

Institutional Theory of Strategic Capacity and Competitive Advantage: Theoretical View of the Information Technology Industry in Brazil

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Abstract

The Information Technology industry in Brazil in recent years was forced to change because of the new market demands. The purpose of this article is to analyze theoretically the Brazilian IT industry under the theoretical perspective of Institutional Theory and Strategic Capacity as inducers of Organizational Competitive Advantage oriented innovation environments. The high cost of labor due to the lack of qualified professionals and the lack of greater incentives for innovation by governments result in the need to understand the political/economic context that Brazil is inserted, in addition, to identify which strategic actions must be taken to ensure competitive advantages the Brazilian IT industry. The survey results indicate that the effective use of strategic resources by enterprises may represent key factors for their best performance in a dynamic and innovative market.

Keywords: Institutional theory; Strategic capacity; Competitive advantage; Information technology industry.

INTRUCTION

The contemporary world organizations are constantly looking to increase their holdings in large competitive markets, such as the American and Chinese economy, in order to become competitive in the long term and increase its assets.

The current highlight industry in the global economy is the Information Technology industry, in which constant improvement and innovation of products and services are in constant development, and not merely adapting to technological changes.

The Brazilian IT industry is characterized by many experts as problematic regarding the lack of qualification and qualified training professionals who can meet the market demands; high cost of labor, most likely due to the lack of qualified professionals; grace in encouraging innovation; and the need to improve technology infrastructure and communication, especially the poor infrastructure for broadband Internet connection, such as the 4G Internet (Brasscom, 2012).

This article to present a theoretical framework for studying the IT industry in Brazil, and three theoretical currents are discussed that converged can assist in the analysis: institutional theory; strategic capacity; and competitive advantage.

The interest in these three streams stems come from the wide publication, and from the readings of national and international journals. The empirical context will be analyzed and the proposed framework presented in a way that will contribute to future studies.

Institutional theory, which addresses the macro organizational environment and identifies rules, beliefs and values created and consolidated through social interaction and routines, analyzes the influence of these factors on the dynamics of organizations. (DiMaggio and Powell, 1991; Imasato and Guedes, 2008).

In the specific case of the Brazilian IT industry assumed that is a highly regulatory sector and therefore has a constant influence of the state in which one perceives the need for organizations to create capacity strategy in the use of their resources and knowledge as a way to ensure competitive advantage in that means (Prahalad and Hamel, 1990; Leonard-Barton, 1992; Barney, 1995; Subramaniam and Venkatraman, 2001; Cepeda and Dusya, 2007).

In the article will be analyzed by a theoretical test how the influence of the external environment, either through laws, norms, or, even, the influence of Global companies can interfere with the performance of small and medium Brazilian IT companies in the domestic and international markets

The concept of strategic capability in the organizational field corresponds to the set of skills necessary for the competitiveness of organizations, encouraging innovation of products and services always oriented to the market. (Prahalad and Hamel, 1990; Leonard-Barton, 1992; Mcgrath, 2001; O'Connor, 2008).

In comprehending the strategic capacity two theoretical perspectives offer support in the analysis of the strategies, the Resource Based View and the Knowledge Based View, RBV and KBV respectively. (Wernerfelt, 1984; Barney, 1991; Kogut and Zander, 1992; Grant, 1996; Carlucci et al., 2004; Scarso and Bolisani, 2010)

In summary, the strategic use of physical and material resources, as well as the knowledge to sustain a competitive advantage of organizations is a key factor in overcoming environmental barriers, resulting in sustainable competitive advantage to organizations.

Understanding the strategic capacity associated with the prospect of RBV also occurs through understanding the concepts of resource dependence and understanding the context involving the organizational capacity by stimulating the strategic use of resources. (Wernerfelt, 1984; Rumelt, 1991; Mcgrath, 2001; Gabriel, Venkat and Paul, 2003)

Regarding the competitive advantage concept may be the result of "marriage" of strategic capacity with innovation, that is, the manager needs to understand the constraints of the organizational environment necessary for the creation of new products and services that reflect the superior performance. (Kalling, 2003; Darroch, 2005; Sveiby, 2005; Marqués and Simon, 2006; Zack et al, 2009; Yang, 2010).

The use of RBV to understand the reflection of the strategic capacity for innovation as a condition for a competitive advantage of the organization, which combines the strategic look of the manager for the use of its resources in a complex environment, dynamic and innovative which your organization operates it is also driver of superior performance of organizations. (King and Zeithaml, 2001; Cepeda, Dusya, 2007).

In this regard, the competitive advantage is the result of lasting permanence of the organization in a highly competitive environment, where there is creation of mechanisms aimed at promoting innovation and retention of employees, makes it necessary to promote training and constant preparation in search of a better positioning market, been this the key factor in organizational success.

Contextualized the theoretical perspective discussed in the article, and identified gaps in the IT industry in Brazil, the article will analyze the Brazilian Information Technology industry from the theoretical perspective of the Institutional Theory and Strategic Capacity as inducers of organizational competitive advantage in environments focused innovation.

INSTITUTIONAL THEORY: The Influence of the Environment In Organizations

Institutional theory has its origins in the late nineteenth century, and since then has received contributions from the social sciences, highlighted the Marx studies, Weber, Cooley, Veblen and Commons (Scott, 2004).

The interest in understanding the behavior of certain organizations in the use of strategies that can ensure superior performance in regulated environment describe the look of the Institutional Theory. Critical institutionalists authors in relation to rational processes of choice and perspective based on efficiency reflects the approaches based on the strategic planning process, brings the premise that organizations are under pressure to adapt, (Meyer and Rowan, 1977).

Predominant in institutional theory the understanding that the rational decision-making capacity of the systems is affected by the contingencies of context (DiMaggio and Powell, 1991).

In this perspective, the institutional environment is defined as crucial to organizational behavior, or as an independent variable in relation to it. Crubellate (2007) also believes that the institutional perspective relating the organizational structures and institutional forces act in a circular way, that is to say, the structures and actions are guided by environmental forces, and at the same time, these environmental forces enter the institutionalization process when there is correlation, responding positively to them.

Imasato and Guedes (2008) highlight the various works that examine multinational organizations regarding the complexity from the Institutional Theory. But in recent decades the institutional analyzes are based on literature called "new institutionalism", ranging from three looks (Morgan and Whitley, 2003; Geppert, Matten and Walgenbach, 2006):

- **Institutionalism of rational decision or economic institutionalism**, is based on economic transactions as central units responsible for training markets, hierarchies and organizations;
- **Historical institutionalism or Historical compared institutionalism**, which analyzes social structures existing economic and political in a given context to check patterns or regularities in social interaction processes, making it possible to compare different political and economic contexts; and
- **Sociological institutionalism or organizational institutionalism**, which deals with the understanding of rules and socially constructed norms inducing behavior of individuals and organizations.

These three streams allow a better analysis of the institutional environment in which organizations are inserted, and their use will depend on the look used to analyze the industry, that is, from the perspective of

economic transactions; social structures, economic or political; or the rules and norms that shape the behavior of people and organizations.

Analysis of institutional settings (Hirsch, 1972; Mcneil and Minihan, 1977) and its effects on organizational structures and processes (Dowling and Pfeffer, 1975) have shown that institutional school is a vital knowledge in research on organizational adaptation.

The institutional perspective is a deterministic structure which places great emphasis on the rules of the environment and the weight of the company's history to explain the organizational actions, and in the case of action of small and medium-sized companies in the Brazilian IT industry, it is essential to know the prospect institutional framework for understanding the factors of influence of the state and the large multinationals, in which companies can better understand the industry and implement strategic actions promoting lasting competitive advantages.

Justified theoretical look of institutional theory in the study of the IT industry, is presented in the next chapter the Theory of Strategic Capacity in organizational studies

STRATEGIC CAPACITY

The strategic capacity of organizations is defined by effective action in the organizational context and analyze the objective application of resources in the search for better results.

The result of the capacity is in the organization's expertise in developing innovative new products and services that meet market requirements (Prahalad and Hamel, 1990; Javidan, 1998; Fleury and Fleury, 2000; King, Fowler and Zethaml, 2002; Milk and Porsee 2005; Streets, 2005; Sordi and Azevedo, 2008).

RBV contributes to the understanding of the strategic capacity of the view that critical resources and limited decision-making can influence the formation of capacity, and accordingly, the manager needs to make strategic decisions to develop, integrate and use organizational skills to the creation of a competitive advantage. The difficulty of the organization is to recognize the value of their skills, which hampers the ability to compete in the market. (Cohen and Levinthal, 1990; Bettis, Bradley and Hamel, 1992; King and Zeithaml, 2001; Cepeda and Dusya, 2007).

Organizational skills associated with the strategic capacity of the organization must act coordinated and combined with the knowledge and skills needed to carry out productive actions, and that can generate competitive advantage (Prahalad and Hamel, 1990; Barney, 1991; Lansiti adn Clark, 1994; Sherman, 1996; Stewart, 1998) .

The strategic capacity determine the required behavior able to meet the demands of the market. It uses parameters of the organizational environment and transform these to achiev the results outlined. (HITT and Ireland, 1985; Prahalad and Hamel, 1990; Annavarjula and Mohan, 2009).

This article uses the concept of strategic capacity as the effective use of resources and expertise of the organization as a key factor for the best performance in the industry, it shall the deemed the organizational communication practices, internal communication networks, and creating an indoor environment facing the autonomy and freedom of employees in the transformation of ideas into innovation.

The traditional model strategy based on the analysis of opportunities and threats of the competitive environment weakened from the 1990s, when the prospect of strategy based on RBV resources allowed studying organizations more clearly in a global competitive environment, making it possible to define strategies able to guarantee sustainable competitive advantage (Barney, 1991; Grant, 1991).

COMPETITIVE ADVANTAGE ORGANIZATIONAL

The development of a sustainable competitive advantage is one of the main challenges of formulating strategies in an organization (Barney, 1991; Grant, 1991; Porter, 1985). In this context, RBV suggests two premises: the first is that the skills and internal resources come from the direction from which the strategy will be developed; and the second that resources and skills are the primary sources of generating sustainable results of an organization (Barney, 1991; Grant, 1991).

Knowledge appeal has also been recognized as one of the most important sources of competitive advantage and sustainable performance, as resources based on knowledge Knowledge Based View (KBV) are difficult to imitate and socially complex. In this scenario, it is observed that companies that moved to the center of the world economy are characterized more by the creation and distribution of knowledge than the production of physical goods (Drucker, 1993; Teece, 2000; Alavi and Leidner, 2001; Kalling, 2003)

The search for sustainable competitive advantage is the basis of the concept of strategy implies on the establishment of a competitive advantage that cannot be easily copied by competitors, and to ensure consistently superior returns to the industry (Porter, 1985; Barney, 1991; Grant, 1991).

In the economy of knowledge era, the theoretical debate on the development of sustainable competitive advantage has become relevant, highlighting the approaches of RBV and KBV (Prahalad and Hamel, 1990; Barney, 1991; Grant, 1991 Teece, 2000; Alavi and Leidner, 2001), opposing the strategic model based on an evaluation of the external environment to set the strategic positioning of the organization, Michael Porter (1985).

The strategy of an organization defines its potential to generate sustainable competitive advantage, which in practical terms is the ability to maintain top performance over time (Porter, 1985; Grant, 1991).

From the perspective of the strategic paradigm of RBV and KBV, knowledge is presented as a critical resource that the organization can develop to achieve a sustainable competitive advantage and can be configured as a rare resource that creates value for customers, difficult replication in other contexts, and it cannot be easily replaced (Barney, 1991; Grant, 1991).

Strategy can be understood even as the search for sustainable competitive advantage in an organization (Porter, 1985; Prahalad and Hamel, 1990; Barney, 1991; Grant, 1991). We need to balance the tension between existing resources and skills with the opportunities and threats presented by the external environment.

Emphasis should be made to the fact that the models of management of knowledge-based assets were, in some cases, suggested from assumptions and mental models defined in the traditional industry structures, not representing, often, the actual capacity of these assets in generate competitive advantage and superior performance (Allee, 2000).

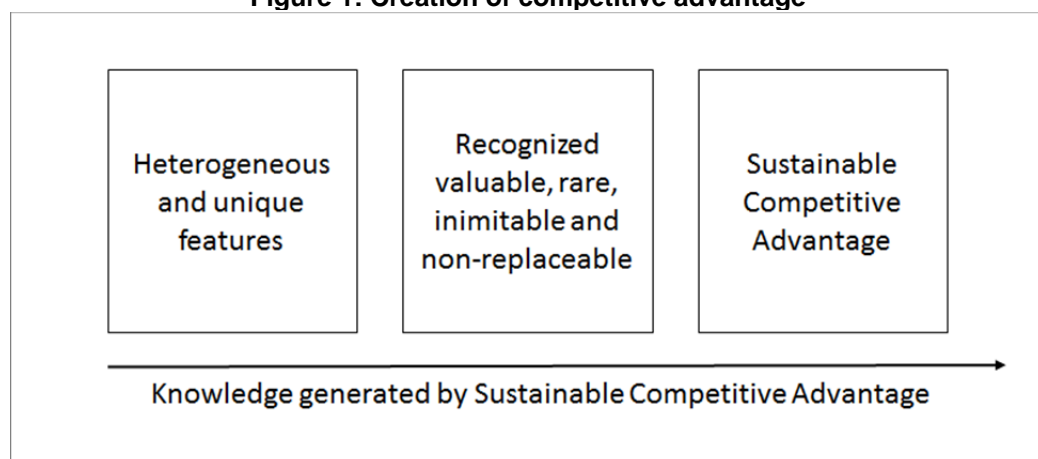
When the external environment is presented as a continuous flow of transformation, capabilities and resources can be a stable basis for the definition of identity and strategy of the company in the future (Grant, 1991).

The resources of an organization should be used to create a distinctive capacity and establish a sustainable competitive advantage over current and potential competitors, assuming the development of heterogeneity and immobility of these essential resources, whose characteristics are as defined according to Barney (1991):

- **recognized and valuable:** to create value for the organization and allow it, from its use, meets some market demand, take advantage of business opportunities or add value to existing businesses.
- **Rare:** unique abilities, special skills, favorable conditions, and the combination of skills make the internal resources rare.
- **Imperfectly imitable:** aspects of its use, combinations, historical, causal ambiguity, or social complexity that make them imperfectly imitable resources.
- **Cannot be replaced easily:** it cannot easily be replaced by an equivalent, even if it meets the above requirements.

Understanding the characteristics so that a resource be considered critical to generate sustainable competitive advantage makes the development of these resources in the organization. Under this view, knowledge is recognized as a potential resource for generating sustainable competitive advantage, it is necessary to create appropriate conditions for its management and development (Barney, 1991; Grant, 1991; Drucker, 1993; Nonaka, 1994; MESO and Smith, 2000),

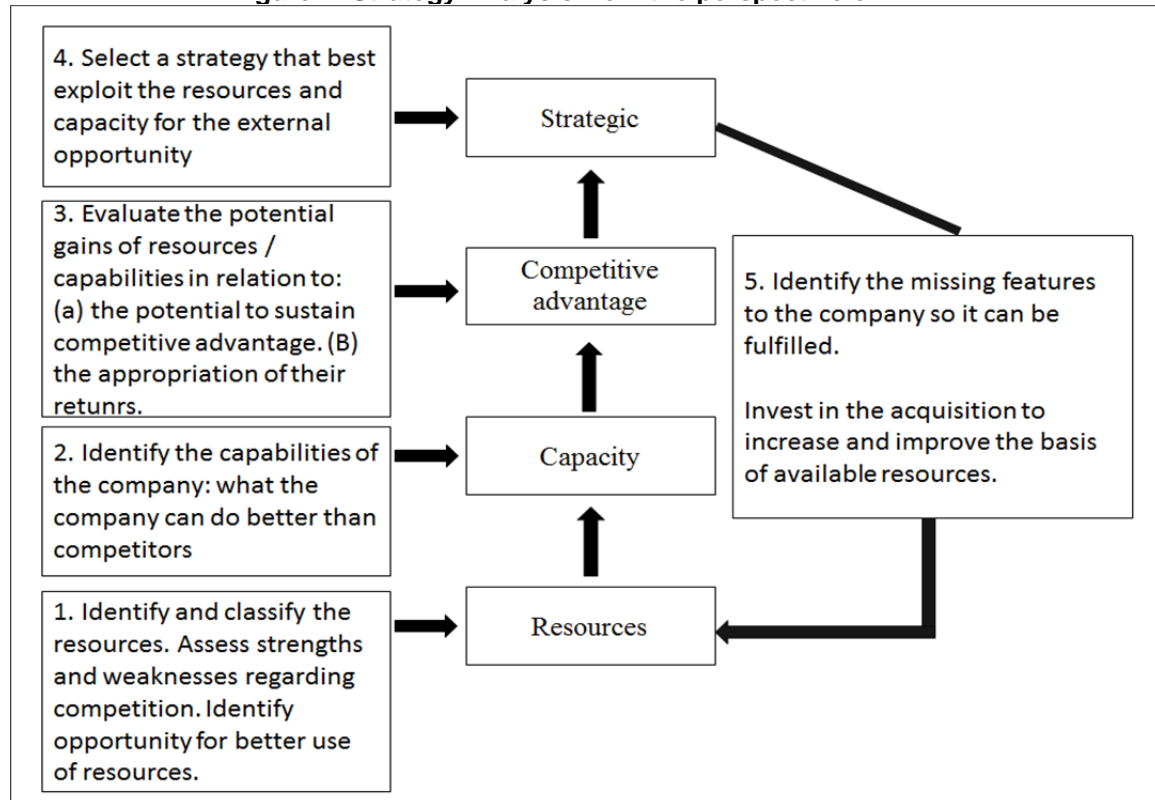
Figure 1: Creation of competitive advantage



Source: Barney (1991).

The paradigm of RBV contributes to the understanding of how critical resources, such as knowledge may be established as a source of competitive advantage for the organization. In the framework suggested by Grant (1991), displayed on Figure 2, it's shown the development of resource cycle and the drafting of strategies that use these resources to generate long-term competitive advantage.

Figure 2: Strategy Analysis from the perspective of RBV



Fonte: Grant (1991).

The model proposed in Figure 2 suggests a harmony between the external environment and the identification of key resources with the potential to generate competitive advantage. The model helps to understand the influence of the environment, from the perspective of institutional theory, forward the strategic capabilities that need to be adopted to ensure a sustainable competitive advantage.

Meso and Smith (2000) point out that the development of competitive advantage is necessary for the organization to continuously seek innovation in its products and its processes, which occurs through continuous learning and the generation of new knowledge. Knowledge is the basis of a complex infrastructure that involves culture, human resources, organizational structure and information technology.

Finally, it is considered that knowledge is recognized in the literature as one of the strategic resources capable of generating sustainable competitive advantage (Prahalad and Hamel, 1990; Barney, 1991; Grant, 1991; Nonaka, 1994; Spender, 1996; Wiig, 1999; Zack 1999; Meso and Smith, 2000; Lubit, 2001; Chuang, 2004).

The theoretical perspectives presented by Barney (1991) and Grant (1991), which suggests the development of strategies from the essential resources of the organization, should be perceived by customers to add value, it is adopted in this article to better understand the capabilities strategic adopted by organizations in order to overcome the barriers imposed by the state and large multinational companies, exemplified by the Institutional Theory, and as a result seek a sustainable competitive advantage from the effective use of resources, emphasis on knowledge resource.

INSTITUTIONALLY THEORY, STRATEGIC CAPACITY AND COMPETITIVE ADVANTAGE : A Vision Applied To The Brazilian It Industry

The Brazilian context of Information Technology identifies innovation as a key driver of competitiveness, In which Brazilian problems and low levels indicate problems such as lack of qualification and trained professionals to meet market demands; the high cost of labor; the lack of incentives for innovation and the need to improve information and communication technology infrastructure – ICT (Brasscom, 2012).

In the ranking of the world index innovation (Global Innovation Index), published by The Business School for the World (INSEAD) and World Intellectual Property Organization (WIPO), measures how much a country produces from incentives offered by the government, Brazil appears in the 58th position. The first three countries are Switzerland, Sweden and Singapore. Among the various criteria that are evaluated in the index,

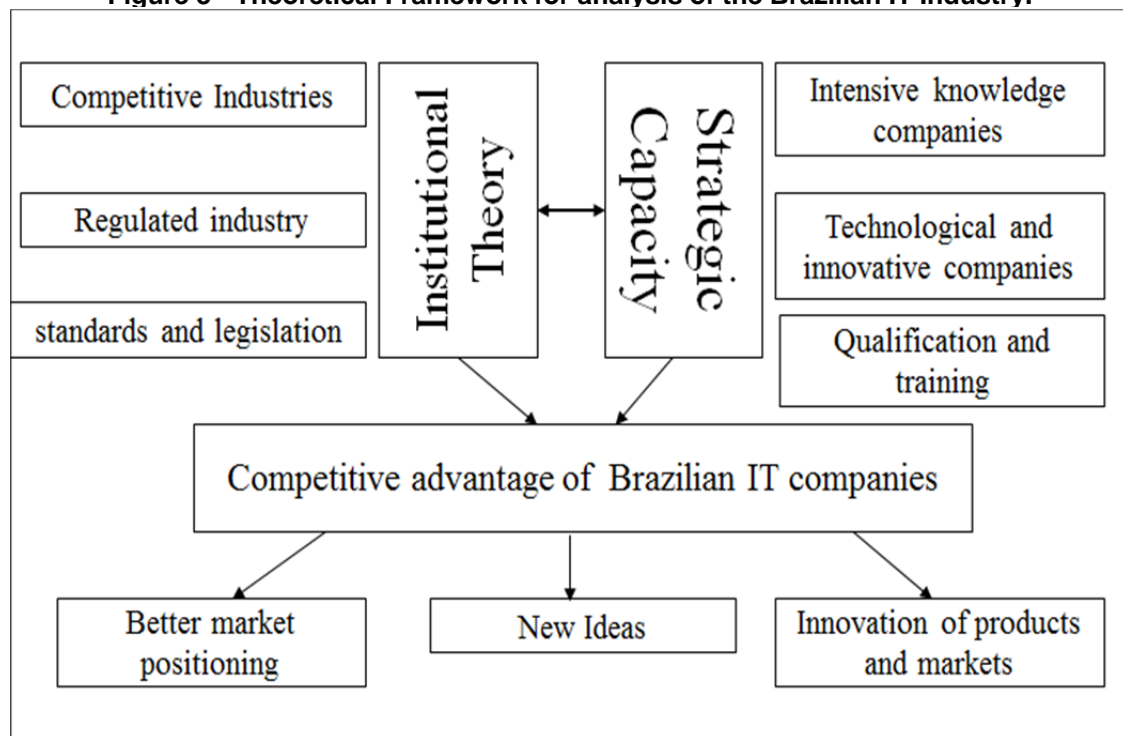
one relates to workforce intensive knowledge services, and in this ranking, Brazil is only at position 72 (Global Innovation Index, 2013).

The Brazilian market for Information Technology is the seventh largest in the world with revenues of \$ 112 billion in 2011, 13% up compared to 2010. For 2012, projections indicate growth of 14% only for Brazilian IT segment that grows on average, twice the GDP growth of the country. it is heavily influenced by domestic demand, which remained high in recent years (Brasscom, 2012).

Considering the presented aspects that portray the Brazilian IT industry, it can be noted that a major barrier in the industry is the lack of qualification of the professionals of this sector, much because of the little offer of free quality courses for this sector and the low public investment for the development and training of workers to work in the sector.

As a result of theoretical currents presented, Institutional Theory, Strategic and Competitive Advantage capacity, presents a framework proposal that can analyze the Brazilian IT sector in light of the theory.

Figure 3 - Theoretical Framework for analysis of the Brazilian IT Industry.



Source: survey data

The model proposed rescues at first the perspective of institutional theory to analyze the state influence on the IT industry in Brazil, considering the sector's competitive factors and factors of external influence that may be the key to organizational success.

The theoretical framework lies in the analysis influence of the institutional environment in the dynamics of organizations, so that there is an interest on their part in the opinion of the State as an important element that should be studied when the creation and implementation of strategies. (Morgan and Whitley, 2003; Geppert, Matten and Walgenbach, 2006; Imasato and Guedes, 2008). The sociological institutionalism or organizational institutionalism, which represents the understanding of the rules and socially constructed norms and behavior that are inducers of individuals and organizations can translate the action of the state in the dynamics of organizations (Imasato and Guedes, 2008).

As the role of the external environment is understood, a second highlight is the performance of organizations through their strategic capabilities, that is, what attributes these organizations have or need to develop in order to remain competitive in their industry.

In this case, it is considered the RBV, particularly the knowledge resource, a key component in sustainable organizational development, so knowledge is the only resource that can provide organizations a competitive advantage by virtue of their characteristics, especially the heterogeneity and rarity (Barney, 1991; Lansiti and Clark, 1994; Sherman, 1996; Stewart, 1998).

The theoretical framework presented in the article that portrays the strategic capacity as a sponsor and inducer of actions that make the resources, RBV and KBV, competitive factors of strategic management is presented with the following authors: Cohen and Levinthal, 1990; Prahalad and Hamel, 1990; Bettis, Bradley

and Hamel, 1992; Javidan, 1998; Fleury and Fleury, 2000; King and Zeithaml, 2001; King, Fowler and Zethaml, 2002; Milk and Porsee, 2005; Streets, 2005; Sordi, Cepeda and Dusya, 2007; Azevedo, 2008.

It is understood with the analysis of the framework shown in Figure 3 that both the RBV as KBV contribute in the formulation of strategic organizational capabilities, in which the company administrator must decide strategically for the development of actions that integrate resources, develop and empower employees and use organizational skills generated to create lasting competitive advantages.

Finally, this study seeks to contribute to a theoretical perspective that can translate the understanding of the institutional environment and the application of strategic from the standpoint of capacity in promoting competitive advantages, in the case of the Brazilian IT industry, it is the best market positioning from idea generation and innovation of innovative products and services that meet the interests of society.

The theoretical supports from the perspective of competitive advantage translate the effective use of resources, especially knowledge in the generation of strategic capabilities that can meet the interests of the market, overcoming the barriers imposed by the external environment, especially by the state, and promoting sustainability corporate actions (Barney, 1991; Grant, 1991; Drucker, 1993; Nonaka, 1994; Meso and Smith, 2000; Allee, 2000; Alavi and Leidner, 2001).

FINAL CONSIDERATIONS

The role of organizations in complex and regulated environments, representing the IT industry in Brazil, should be better explained and contextualized from applied research that can be developed, especially with the theoretical view presented in this article, in which it sought a convergence to analyze the sector.

The strategy of a company can be defined by its potential to create sustainable competitive advantage in the strategic capability is the alternative that companies have to bring superior performance in the long run.

It is understood that the resource knowledge of an organization is a source of competitive advantage and sustainable performance, considering the fact that the competition it difficult to assimilate or imitate knowledge. In this sense, industry companies need to constantly invest in capacity building and training of its employees, causing them to generate ideas and create innovative products and services to market.

Finally, the effective use of resources and organization of knowledge are key factors for the best performance of them in the industry, practices should be promoted for a better organizational communication, such as internal communication networks, and creation of a focused internal environment autonomy and freedom of employees in the transformation of ideas into innovation. In the case of the performance of small and medium Brazilian IT companies in the domestic and international market all these actions will contribute to overcoming barriers in the external environment, might them be laws, norms, or the strength of Global companies.

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