

A THEORETICAL APPROACH TO THE TRANSITION FROM A RESOURCE BASED TO A KNOWLEDGE-ECONOMY

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Abstract: *Economic development and the emergence of new technologies have changed the optics on the factors that are generating added value. The transition from a resource-dependent economy to one focused on tangible non-financial factors has progressed in a gradual manner and took place under the influence of globalization and of the internet boom. The aim of this article is to provide a theoretical approach to this phenomenon from the perspective of the temporal evolution of enterprise resources.*

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Introduction

The different approaches on enterprise value and the factors determining the performance of an organization have imposed the development of several economic theories of the enterprise. Each theory of the company represents an abstract model of the real enterprise which defines its characteristics and behavior.

Some economic theories offer different explanations of the same phenomenon, while others offer a complementary perspective.

The economic literature can identify a significant number of economic theories, starting from the neoclassical theory of the firm up to current theories and knowledge-based capabilities; the most recognized contemporary theories in studying the relationship between the enterprise and economic performance being the resource-based theory, the dynamic capabilities theory and the knowledge-based theory.

Over time, many researchers have contributed to identifying the determinant factors in sustaining competitive advantages (Porter, 1985; Rumelt, 1984, Wernefelt, 1984; Barney, 1986).

The purpose of sustained competitive advantage is to implement strategies which are meant to exploit the essential resources of the enterprise by attracting external opportunities and neutralizing threats and weaknesses.

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From this perspective, company resources represent all the assets, capabilities, organizational processes, firm attributes, information and controlled knowledge by the entity which enable it to design and implement strategies meant to improve its efficiency and effectiveness (Daft, 1983).

1. The perspective of economic performance based on enterprise resource

There were many debates in the eighties regarding the importance of the firm's internal capabilities (Prahalad and Hamel, 1990) as opposed to the impact of external factors to obtain sustained competitive advantages.

This antithesis regarding the impact of internal factors as opposed to external factors on the economic performance of a company has its starting point in Porter's theory of competitive advantages which focused on explaining the competitive advantages as the source of the relationship between external opportunities and strategies developed by the enterprise itself.

Porter's theory explains the source of competitive advantage by using two assumptions: (1) companies in the same field have access to the same generating resources of competitive advantages (Porter, 1981; Rumelt, 1984) and (2) any heterogeneity of resources held by entities in the same sector is short-term, as resources are mobile and can be sold and transferred on market terms (Barney, 1986).

Current reality showed that both external and internal factors are crucial in obtaining sustained competitive advantages.

From this perspective, resource-based theory provides a reconciliatory role for the internal capabilities and external opportunities to generate sustained competitive advantages and rejects Porter's hypothesis, becoming one of the most influential theories in strategic management, as it explains the company's performance and allows the comparison of the entities from the same branch of activity (Lockett, Thompson and Morgenstern, 2009).

Originally popularized by Edith Penrose, this economic theory was further developed by Wernerfelt (1984) and Barney (1986, 1991).

A large number of researchers have helped in creating the conceptual framework of resource based theory (Nelson and Winter, 1982; Eisenhardt and Martin, 2000).

Whereas the conditions and characteristics of creating competitive advantages are perceived in different ways by the business environment, not all enterprise resources may be considered sources of the company's performance.

The majority of resources support enterprise operation and only some of them are considered sources of competitive advantages. In these circumstances, any enterprise resource can become a source of competitive advantage if it fulfils four conditions:

- Resources are **valuable** if their possession leads to a significant improvement in the economic results of the enterprise by exploiting opportunities and neutralizing threats.
- Enterprise resources are sources of sustained competitive advantage if they meet the rarity feature when compared to the resources held by competitors. Any company resource can be a valuable one but the fact that it can be owned by a large number of competitors shows that it can not be a source of competitive advantage.
- Resources must be **imperfectly imitable**.
- **The non-replaceable** character of the resources which generates the sustained competitive advantages can be presented in two forms: it denies the possibility for a competing entity to identically create its resources and/or has the capacity to obtain similar resources which allow it to implement the same strategies as other entities from the sector of activity.

The relationship between the competitive advantage and the revenue generated by it is directly conditioned by the ability of the company to develop protection mechanisms such as patents and copyrights.

Despite the fact that the resource-based theory links the company assets to its performance, one can identify a large number of criticisms concerning the validity of this theory:

- The inability to define and differentiate resources generating sustained competitive advantages of the company. The fact that the enterprise resource definition is too vague and includes all assets and property owned by the company without giving precise indications concerning their differentiation.
- A significant number of criticism is focused on the vague terminology and lack of consensus on the definition of the concepts and terms being used, since one can not make a clear distinction between the resources, skills and capabilities.
- The definitions given to the concepts have an tautological character and express generally valid truths regarding the importance of enterprise resources on creating sustained competitive advantages, without giving specific information on the categories of assets that lead to economic performance.

Although resource-based theory links enterprise resources to its performance, proponents of this theory have not paid enough attention on how to evaluate and test its assumptions, therefore its disciples were unable to define the valuable resources of the company.

Although tangible and intangible assets are both considered to be sources of the company's performance, they do not present the same importance in providing competitive advantages.

Support in favour of this theory is given by the fact that the role of resource-based theory is that it helps managers to understand which skills represent the most important assets, on one hand, and to identify how these assets can be used in order to improve enterprise performance, on the other hand.

2. From the resource based economy to knowledge-economy

The thriving economic activity and the change in perception of the generating factors for sustained competitive advantages led to the emergence of new trends in terms of the role played by an enterprise's resources on economic performance.

In this regard, bibliometric analyzes conducted up to the present date identified several research directions having as a starting point resource-based theory assumptions which have generated the development of new economic theories: the dynamic capabilities theory (Teece, Pisano and Shuen, 1997) and the knowledge-based theory (Grant, 1996; Kogut and Zander, 1992).

The transition from a static to a dynamic vision of the future economic benefits generating resources was subject to the new requirements of the knowledge society.

The current reality has shown that a resource can be the source of a sustained competitive advantage, but this can not always be maintained, since economic development has led to the standardization of information and any entity must adapt to new changes and challenges of the contemporary society.

In the new economy, economic performance is generated by the company's ability to attract new forms of competitive advantage resulting from the combination of resources that determine value creation, arguing that a firm's competitive advantages are determined by the human ability to reconfigure, combine and integrate knowledge.

Dynamic capabilities theory is an extension of the resource-based theory which makes the transition from the reasoning based on the perception that the possession of valuable resources automatically leads to added value to a more dynamic way of thinking which states that the way in which the resources are mixed together with the non-financial factors is essential. Proponents of this theory envisage the entity as a set of dynamic processes in which the accumulation of valuable assets is not sufficient to achieve competitive advantages but the interaction of resources lead to economic benefits. In this way, the authors define capabilities as the ability of the company to build, integrate and reconfigure internal and external competencies to respond to the changing economic environment

(Teeco, Pisano and Shuen, 1997) and expresses how such a competitive advantage can be achieved in contemporary society.

However, Eisenhardt and Martin (2000) define dynamic capabilities as a set of specific and identifiable processes of integration and reconfiguration of resources. Although several definitions can be used to define dynamic capabilities, most definitions refer to them as being routines (Nelson and Winter, 1982), capabilities (Kogut and Zander, 1992) and knowledge (Zollo and Winter, 2002).

The process of using dynamic capabilities to create added value involves three phases:

- Creating dynamic capabilities represents the learning process that enables the development of new knowledge, routines and processes. This category of capabilities refers to the organizational learning process in which the information exchange among team members creates new knowledge and it is the source of innovation and development process of the entity.
- *Integration* of dynamic capabilities is the ability to coordinate the entity which allows sustained benefits creation through the transfer of information between enterprise members. We conclude that the creation of new knowledge is achieved by processes and procedures development which allow the exchange of skills and abilities among employees.
- Dynamic capabilities reconfiguration is the existing assets's ability to adapt and the process of capabilities combination in order to face the economic environment changes.

If, as in the case of the resource-based theory, knowledge is being regarded as generic enterprise resources without being highlighted in some way, in the case of the dynamic capabilities theory we note that there is a distinction between capabilities and resources. In this regard, capabilities are the enterprise's ability to use its resources by using routines and organizational processes which enable the development of interactions between resources. Some researchers which showed great concern with regards to the process of knowledge creation analyzed the conceptual link related to dynamic capabilities (He and Wong, 2004; Sambamurthy and Subramani, 2005), while others have investigated how these skills are presented in knowledge management. Economic literature identifies a number of criticisms of the work Teece, Pisano and Shuen (1997), so that Zollo and Winter believes that this theory is tautological, as it defines the capability as a skill, while Priem and Butler (2001) points out that the dynamic skills are only being identified as such and do not express the exact way of determining the competitive advantage. Following the development of the knowledge-based society, Teece redefines the concepts, pointing out that dynamic capabilities are that type of capabilities that allow an organization to create, use and protect those intangible assets considered as sources of long-term performance (Teece, Pisano and Shuen, 1997). From the perspective of the

eighties according to which enterprise resources are generating economic benefits, subsequent reasoning leads to a dynamic vision which implies that enterprise resources do not create economic performance by themselves, but that the way in which these resources are combined and the integration of those resources lead to an achievement of sustained competitive advantages.

Each of the hypotheses developed by the resource-based theory and the theory based on dynamic capabilities were considered truthful in their moment of glory, first during the eighties and then at the beginning of the third millennium. Currently, quick access to information and economic activity globalization showed that physical assets are not the most important elements in achieving economic performance, but rather the ability to know the relative importance of each type of resource on economic performance of the entity which finds its explanatory roots in the knowledge-based theory. New approaches to knowledge-based society do not reject the importance of financial resources in generating economic benefits but the current degree of innovation no longer allows the fulfilment of the four conditions: value, rarity, unsubstitutability and uninimitably as a tangible asset.

This idea is reinforced by the fact that the way in which competition takes place in modern society is totally different from the understanding one had 20 years ago. In the current time, most entities hold resources that generate competitive advantages but it is the ability to fructify its assets, on the one hand and the skills of the employees, on the other hand, what make the difference in terms of an enterprise's performance.

Knowledge-based theory has its origins in resource-based theory, according to which knowledge is the most important resources of an enterprise. The underlying assumption of this theory is that non-financial resources of the company are the most significant because of the difficulty on in copying them, in other words the nonfinancial resources are the main proponents of competitive advantages and performance of the enterprise, since they are a complex and difficult to be copied.

This knowledge of the enterprise is represented by the organizational culture, policies, documents, systems and employee skills. The underlying assumption on which knowledge-based theory is built is that value creation is achieved if the entity has the ability to develop assets which incorporates skills and if its main resource is the knowledge (Grant, 1996). Possession of knowledge-intensive assets means that the entity will not automatically get competitive advantages, but its ability to use their knowledge and create new ones are determinant factors of economic performance in the new globalized economy.

The pioneers of knowledge-based development theory are Bruce Kogut, Udo Zander, Ikiyiro Nonaka, Gunnar Hedlung, George van Krogh, Johann Ross and JC. Spender. The theory of knowledge is based on a series of assumptions about knowledge characteristics: knowledge is the

most productive resource in terms of contribution to value added, different categories of knowledge vary according to their portability so that there is a distinction between tacit knowledge and explicit knowledge, employees are key agents for knowledge creation and in the case of tacit knowledge they are the main holders of it and some knowledge is the subject to scale economies, being incorporated in technologies.

The way an enterprise perceives knowledge has led to the splitting of proponents of this theory into two groups:

- The first group of theorists have a vision close to the resource-based theory which stipulates that knowledge represents the strategic resources of entities. Although resource-based theory recognizes the role of knowledge in generating sustained competitive advantages, its theorists do not provide an in-depth analysis, but treats them as generic resources and does not distinguish between assets, knowledge and capabilities.
- The second group of theorists share Spender's view on the importance of collective knowledge, focusing on the creation of organizational knowledge as a routine procedures. The creation and distribution of basic capabilities and skills can be achieved by the so-called „knowledge management” that enables the creation, storage and implementation of knowledge. Knowledge management has three main functions: (1) knowledge creation through research and innovation, (2) the collection of new knowledge, its encoding and combining with existing knowledge and (3) the dissemination of skills, experience and knowledge within the organization.

In essence, the knowledge-based theory argues that companies perform in a constantly changing market, as they are unique and have the ability to accumulate intangible resources that lead to the company's performance. Capabilities and resources have three distinct characteristics that make them difficult to be copied: they are historically determined, they are organization structure built-in and they are silent (Barney, 2001).

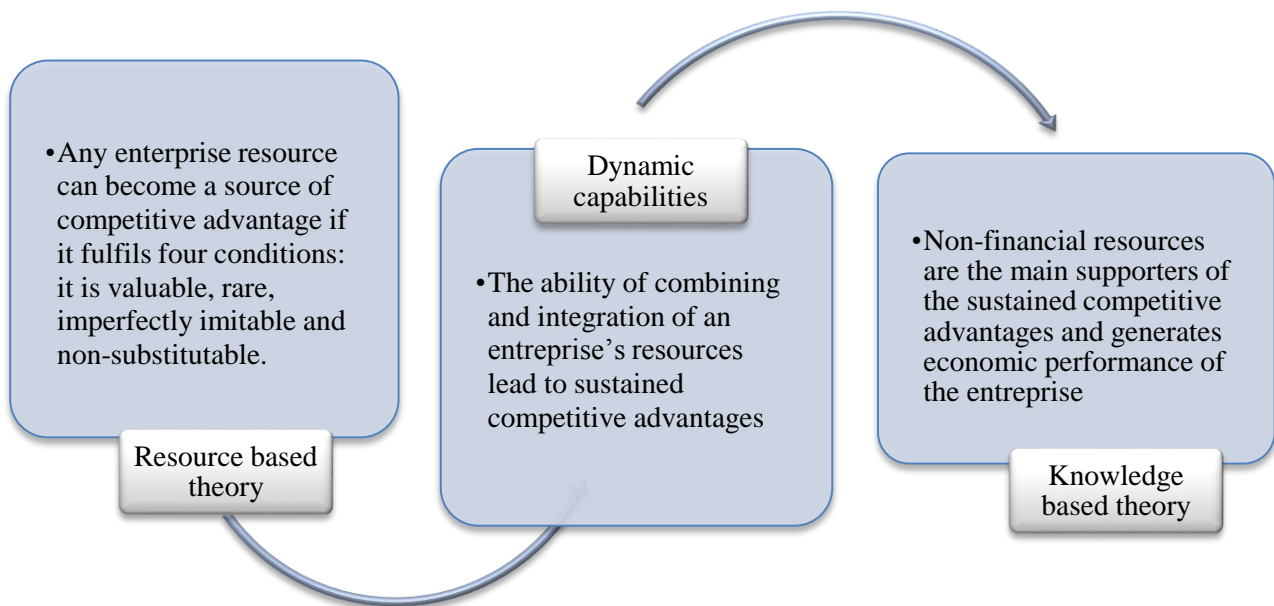
The creation of knowledge and skills is a difficult and expensive task for any enterprise. The knowledge-based theory examines the importance of skills and of the unique abilities such as patents, brands and technologies that enable companies to achieve higher competitive advantages. The main criticism of the knowledge-based theory is the difficulty of defining the concept of enterprise knowledge.

Conclusion

There is disagreement over the validation of the knowledge concept. Globalization and the emergence of the "new economy" has led to a change of view concerning the generating factors of economic benefits. In the first phase, we analyzed the 80's period, considered as an industrial period, which flourished, having played on the importance for tangible resources and easy access to markets and raw materials to the detriment of other competitors. Enterprise theoretical resource approach is general, it does not distinguish between tangible and intangible resources and the only way in which an asset could be a source of competitive advantage is the fulfillment by it of four conditions: it is valuable, rare, imperfectly imitable and non-substitutable (see figure 1).

Economic development and increasingly easy access to information have demonstrated that resources are not creating economic benefits by themselves, but rather the ability of human capital to make use of enterprise resources, in terms of structural and relational capital, is leading up to the process of quality products and services production.

Figure 1 - From resource-based theory to the knowledge-based theory



Source: Own elaboration

Currently we are witnessing the development of a new vision on the resources of an enterprise, one that distinguishes between physical assets and non-financial resources. With globalization that facilitated access to information, entities invest in intangible resources such as motivating and training employees to get innovative products and services.

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