues, reaping rents from existing sources of competitive advantages whilst creating new sources of rents
Significant contributions in strategic management	Wernerfelt (1984); Barney (1991); Peteraf (1993)	Rumelt (1987); Teece <i>et al.</i> (1997); Nonaka <i>et al.</i> (2000); Nonaka and Toyama (2002)	

Consequently, it is the consideration of the unique aspects of events that determine the open nature of future events and that render uncertainty endogenous within a continuously changing system.

A new notion of equilibrium

Parallel to the adoption of this view, there is the necessity to revise the neoclassical idea of system equilibrium (in which endogenous change is absent) in order to render it compatible with the notions of Bergsonian time and endogenous change. The key to the formulation of a notion of equilibrium compatible with the process view described herein, and with the idea of endogenous change, lies in the distinction between typical and unique aspects of phenomena. O'Driscoll and Rizzo (1985) – on the basis of Hayek's (1937) subjectivist idea of equilibrium – elaborate a notion of equilibrium compatible with the Austrian process perspective. For these authors, systems reach equilibrium when they consent the 'coordination of the part of subjective plans that regard exclusively the typical aspects of phenomena'. The fact that a system has reached equilibrium does not imply the absence of endogenous sources of change, rather more simply the relative stability of the typical aspects of phenomena that enable the coordination of classes of agent behavior. The possibility, given by this renewed notion, of changes in the knowledge agents possess and of the mental frames that guide their action even in equilibrium, implies that there is space for endogenous change within stable systems.

Subjective rationality of agents

Finally, it is necessary to consider the notion of agent rationality within the Austrian process view. In this perspective, Cartesian rationality – be this perfect, limited or procedural (Simon, 1957, 1976, 1982) – is not taken for granted, rather the Austrians adopt a situational approach. This approach implies a flexible notion of rationality which entails the idea of "reasonable behavior" given the specific situation faced by agents. Therefore, the characteristics of the specific situation lived by the agent determine whether or not it is possible to consider agent rationality as Cartesian. The rationality "dilemma" must, consequently, be resolved through the analysis of the logic of the situation faced (Popper, 1966). This approach maintains the fundamental liberty and voluntary nature of human action *à la* Mises, however temporarily it admits that the full exercise of subjective liberty does not imply the complete unpredictability of human behavior.

From dichotomy to integration: the consideration of time concepts and actor behaviors within a multitemporal view of the firm

The description of the Austrian approach offered above seems adequate to show its ability to embrace both stability and change within a unitary analytical framework and, therefore, that it allows the adoption of an interpretative lens which fosters the creation of a bridge between studies conducted in Newtonian time, on the one hand, and in Bergsonian time, on the other. In this perspective, the economic system circles in and out of equilibrium passing from more stable phases to more dynamic ones and vice versa. In the more stable phases, the system becomes temporarily closed and the typical aspects of phenomena become sufficient to consent agent coordination and the adoption of maximizing behaviors.

The sole consideration of the typical aspects of phenomena render the analysis static, seeing that in this case there is no place for learning processes on behalf of agents and, thus, for endogenous change. On the contrary, in unstable systems that are not in equilibrium the relevance of the typical aspects of phenomena is reduced – as they are in the process of being elaborated within a mutating system – and, correspondingly, there is an increase in the significance of the unique aspects of phenomena. This condition hinders agent coordination and contributes to individual and interactive learning processes, fostering the further opening of the system and the adoption of entrepreneurial behaviors.

As is intuitive, the dichotomic consideration of these two states of the system does not imply a substantial break away from the traditional strategic approaches to the analysis of the firm and may be seen as fully compatible with the studies conducted in the Newtonian perspective, on the one hand, and in the Bergsonian perspective, on the other. There is thus the possibility to maintain the concepts, criteria and teachings that the content and the process approaches have contributed to the knowledge of firm survival and success.

The possibility to bridge these two perspectives and pave the way to the formulation of a multitemporal view of the firm resides in the emphasis of the fundamental ties between stable and dynamic systems[7]. Essentially, the nexus between stable and dynamic systems is given by the consideration of the unique aspects of phenomena present in stable systems. The inclusion of the latter consents that stable systems, although maintaining the characteristics shown in the content approach, do not acquire a static nature. In fact, the mutability of the unique aspects of events, and the constant search for increases in firm competitiveness even in stable systems, leads agents to increase the information and knowledge they possess and to learn from each new event posing the pre-conditions for the intuition and the creation of new combinations of the resources and capabilities already (or not yet) present in the system and the increase in the satisfaction of new (or old) needs or desires of the agents within the system considered or in other systems. Change may thus be endogenous to stable systems, due to the possibility that agents adopt entrepreneurial behaviors even in presence of stability.

In this view, systems are not seen as static and unchangeable, nor as continuously changing and dynamic and, correspondingly, the firm is not considered to be exclusively either profit maximizing or entrepreneurial and innovative. Economic systems and firms have cyclic processes that move together and that are intimately linked. During the phases of stability firms, whilst generating rents by increasing their allocative efficiency, more or less consciously, pose the basis for the future adoption of entrepreneurial behaviors and foster the creation of new competitive advantages (i.e., phases of inner change). During the phases of stability, the increase of knowledge acquired and produced within the organization should be actively nurtured by emphasizing the importance of taking into account novel and unexpected aspects of the events lived by the individual agents at all levels and creating the preconditions to encourage interaction between individual agents in order to enhance organizational learning processes (Argyris and Schön, 1978; Nonaka, 1994). The adoption of entrepreneurial behaviors, on the other hand, must be followed by phases of stability in order to be able to increase the efficiency of the productive processes and consolidate stable rents from the innovations it has led to.

To wrap up, the combination of the two monotemporal views (i.e., Newtonian and Bergsonian) that we have proposed in this study leads to a multitemporal view of the firm which is intrinsically different from the simple sum of the two mono view. In this latter case, we would tackle in fact a “bi-temporal” view of the firm rather than a multitemporal view per se. Our argument is buttressed by the fact that, since the combination at hand is the outcome of a real integration between the two monotemporal views (as shown in the third column of Table I), it entails not only the participation of the two known timeframes but also of their multiple evolving and dynamic interactions. This multiparty process ignites de facto the establishment of a truly multitemporal stance. Whereas monotemporal views have driven heretofore the progressive development of the strategy field in a substantial way, on the ground of this contention, we argue that in the present fast-paced competitive ecosystems a multitemporal view of the firm is of paramount importance to both strategy research and practice as long as firms are increasingly required to tackle contradictions and timescapes.

Discussion and conclusion

Moving from the logics underlying two apparently opposed conceptions of time (Newtonian and Bergsonian) and adopting the suggestions offered by Austrian economists (O’Driscoll and Rizzo, 1985), we have laid the ground for the elaboration of a multitemporal view of the firm which encompasses concurrently both time concepts, along with both maximizing and entrepreneurial behaviors. The significance of such a view is highlighted by the consideration that, in order to retain and renovate its explanatory power, current strategic theory of the firm cannot forgo its underlying time concepts and needs to take into account and confront the implications and consequences of the time-paced evolution in today’s rapidly shifting environments such as the high tech ones (i.e., software, telecommunications, semiconductors, aeronautics constructions, and so forth). In fact, as firms have come to realize, in order to survive and prosper they must learn how to govern contradictions through their synthesizing capabilities (Nonaka and Toyama, 2002), reaping rents from their present competitive advantages whilst preparing the grounds for the creation of new sources of rent flows.

In our understanding, this approach proffers to further developments that may allow us to comprehend the discontinuities in the present competitive and technological environments and help interpret and guide strategic actor’s behaviors within firms. In particular, we have identified four basic implications which come to disclose avenues for further research that the multitemporal time perspective heretofore outlined has the potential to foster:

- the accommodation of both the dynamic and the static views of the firm in one strategy process framework;
- the explanation of crucial time-space interrelations within and between firms;
- the evolution in the strategic theory of entrepreneurship; and
- the elaboration of a dynamic and evolutionary theory of the firm.

As we will show henceforth, these insights have some compelling managerial consequences for strategy theory and practice that may contribute to the discussion

that is taking place about the need to revise and renovate agent time perceptions and some current organizational praxes.

As has been discussed by various authors (e.g., Schulze, 1994), the dynamic and the static views of the firm (i.e., monotemporal views) are partial and fundamentally at odds with one another. In an integrative fashion, the multitemporal framework proposed in this paper helps to bridge static and dynamic views as the unique aspects of phenomena present in stable systems provide the essential nexus between stable and dynamic systems. In this perspective, while maintaining the characteristics previously seen in the strategy content view, stable systems do not accomplish a static nature; in contrast, given that agents may adopt entrepreneurial behaviors even in presence of stability, change may reveal endogenous to stable systems.

As concerns the explanation of time-space interrelations relative to firm behavior, we believe that, on the escort of what physicists claim, time and space are very much associated to one another, as together they define space-time contexts (Hawking, 2001). The consequences of this state of affairs is such that, while firms endeavor to coordinate and synchronize their dispersed value chains and market behaviors towards fit, there are yet difficulties linked to the interconnection of different cultures, languages and time conceptions in groups trying to communicate actively within and between firms. These difficulties, when working at multiple levels and for prolonged time periods, propagate their impact throughout the firm and may hinder its development processes. As far as real world situations are concerned, time-space dimensions in interfirm relations assume considerable importance once, for instance, managerial problems (e.g., problems of coordination, problems of mutual comprehension, problems of synchronization in logistics and operations) arise when firms operating at different stages along the value chain adopt, at the same moment, essentially different time views. This may be the case of two industries entrenched in the same value chain, one which is more stable or, so to say, Newtonian, the other more revolutionary, or Bergsonian[8].

Accordingly, we acknowledge that time views and timeframes may be at the very basis of the insurgence of radical coordination problems within and between firms. One possibility to disentangle these problems is to make explicit the time views of agents and render as unambiguous as possible the time differences and the consequences of the adoption of each time view for each class of agents. In order to increase mutual comprehension, it could also be beneficial to bring each agent to understand the other's time view. This argument confirms that, for intra- and interfirm coordination to be operational, it is not necessary that the different agents adopt the same time concept, but rather that a sufficient number of shared typical aspects are present and widely recognized so as to allow the coordination between agents who move along different timescales. In this regard, it is important to consider the role of institutions, intended *à la* North (1990 p. 23) as the rules of the game in a society or the conventions that men have defined to regulate their relationships, in bringing about coordination within and between firms. The role of institutions assumes paramount importance for they are relatively immutable in both stable times and more turbulent ones and, thus, may be the essential reference points for the interaction between and among agents who act according to different time views.

As regards the evolution of the strategic theory of entrepreneurship, we maintain that a multitemporal view of the firm may contribute in the attempt to bridge strategic

management and entrepreneurship studies which, until recently, have developed largely independently of each other (Venkataraman and Sarasvathy, 2001). The budding approach of strategic entrepreneurship (Hitt *et al.*, 2001) may benefit significantly from our multitemporal framework for it is basically an evolutionary framework which integrates entrepreneurial and strategic actions and places the entrepreneurial process at the core of the firm and its ongoing processes. Along the firm lifecycle, the entrepreneurial process unfolds in different time situations: not only it takes place in newly founded firms (or start ups), but has also an impact within already existing firms and ongoing economic activities. In the latter circumstances, since strategic entrepreneurship develops in various temporal moments and at various levels in the organizational configuration, it can be termed intrapreneurship or corporate entrepreneurship. We emphasize the fact that intrapreneurship has significant managerial effects since it stimulates an extensive intrafirm decentralization of responsibility through managerial empowerment, the flattening of the firm's hierarchy, and the introduction of management systems suitable to generate, introduce, and share new ideas at different organizational levels; e.g. systems to measure employees' perceptions (or time perceptions) which help to reveal new ways to frame problems. In this regard, it is possible to recall for instance to the idea of distributed entrepreneurship, as conceived and executed at ABB in the early 1990s by its former CEO Percy Barnevik and discussed in Bartlett and Ghoshal (1993). In this vein, managers should stimulate employees at different levels within the firm towards the recognition of unique aspects of events and the commitment to use new knowledge in favor of the firm's goals.

As refers to the elaboration of an evolutionary theory of the firm (Nelson and Winter, 1982, 2002), we have already underscored the unique aspects of phenomena active in stable systems and the fundamental links between stable and dynamic systems. Since firms have cyclic processes that intimately link phases of stability and phases of innovation and change, a multitemporal view of the firm may help to encompass both maximizing and entrepreneurial behaviors in the firm's evolutionary process and, simultaneously, to explain the comparative contribution that each of them offers to the latter. In this perspective, one advantage of managerial time awareness is the ability to develop more effective links between temporal assumptions and strategic and organizational choices. Internal processes and practices can be designed to suit the time view held by a firm's managers (Mosakowski and Earley, 2000, p. 807). If managers are anchored to the past, strategic planning processes can be designed to emphasize present and future consideration in a compensatory fashion. If managers are oriented toward the future, strategic processes can be planned to draw their attention to the past and the present.

Finally, we acknowledge that for its inherent exploratory status this study displays some limitations. Since it is an initial study in the direction of a multitemporal view of the resource based firm, it shows to be an early and provisional attempt towards the definition of a methodological framework which accommodates different time concepts and the main actor behaviors essential for firm success. Fertilizing this soil, further research may come to demonstrate fully its inner potential by enhancing its interpretive power and by developing each of its constituent parts.

Notes

1. The concepts of "objective" and "subjective" time within Mosakowski and Earley's (2000) study are parallel respectively to the concepts of Newtonian and Bergsonian time used in the present study, and are therefore directly comparable.
2. In practice, the idea of rationality is strong though not perfect and is compatible with Simon's idea of procedural and/or limited rationality (Simon, 1957; 1976; 1982).
3. Barney, for instance, argues relatively to firm culture (but the same logic is valid for any type for resource or competence in this view): "normative implications of culture research are limited to assisting firms that *already* possess valuable, rare, and imperfectly imitable cultures" (Barney, 1986: 663; emphasis added).
4. We thank an anonymous reviewer for having suggested this important point.
5. Amongst the principal representatives of the Austrian school, we may find authors like Menger, Mises, Kirzner, Hayek, O'Driscoll and Rizzo.
6. This is true from at least two points of view: (a) the set of alternatives is closed; and (b) the revision of the distribution of probability between alternative typical aspects possible is, given the presence of a specific event, determined or determinable.
7. Though we have no evidence of previous multitemporal theoretical efforts with specific regard to strategy studies, we acknowledge the existence of some earlier enquiries, somewhat germane in flavour to the present one, stemming from scholars with interdisciplinary backgrounds in social sciences and heading towards the construction of multitemporal views, such as McGrath and Kelley (1986) and Fraser (1990).
8. We thank Jay Barney for drawing our attention to the revealing case of the oil industry in the two subsequent phases of oil extraction and oil refinement, which appears to represent well this state of affairs.

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