Abstract: The objective of the paper is to develop an analytical framework for the process of resources and capabilities development in the creation of sustainable competitive advantages by firms belonging to industrial clusters. Towards the aim, concepts and approaches from different areas and theoretical currents were reviewed and adapted in view of their integration in a unifying framework. The proposed framework basically combines the resource-based view to strategy and related concepts with the market-based view, in a process that exploits their complementarities and surmounts their respective inherent limitations. It takes explicitly into account, besides cluster-specific factors, which is the focus of the paper, also factors that are country-and industry-specific, the emphasis being, however, on the strategic resources generated by the cluster and their potential role in enhancing firms’ internal value creation processes. In spite of the focus on cluster-specific factors, the analytical framework developed can be useful for research that focus different aspects and factors that affect firms’ resources and capabilities in creating and sustaining competitive advantages, and at different levels of analysis. Moreover, its “general” conception allows for easily incorporating new elements of analysis, some of which are indicated as directions for future research.

Key words: strategic resources, capabilities, competitive advantage, sustainability, industrial clusters

1. Introduction

One of the current competitive challenges for organizations concerns the knowledge about the real sources of competitive advantages and how they are created and sustained through time. These sources are associated, in their essence, to the strategic resources that firms possess, such as physical, human, organizational and financial resources, and those they are able to access through cooperative relations with other firms and with research and technology institutions.

In the case of organizations belonging to a cluster, however, in addition to the resources internally developed or accessed through cooperative relations, they can also count on advantages that derive from their insertion in a cluster. These range from the basic agglomeration economies (positive Marshallian externalities), which can be accessed by all firms belonging to the cluster, to more advanced benefits whose access is restricted to organizations that meet certain required conditions, as the requisite knowledge base, among others that will be discussed later. While these two types of benefits provide advantage for organizations in the cluster vis-à-vis organizations external to it, the second type additionally provides advantage vis-à-vis other organizations within the cluster that are unable to access them.

Competition must hence be thought of beyond the explicit level of current products and markets, as in traditional strategic positioning analysis. It must also consider the non-explicit and complex level of the strategic resources needed for the development of new or better products, as well as for the creation of strategic options for future actions and envisaged market positions. The strategic resources, however, which are generally of an intangible nature, are neither easily identifiable nor rapidly developed. Within this context, the questions of concern in this paper are the following: What are the cluster-related resources that contribute
to the process of creating and sustaining competitive advantages by firms belonging to it? And how do firms internalize these resources in the process of value creation?

But the search for answers to these questions raises another one, concerning the proper context for their analysis. In the approach taken here, we consider it to be one which views the firm or organization (the two terms will be used interchangeably in this paper) embedded in the cluster where it is located, the country where it operates and the industry that it belongs to. Moreover, we posit that a resource-based approach is adequate for the analysis of the cluster and country related factors, whereas the traditional market-based approach is adequate for the industry related factors. Although we integrate these different factors in the analysis, the focus of this paper is on the strategic resources generated by the cluster and how firms appropriate them and combine with internal resources in creating and sustaining competitive advantages.

Clusters have been studied under the lenses of several disciplines and theoretical currents of the social sciences and under various names (industrial district, local production system, milieu innovateur, learning region, among others), which resulted in different but generally complementary views on how this form of production organization can be advantageous in creating and sustaining competitive advantages. This paper attempts to integrate some of these currents in a unifying framework, focusing on the strategic resources generated by the cluster and their potential role in enhancing the internal process of developing and sustaining competitive advantages by firms located in it. The objective of the paper is thus to develop an analytical framework of the process of sustainable competitive advantage creation that explicitly considers the cluster’s role in this process.

The research for this paper consisted, basically, of conceptual and analytical development efforts. Concepts and theoretical developments from different areas (management, industrial economics, socio-economics and economic geography), theoretical currents and research streams were integrated in order to develop the analytical framework. The resource-based view of the firm (RBV), due to its central role in the development and sustainability of competitive advantages, is the underlying approach and the integrating element of the different concepts and constructs that form the proposed framework. It is complemented, however, by the analysis that focuses on industry-specific factors, of the Industrial Organization tradition, approach referred to as the market-based view (MBV).

The paper is structured as follows. The basic concepts for the development of the proposed framework were separated in two sections, one presenting them at the firm-level (Section 2) and the other at the cluster and country levels (Section 3). A first effort for the integration of the different concepts and theoretical currents treated in these two sections is made as they are presented, since they constitute the conceptual base that forms the building blocks of the proposed framework, which is presented and discussed in Section 4. Finally, in Section 5, the main conclusions are presented, along with their implications for the strategic analysis of firms within clusters and indication of directions for future research.

2. Firm-Level Concepts and Theoretical Considerations

Concepts from the two main competing views concerning the determinants of firm competitiveness, and hence on strategic analysis, are initially presented: the resource-based view (RBV), with its primary focus on internal firm resources and capabilities (Section 2.1); and the market-based view (MBV), with its primary focus on the external environment, namely market forces and industry characteristics (Section 2.2).
2.1 Resource-Based View (RBV) of the Firm

A fundamental aspect of RBV, and which has long been at the core of questions related to the strategy field, is the notion that firms are fundamentally heterogeneous in terms of the resources and capabilities they possess (Penrose, 1959; Wernerfelt, 1984; Barney, 1991; Peteraf, 1993). This heterogeneity, or idiosyncratic nature, of resources results from the fact that firms do not have the same history, the same experiences, the same organizational culture or the same assets and capabilities (Barney, 1991). The basic premise of the RBV approach is hence that the sources of competitive advantage of firms are associated to the resources that they possess or are able to access, which are generally consolidated in the form of knowledge assets, capabilities or difficult to deploy technologies.

In this perspective, resources can be defined as strategic when they can be used as a basis for the creation of the capabilities and competencies that underlie a competitive advantage and its sustainability over time; in other words, resources are strategic when they are valuable, rare and difficult to imitate or substitute (Dierickx and Cool, 1989; Reed and De Fillipi, 1990; Barney, 1991; Peteraf, 1993). Or, in a broader sense, when they enable the firm to exploit opportunities or neutralize threats and are costly to copy or inelastic in supply; in this sense they may constitute firm strengths and thus potential sources of competitive advantage (Barney, 1991, 2002).

Several classifications for firm resources can be found in the extant RBV literature. One such classification, that is particularly useful for our purposes, as it embeds a notion of value and is more easily extendable to cluster and country resources, is that of Barney (2002), who synthesized these classifications in four resource categories: financial capital (includes money resources that can be used to conceive and implement strategies); physical capital (includes physical technology used, plant and equipment, geographic location, access to raw-materials); human capital (includes the training, experience, judgment, intelligence, relationships and insight of individual managers and workers); and organizational capital (similar to human capital but refers to attributes of collections of individuals rather than of single individuals). Resources are also commonly classified in tangible (physical assets the firm possess, such as facilities, equipment, raw materials) or intangible (items that do not appear in the balance sheet, such as reputation, knowledge, organizational culture). The relevance of this classification stems mainly from the fact that intangible resources are less easily changed and more difficult to imitate, having thus a more important role in a firm’s value creation (Carmeli, 2001).

Peteraf (1993) developed a framework (referred to as “the cornerstones of competitive advantage”), which highlights the economics that underlies the resource-based view, and synthesizes much of the ideas found in the extant literature concerning the strategic nature resources and their relation to firm performance. Her framework establishes four necessary conditions for a resource to be considered strategic: heterogeneity, imperfect mobility and ex ante and ex post limits to competition. Similarly, and taking a more operational stance, Barney (1991, 2002) developed an analytical framework (VRIO) for the identification of firms strategic resources based on the following four conditions, regarding Value (V), Rarity (R), Imitability (I) and Organization (O), that a resource must satisfy in order to be considered strategic: it must enable the firm to exploit environmental opportunities or neutralize environmental threats (V); it must be controlled by only a small number of competing firms (R); it must be costly to imitate or develop substitutes (I); and it must be exploitable by the organization (O), that is, the firm must be organized to realize its full potential. Resources that
are valuable but common among competing firms are sources of competitive 
parity, whereas resources that are valuable and rare constitute sources of competitive 
advantage; in order to be source of sustainable competitive advantage, however, a resource must additionally be costly to imitate or substitute (Barney, 2002). Strategic resources are thus, by definition, those 
that are sustainable in time, for which different isolating mechanisms exist that act as barriers 
to competitors and thus sustain the firm’s superior resource position. These “protection” 
mechanisms can be attributed to different characteristics of the strategic resources that render 
them costly to imitate by competitors that do not possess them. They include, among others: path dependency, when the resource was developed and accumulated in a process through 
time, generally in a learning sequence involving trial and error; causal ambiguity, when 
imitating firms may not understand the relationship between the firm’s resources and its 
competitive advantage; and social complexity, when the resources result form socially 
complex phenomena (for a detailed discussion of these mechanisms see Barney, 2002). It is 
quite evident from this that intangible resources can be more easily protected from 
competitors and thus constitute more sustainable sources of competitive advantage.

Since RBV deals with strategic resources, it is necessary to link them to the related concepts of capabilities and competencies and their role in creating and sustaining competitive advantages. Moreover, as there is some definitional confusion in the literature concerning these concepts and they are at the core of the proposed analytical framework, a working definition that more clearly distinguishes them is warranted. For our purposes, capabilities are a function of how a firm uses its strategic resources; more specifically, a capability is the ability to combine resources in order to perform a business process. Competencies involve thus a “bundle” of resources and are materialized in terms of the firm’s routines (in the evolutionary sense, as defined by Nelson and Winter, 1982). Competencies are defined as the capabilities that the firm performs better relatively to other capabilities, which must be consistent with and dynamically adapted to its strategy. In this sense, Teece, Pisano and Shuen (1997) introduced the notion of dynamic capabilities, which refer to a firm’s ability to dynamically renew its competencies, or, in a more operational sense, their underlying routines, in order to cope with a changing business environment. More recent contributions include Winter’s (2003) theoretical elaboration of the concept, Helfat e Peteraf’s (2003) introduction of the notion of capability lifecycle and Zott’s (2003) theoretical propositions concerning performance attributes of dynamic capabilities.

Strategic analysis requires, however, that distinctions be made between two different types of competencies, which are based on the different roles of capabilities in the firm’s strategy: core competencies, being the capabilities that are central to the firm’s competitive strategy; and distinctive competencies, being the competitively valuable capabilities that a firm performs better than its competitors. While core competencies must be capabilities which the firm performs well, and may be at the basis for different businesses of diversified firms, it is the distinctive competencies that provide competitive advantage. These definitions are internally consistent and similar to most found in the literature; their advantage is in clearly establishing a hierarchy of competencies as a function of their supporting capabilities.

2.2 Market-Based View (MBV) of the Firm

Competitive analysis focused on industry characteristics and market forces has been mainly the domain of Industrial Organization, and have in Caves (1982) and Porter (1980, 1985) the main proponents. This approach came to be referred to, after RBV’s growing prominence, and as a counterpoint to it, as MBV, the market-based view of the firm.
MBV thus focuses on industry-related factors as the basis for competitive advantage, rather than on internal factors, as RBV does. These factors include, following Porter (1980), the competitive structure of the industry, relations with buyers and suppliers and development potential of the industry. Concerning the sustainability of a competitive advantage, this perspective relies on (market-based) defensive tactics and strategies that work as barriers to competitors (Porter, 1985) in order to protect a desired market position. These barriers to competition have as their counterpart the isolating mechanisms associated with RBV; in RBV’s perspective, however, the barriers are based on resource attributes as protection for the firm’s resource position.

That the MBV and RBV approaches complement one another has been long recognized (Mahoney and Pandian, 1992; Barney, 2001), and it is rather clear from the above discussion. In order to see the nature of their complementarities, however, it suffices to analyse them in the context of SWOT analysis; while the focus of RBV is on the firm’s internal strengths (S) and weaknesses (W), MBV focuses on market opportunities (O) and environmental threats (T). Moreover, the two approaches are non-conflicting, as no element of one is in conflict with any element of the other. Additionally, and most importantly for the effort to integrate them in a unified competitive advantage framework, they complete one another by reciprocally rendering explicit what is only implicitly considered by each. More specifically, while RBV focuses primarily on the internal firm resources but lacks the explicit consideration of external factors, MBV focuses primarily on external factors but lacks an explicit consideration of the internal firm resources. Their complementarities concern the use of isolating mechanisms (lato sensu) as well, each erecting protection barriers that reflect its underlying nature (ie, market position vs resource position). Again, they complement one another and both should hence be considered in strategic analysis as both work in the direction of increasing sustainability of the competitive advantages created.


This section presents what could be called the “territorial” competitiveness factors, here treated separately at the cluster level, which is the focus of this research (Section 3.1), and at the country or national level (Section 3.2); as these factors include social, cultural and institutional characteristics existing within a territory, in order to have a clearer understanding of these two potential sources of competitive advantage a separate treatment is called for.

3.1 Cluster Resources and Competitive Advantage

The importance of cluster concerns its role in the creation and the sustainability of competitive advantages for firms located in it, the underlying assumption being that local (or regional) resources can influence the value of the firm’s internal resources. In this direction, we show in this section that the RBV, an approach to firm-level resources, provides as well an appropriate approach to cluster-level resources (RBV of the cluster) and how it can positively influence the value of the resources of firms located in it. A few efforts in this direction can be found in the recent literature (Maskell and Malmberg, 1999; Molina-Morales and Martínez Fernández, 2003; Wilk and Fensterseifer, 2003; Hervás-Oliver and Albors-Garrigós, 2007), but this is still an emerging research theme. Before doing that, however, clarifications concerning definitional problems related to the concept of cluster are in order.
There are many definitions for the concept of cluster, ranging from very general to very restrictive; some of the more restrictive ones tend to confuse definitional elements of a cluster with objects of study concerning clusters. For our purposes, a workable definition of cluster is that which highlights its potential as a source of competitive advantage for firms located in it. In this vein, a cluster can be defined, in its simplest form, as a geographic concentration (or agglomeration) of inter-related firms in a particular field. The presence of suppliers of specialized inputs, machinery and specialized services, firms in related industries, financial institutions, universities and research centres and trade associations characterize the more developed clusters (Porter, 1998).

The above definition is quite general, where inter-firm cooperation, horizontal or vertical, may or may not be present. The degree of inter-firm cooperation within the geographic boundary of the cluster is, in fact, one of the conflicting elements between the different definitions. Some authors consider cooperation as a defining element of a cluster; some even distinguish cluster from a local production system based on the degree to which inter-firm cooperation is present, particularly vertical, but there is no general agreement as to which is which. Another element of conflict, and often a critique to the cluster approach, concerns the geographic boundary itself of the cluster, which is more difficult to surmount, as, contrarily to the cooperation element, it is not just a matter of degree; it sets the limits of the object of study and hence of the relations occurring within this set limit.

Another definition of cluster, in the more restrictive end of the spectrum, and particularly suitable to historically developed clusters, and directly relatable to the notion of social capital, is that of Becattini (1990), which highlights the importance of socio-cultural factors in its functioning. Becattini defines an “industrial district” as “a socio-economic entity which is characterized by the active presence of both a community of people and a population of firms in one naturally and historically bounded area” (p. 39). The cultural homogeneity of the community of people (clearly identifiable in terms of geography, history and culture), as described by Lazerson and Lorenzioni (1999, p. 238), “produces an atmosphere of cooperative and trusting behaviour in which economic action is regulated by a series of implicit and explicit rules”. And cooperative and trusting behaviour are essential elements of the related concept of social capital of a community (or of a region), which includes its institutions and attitudes and values that guide the interactions between its members and contribute to its economic development (Farrell and Knight, 2003). Social capital thus relates to social norms and creates an environment of trust and reciprocity that reduces transaction costs and facilitates the undertaking of collective actions. Consequently, it can potentially contribute not only to the efficiency of the cluster, but also to its upgrading through knowledge transfer and the diffusion of innovations. These socio-cultural-territorial factors in which firms and institutions are embedded are at the root of the recognized but as yet insufficiently understood notion of cluster resilience, a self-renewal capacity that some clusters have demonstrated to possess when confronted with crisis situations.

A large and growing body of literature exists that discusses and provides both theoretical and empirical evidences of the benefits potentially derived by firms belonging to a cluster. Schmitz (1995) introduced the concept of collective efficiency to capture these advantages; it is defined as the competitive advantage derived from local external economies, in the Marshallian sense, and from consciously pursued joint actions, involving vertical or horizontal linkages. Towards our aim of integrating the different cluster-related concepts in a unifying framework, a slightly more general version of this definition is used, as it is necessary to distinguish between and give precise meaning to actions taken by a “limited group of actors” of the cluster from those that are “cluster-wide”; we refer to the first kind as
joint action, and to the second as collective action. Joint actions are typically undertaken in cooperative efforts by firms whereas collective actions, which are not limited to firms but can involve, and may even be led by, other actors and entities of the cluster. While both types of cooperative actions are purposefully and deliberately pursued, in this paper collective actions refers to those actions that are economically or politically motivated for the benefit of the cluster as a whole (e.g., promotion of the region’s products, cluster-wide strategic planning), and typically involve public agents and business associations; joint actions, on the other hand, involve a subgroup of firms within the cluster that strategically interact, horizontally or vertically, in the pursuit of benefits that are limited to the subgroup (e.g., joint development or experimentation, co-production, joint purchasing of inputs, joint marketing), leading in general to the creation of networks within the cluster. Economies of scale or scope, product differentiation and learning and innovation are generally the main drivers of joint actions, and it is not uncommon that they also involve actors from outside the cluster. The benefits derived to firms engaged in joint actions (networks) have thus characteristics of “club goods”.

Both joint and collective actions lead to an increase in the density of relations within the cluster and hence to its institutional development and upgrading potential. Their distinction is justified not only by the different objectives and actors involved, but also, on the negative side, by the different implications they have for cluster governance: we refer here to the problems of free-riding, associated with collective actions, and opportunistic behaviour, associated with joint actions. The social capital accumulated by a cluster can function as a deterrent of these detrimental behaviours, to the extent that there are social sanctions for those that do not follow the “rules of the game”.

Since in our proposed framework the benefits derived from the cluster can constitute sources of competitive advantages approbable by firms belonging to it, we now turn our attention to the nature of the process by which these potential benefits can be appropriated by firms and present other pertinent concepts.

The potential benefits to firms belonging to a cluster range from the positive externalities of the Marshallian industrial district (Marshall, 1890) to the more recent ones, more akin to the current competitive imperatives, such as its positive impact on learning and innovation and, consequently, on the upgrading of capabilities leading to the development of sustainable competitive advantages (Lundvall, 1992; Schmitz, 1995; Porter, 1998; Humphrey and Schmitz, 2000; Giuliani and Bell, 2005; Visser and Langen, 2006). These collective or shared resources can be classified in two different kinds: systemic and restricted-access resources (Fensterseifer and Wilk, 2005). Systemic resources are those that can be accessed by all firms in the cluster, thus providing strategic value for them vis-à-vis firms external to the cluster. Agglomeration economies and the accumulated social capital of a cluster are examples of systemic resources. Restricted-access resources, on the other hand, although constitute collective goods, are defined as those that can be accessed only by firms that meet certain conditions. For certain new scientific or technological knowledge generated by research institutions of the cluster, for example, the condition is that the firms possess advanced level of absorptive capacity (as defined by Cohen and Levinthal, 1990), i.e., by those firms that are able to recognize the strategic value of the resource (some specific knowledge, in this case) and possess the required prior knowledge to assimilate it. The “advanced” qualifier for absorptive capacity is used here in a similar sense as Giuliani and Bell’s (2005) use of the term, characterizing firms within the cluster with higher cognitive ability to absorb and exploit new knowledge; in our use of the term, however, and consistent with the RBV approach as applied to a cluster resource, this new knowledge refers only to that which is locally generated (within the cluster). Other conditions, depending on the
nature of the resource, include the possession of the requisite complementary asset(s), the appropriate strategic positioning, the required relational capital within the cluster and access to financial resources. The difference between systemic and restricted-access resources is, in fact, a matter of degree, i.e., the extent to which a firm is able to capture the external economies generated by the cluster. While the systemic resources are strategic in the sense that they are difficult to imitate by firms not belonging to the cluster, the restricted-access resources are strategic, and of a higher value, because they may be difficult to imitate even by some other firms within the cluster.

The concept of absorptive capacity is thus central for the ability of firms to appropriate externally developed knowledge. But this concept is also an essential element of the notion of leader-firms, which have an important role in creating positive externalities for other firms in the cluster. These leader firms typically go beyond the internalization of restricted-access resources of the cluster and are also able to assimilate knowledge and innovations developed elsewhere (outside the cluster and even of the country). In this case they contribute to the diffusion of extra-cluster knowledge within the cluster (see Giuliani and Bell (2005) for an analysis of this particular role) and also to reduce, if not to avoid, the “lock-in” problem (see Visser and Boschma, 2004), typical of clusters with low level of external links and interactions; this requires, in addition to advanced absorptive capacity, a certain degree of external “openness”. In the case of clusters in developing countries, it is quite common that the leader-firms be foreign-owned or controlled, or part of a global value chain (see, for example, Giuliani et al., 2005).

Another concept that is of relevance for the analysis of industrial clusters is that of governance. Following Humphrey and Schmitz (2000), we use in this paper the term governance to refer only to the non-market modes of coordination of economic activities. In addition to public governance, through governmental agencies, these authors distinguish three types of private governance: network, formed by firms of more or less equal power; quasi-hierarchy, a relationship between firms in which one is clearly subordinated to the other; and hierarchy, the firm vertically integrated. Hybrids of the two forms, public-private, are also considered relevant for the analysis of a cluster’s governance structure. While there are many kinds of informal interactions among firms and other organizations within a cluster, which are important for the diffusion of innovations (see, for example, Nahapiet and Ghoshal, 1998), the term network in our framework refers only to purposeful and formal strategic interaction among firms, involving or not other organisations and entities, public or private. Informal networks are also important for the efficiency of a cluster, particularly for problem solving and counselling (see Chiffolleau and Touzard, 2007) and whenever pertinent, the term network is used with the appropriate qualifier.

Since in our framework the unit of analysis is the firm within a cluster, cluster-specific resources will be strategic if they are valuable for firms in the cluster and are scarce. And they will be sustainable sources of competitive advantage if they are costly to imitate or substitute by firms outside the cluster. Since the value of a strategic resource is a relative measure, determined by its capacity to provide competitive advantage for firms that possess them relatively to those that do not possess them, special care must be taken in the evaluation of cluster resources, as some could be strategic, for example, for competing in the domestic market but not for the international market, and vice-versa.

Finally, concerning the question of sustainability of the cluster’s resources, there are several characteristics unique to clusters that can function as “isolating mechanisms” for the protection of their resources, similarly to the sustainability of a firm’s position (market or
resources): unique historical development (path dependency), accumulated social capital, immobility, resilience and upgrading capability (a cluster capability developed through collective and joint actions), among others.

3.2 Country Resources and Competitive Advantage

Similarly to the case of a cluster, there are factors that are related to the country in which the firm operates that can influence the value of the firm’s resources, and hence its competitive advantage generating potential. Among these “country-specific” factors are the country’s macroeconomic conditions, communication, transport and technological infrastructure, legal system, government policies and regulations, natural resources, geographic location, market characteristics and image. From a resource-based perspective, however, and consistent with the approach to cluster-level resources, the interest is on the country-level resources and how they can create value for firms operating in it.

Resources at the country or national level have received much more attention in the specialized literature, although not from the RBV perspective, than at the level of the cluster, which only recently has been receiving attention from researchers. Fahy (2002), synthesizing the contributions of several authors (Dunning, 1977; Davidson, 1980, Ghoshal, 1987; Kogut, 1991), and from an RBV perspective, classifies the resources of a country as basic or advanced. Basic resources include those that are inherited, such as country’s location, climate and stock of natural resources, all relatively fixed, and those that are subject to periodic changes, such as cost of labour and capital, exchange rates and tax levels. Advanced resources, on the other hand, are considered to be those that require sustained investment over a period of time; they include a country’s education system, technological and organizational capabilities and communication and marketing infrastructure.

As it was posited for the cluster strategic analysis, the RBV perspective provides an adequate approach for the evaluation of these country resources potential for generating competitive advantage for firms operating in it. And similarly to the cluster-level, the country-level factors may also be classified in systemic and restricted-access. In our terminology, both basic and advanced resources, as defined by Fahy (2002), can be systemic, that is, accessible by all firm operating in that country. However, only the advanced resources can be of restricted-access, as the level at which they can be exploited by firms depends strongly on their absorptive capacity, or on the possession of complementary assets or still on a particular strategic position.

Finally, since country-specific resources provide benefits for firms located in it vis-à-vis firms located in other countries, firms with international operations can capture, at least partially, benefits from resources that are specific of other countries. This is the case, for example, of firms belonging to global supply chains, or with foreign direct investment or still with strategic alliances with firms from other countries. As a result, as pointed out by Fahy (2002), firms operating internationally have access to a larger and more diverse resource pool than firms operating domestically. The ability to access resources from other countries, however, in our framework, is considered a firm’s capability and hence it is treated at the firm level.

4. The Proposed Analytic Framework

With the conceptual and theoretical elements provided in the previous sections it is possible now to present the proposed analytic framework that integrates them in a cohesive
whole, represented in the diagram below (Figure 1). The focal object of study, the firm within a cluster, is shown in the central box of the diagram, where the internal process of resources and capabilities development leading to sustainable competitive advantage is treated. External, environmental factors to this process are separated, for analytical purposes, in cluster-specific, country-specific and industry-specific factors. Although the focus of this paper is on cluster strategic resources and their role in creating and sustaining competitive advantages, we claim that the analysis can only be properly carried out within a more general framework, as the one proposed here, which provides the adequate context for the necessary integration of RBV and MBV, the two complementary perspectives in strategic analysis.

![Diagram](image)

**Figure 1.** General Analytical framework for the strategic analysis of sustainable competitive advantages

The cluster-specific and country-specific factors (lateral boxes in the framework) embody, in two different levels of analysis, the economic, social, cultural, institutional and territorial aspects that influence the firm’s internal process of resources and capabilities development. We refer to the system by which the firm carries out this process as its *value-creating system* (central box of the framework). We posit that RBV is the primary approach for the analysis of these factors’ potential for generating competitive advantage for the firm.

The industry-specific factors (upper box in the framework), for their turn, incorporate market-based aspects as the industry’s competitive structure and development potential, relations with buyers and suppliers, among others, and their effect on the strategic market positioning on
the firm, and hence on how it will create and sustain over time a competitively advantageous position. These factors directly impact the firm’s *value-delivering system*, defined as the system by which the firm carries out the process of sustainably delivering value to customers (central box of the framework). This is the domain of the MBV approach, which is quite appropriate for the analysis of these factors. However, the two value systems, due to the umbilical nature of their relation, must be thought of jointly as part of a larger system that has as a function to *sustainably generate superior performance* for the firm; this is, in fact, the desired end result of the two intertwined value systems, as represented in the lower portion of the diagram.

In this framework, each approach or perspective on strategy (RBV and MBV) is used for what it is best suited. Moreover, the combined use of the two perspectives eliminates their respective intrinsic weaknesses, and a source of criticism, namely that external market forces are considered only implicitly in RBV, whereas the firm’s internal resources and capabilities are only implicitly considered in MBV. The inseparability of the two perspectives is reflected, in the proposed framework, in the intertwined nature of the relation between the *value-creation* and the *value-delivering* systems. Their inseparability is reinforced by the complementarities of the *isolation mechanisms* inherent to each, which can be used by firms to protect respectively their resource position (RBV) and their market position (MBV). Each perspective has its own arsenal of mechanisms which, again, are not conflicting but complementary; which ones to deploy should not depend on the analytical approach embraced, but instead on careful strategic evaluation.

It should be clear, from the above discussion, that the approach taken here views firms as resource combiners or integrators. The internally developed resources are combined with those externally accessible through cooperative relations, both formal and informal, in the process of creating and constantly reconfiguring the capabilities and competencies required for sustainably delivering value to customers. The strategic resources of the cluster, available only for firms belonging to it, besides rendering the process of internalization of externally accessed resources more intense and on a continuous mode, opens opportunities to access resources that are not available for firms not belonging to the cluster; the efficiency of a cluster is measured, in our approach, by the extent to which it can contribute for competitive advantage creation and sustaining by firms located in it. Combining resources to create the requisite capabilities and competencies can be viewed a function of the firm’s *value-creating system*, which must be synergistically integrated to its *value-delivering systems* if they are to dynamically sustain competitive advantages and hence attain superior performance. And synchronizing the *value-creating* and the *value-delivering systems* is, par excellence, the role of business strategy. Strategic considerations of this process, however, are beyond the scope of this paper.

Finally, from an operational point of view, the identification of potentially strategic resources, not only of the cluster but also of the firm and the country, constitutes, along with the identification of industry-specific factors, the basis for the strategic decision process concerning the firm’s value creation and delivering systems, and hence for empirical research concerning this process.

5. Conclusion

A general framework for analysing the process of sustainable competitive advantage creation by firms belonging to a cluster was developed, having the RBV approach as the underlying conceptual base for the territory-related (cluster and country) factors and the MBV
approach for the industry-related factors. The internal consistency of the framework can be seen, in its simplest form, by its relation to SWOT analysis. It can be viewed, in many ways, as an extended SWOT approach to strategic analysis, where RBV is used to identify and analyse internal strengths and weaknesses and MBV to analyse environmental threats and opportunities. The extensions are mainly in the sense that, in considering the strengths of the firm, the strategic resources accessible from the cluster and the country are explicitly considered and integrated to the internally developed ones. Moreover, the sustainability elements are also explicitly treated within the same framework, and a clear role for strategy is evidenced in the context of the value-creating and value-delivering systems. But rather than viewing it as an extension of SWOT analysis, it would be more appropriate to consider that the framework implicitly contains a SWOT analysis.

Underlying the conceptual development presented in the form of an analytical framework is a premise that the process of creating and sustaining competitive advantages cannot be adequately analyzed for firms belonging to clusters without the use of a broader framework, along the lines of the one proposed here. Additionally, the “socio-economic” factors related to clusters must be explicitly treated. In fact, the resilience that clusters are known to possess predominantly from these factors; there is a question of social embeddedness (Granovetter, 1985) here that strongly influences the undertaking of collective actions within the cluster and hence its collective efficiency.

Although the focus of this paper was on cluster-specific factors, the framework can be useful for research that focus different aspects and factors that affect firms’ capabilities in creating and sustaining competitive advantages. Other salient characteristics of the framework are: it consistently integrates models and concepts already tested found in the extant literature; it can be used at different levels of analysis and with different focus; it provides the context for specific analyses (for example, the role of leading firms in the creation and sustainability of competitive advantages); its “general” conception allows for easily incorporating new elements of analysis or the exploration of new knowledge concerning its constituent elements; and, finally, it provides the basis and the proper context for the analysis of an isolated cluster (i.e., the cluster as the unit of analysis, rather than the firm within a cluster), as well as for comparative studies between clusters.

The next step for further developing the framework consists of elaboration of the two value systems in the central box of the diagram. This requires a focus on strategy, which requires, in turn, besides the notion of strategic options, further refinement of the different types of capabilities (and particularly dynamic capabilities) and competencies and their relation to sustainable performance. This would lead to a dynamic model of sustainable competitive advantages for firms belonging to clusters and should contribute to further our understanding of the linkages between resources, capabilities, competencies (core and distinctive) and value creation and their relation to performance.

References


