Gest. Prod., São Carlos, v. 23, n. 3, p. 625-637, 2016
http://dx.doi.org/10.1590/0104-530X0403_15

Relevant factors for competitiveness in information technology consulting businesses

Fatores relevantes de competitividade no negócio de consultoria de tecnologia da informação

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Abstract: This article identifies how information technology (IT) consulting firms use their resources and capabilities in the quest for a competitive advantage pursuant to the approach of the resource-based view (RBV). The research was exploratory and descriptive in nature, and adopted the qualitative method with in-depth interviews using a script-driven standard with open-ended questions. Seven executives from the senior management of IT consulting companies ranked among the Top 10 in this segment in Brazil were interviewed. For the analysis and interpretation of data, content analysis was applied with the support of a spreadsheet to generate the categories of analysis. Results showed that the participating companies use their knowledge on human resources and their relationship with customers as crucial components of their business strategies. These resources and capabilities are strategically used, taking advantage of the links established with clients in search for new business opportunities so as to create barriers to new incoming threats.

Keywords: IT consulting; Strategy; Resource-based View; Competitive advantage.

Resumo: *Este artigo identifica como as empresas de consultoria de tecnologia da informação (TI) utilizam seus recursos e capacidades na busca pela vantagem competitiva, sob a abordagem da Visão Baseada em Recursos (VBR). A pesquisa foi do tipo exploratório e de natureza descritiva, tendo-se adotado o método qualitativo, com entrevistas em profundidade orientadas por um roteiro padrão com perguntas abertas. Foram entrevistados sete executivos da alta gestão de empresas de consultoria de TI classificadas entre as Top 10 deste segmento. Para a análise e interpretação dos dados, foi aplicada a Análise de Conteúdo, com o apoio de uma planilha para gerar as categorias da análise. Como resultado, foi identificado que as empresas que participaram da pesquisa utilizam-se do conhecimento dos seus recursos humanos e do relacionamento com os clientes, como componentes cruciais de suas estratégias de negócios. Esses recursos e capacidades são estrategicamente utilizados, aproveitando o vínculo estabelecido com o cliente na busca de novas oportunidades de negócios, de maneira a criar uma barreira às ameaças de novos entrantes.*

Palavras-chave: *Consultoria em TI; Estratégia; Visão Baseada em Recursos; Vantagem competitiva.*

1 Introduction

The advent of globalization has forced information technology consulting firms (ITCF) to seek increased efficiency and the conquest of new markets, which is characterized by an intense competition for new customers (SUCESU-RS, 2008).

The fact that it is a business based on advanced technologies implies that there are numerous demands for resources and expertise on the part of these companies that will allow the achievement of a competitive edge with returns that outperform those of competitors (Collis & Montgomery, 2008).

Demands for ITCF services, however, are varied and comprehensive; paradoxically, it has become increasingly difficult to devise strategic differentiators that will generate sustainable competitive advantages. However, some scholars (Prahalad & Hamel, 1995; Hitt et al., 2008) argue that a company can develop strategic capabilities or core competencies that have the power to add higher value goods and services to customers and to generate greater gains for the company that the competition is not to imitate or exceed.

For a comprehensive and quick overview of this business, the survey of information technology services in Brazil (IBGE, 2009) analyzed 1799 IT companies with 20 or more employees listed in

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Received Jan. 12, 2015 - Accepted June 6, 2016

Financial support: None.

IBGE's register of companies, as well as the products and services offered by them. It was evident that the ITCFs encompass a great diversity of products and services that are constantly in competition, thereby constituting a modern and dynamic segment of the economy. According to the aforementioned research, the gross service revenues and grants of those companies amounted to 11.4 billion US$ in the year 2009; the top three products and services, the development and use of customizable software licensing developed in the country, the consulting for the systems and processes involved it, and the full or partial design and development of custom software were responsible for R$ 4.9 billion (43.0% of the total). As a basic resource, this type of business is focused in enterprises that are large and multinational in nature and that constitute the Top 10 group, namely, Accenture, IBM, Promon Logicalis, Capgemini, Oracle Corporation, PricewaterhouseCoopers, HP, Indra, Medidata and Spread, although they are joined by a large and diverse number of medium and small businesses.

In view of the interest of this article in focusing on the internal factors that differentiate ITCF, we adopted the approach of the resource-based view (RBV), one of the most important approaches within strategic management: It considers the competitive advantage of a company as a result of the adoption of strategies based on the management of its set of resources and specific capabilities (Barney & Clark, 2007).

In this sense, the determining factors of the competitiveness of the companies in this segment, i.e. their sources of competitive advantage, correspond to the strategic resources and capabilities that are heterogeneous and difficult to imitate or transfer between competitors (Wernerfelt, 1984; Barney, 1986, 1991). The RBV does not include the attractiveness of the sector as one of the determinants of competitive advantage (Porter, 1980), but includes competition between the companies in the search for the generation of greater economic value, which is one of the key elements in the process of obtaining a competitive advantage (Peteraf & Barney, 2003). The generation of economic value, in turn, implies the discovery and exploitation of new market opportunities and the reduction of threats (Barney & Hesterly, 2011).

Under the circumstances surrounding the ITCFs, the issue that has guided the study objective of this article is the question of how consulting firms use their resources and capabilities in the quest for a competitive advantage.

To answer that question, the objectives were defined as follows: a) characterize the most relevant resources and capabilities used in their quest for a competitive advantage and b) identify the opportunities and threats that are the subjects of the strategies of such enterprises.

In the following sections, we present the theoretical fundaments that deal with the most relevant concepts for the purposes of the article, and then, we explain the methodological choice of a descriptive exploratory study adopting a qualitative approach based on the opinions of the companies' managers. Next, we discuss the analyses and interpretations of these testimonials before concluding with our final considerations, which present the knowledge that we have gained about the theme of the study.

2 Theoretical framework

The theoretical framework was structured based on items that establish its connection with the objectives of the article, in order to ensure consistency in its development.

2.1 Resource-based view

As one of the most significant current approaches to strategic management, the RBV focuses on how competitive advantage arises from the unique resources and capabilities of a company, which are directly competition-sensitive (Barney & Clark, 2007).

According to Barney (1991), the RBV posits that the combination of a set of resources that are specific to the company can create value for customers and shareholders. Similarly, Barney & Hesterly (2011) assert that a company that has a unique set of resources and capabilities, which are difficult and expensive to imitate, can gain a competitive advantage. Moreover, according to Wernerfelt (1984), those resources can be freely bought and sold on the market.

Foss & Knudsen (2003), following the foregoing approach, point out that the RBV is based on two empirical generalizations; the first concerns the heterogeneity of resources that results from the differences between companies. This means that a company's competitive advantage is based on resources that it has that lead to the creation of greater economic value than that created by its competitors (Barney, 2001). The second generalization concerns the stability of the heterogeneity or its immobility. This means that the heterogeneity of resources must be durable in order for such a competitive advantage to be sustainable over time (Foss & Knudsen, 2003).

The predominance this approach, i.e. the heterogeneity of internal resources as a source of competitive advantage, gained momentum in the 90s, both in world and national literature, following a long period in which the dominant perspective was based on the view that potential profits were decided by the interaction of market forces, which was grounded on the assumption of a steady market in this industry (Aragão & Oliveira, 2007; Walter & Silva, 2008; Walter et al., 2008; Serra et al., 2008).

2.2 Strategic resources

Wernerfelt (1984) defines resources as anything that can be thought of as a strength or weakness of a company. Barney (1986, 1991) argues that the resources of a company are the assets, capabilities, organizational processes, knowledge, information and attributes controlled by the company, which can be combined to implement strategies that improve its efficiency and effectiveness.

According to Amit & Schoemaker (1993), an enterprise's resources are defined as the inventory of available factors owned and controlled by the company. These resources impact the final products or services through the use of other company assets, such as technology, management information systems, incentive systems, trust between management and labor, and others. Teece et al. (1997) define them as resources, such as the specific assets of a company, that are difficult, if not impossible, to imitate.

Resources are distributed unevenly among firms (Barney, 1991). However, as a result of this heterogeneity, different companies differentiate their skills in an effort to make use of the potential of their strategic resources (Andersén, 2011).

Barney (1991) and Hitt et al. (2008) believe that there are two distinct types of resources: tangible and intangible. The tangible resources are assets that can be seen and quantified, for example, the available capital, the location of a factory, the production equipment and the access to raw materials. Intangible resources are assets that are deeply rooted in the history of the company and that have accumulated over time, for example, knowledge, mutual trust between managers and employees or associates, ideas, innovation, managerial capabilities, routines, scientific capabilities, the reputation of the company in relation to its goods and services, and the ways in which it interacts with its employees, customers and suppliers.

Moreover, according to Kristandl & Bontis (2007), intangible resources are strategic resources that enable a company to create sustainable value, but are only available to a small number of companies. They provide potential future benefits that may not be appropriate for other firms and are not imitated by competitors or replaced by other resources.

Dierickx & Cool (1989) highlight that the essential resources for a competitive advantage are not necessarily bought in imperfect markets for the factors of production (Barney, 1986), but can be accumulated over time by a company, based on its choices. Such resources are idiosyncratic, non-transferable and not imitable, as they are not negotiable between companies (Bandeira-de-Mello & Cunha, 2001, p. 8).

2.3 Organizational capabilities

According to Prahalad & Hamel (1990, 1995), core competencies are identified as the roots of competitive strategy. When they are properly developed, they become difficult to imitate, add to consumers' perceived value, ensure competitiveness and provide a company with access to a wide variety of markets. In addition, these authors assert that there are three criteria that must be met in order to be called an essential capability, namely, the perception of value by the customer, differentiation between competitors and scalability.

Hitt et al. (2008) state that such powers emerge over time through an organizational process that is aimed at accumulating and providing different resources and capabilities.

Prahalad & Hamel (1998) claim that, in highly competitive markets, the core competencies are those that differentiate competitive organizations by providing opportunities to realize and support a sustainable competitive advantage over time.

The concept of a core competencies, despite having influenced the design of a capability, is not synonymous with it. According to Prahalad & Hamel (1990), competencies refer to the company as a whole (corporation), while for the authors of the RBV, capabilities are connected with products and services (business).

According to Grant (1991), a capability is the ability to use a resource group to perform a certain task or activity, which then translates into the main source of a competitive advantage of a company.

Barney (1991) states that capabilities are a subset of resources, defined as tangible and intangible, that allow a company to make the most of the other resources it controls.

Amit & Schoemaker (1993) define capabilities as resource types that are embedded, specific and not transferable from the company, whose purpose is to improve the productivity of other resources. According to them, skills refer to the ability of the company using the resources, usually combined with organizational processes, to affect a desired end. They can be a routine or a number of routines that interact with each other (Grant, 1991).

Teece et al. (1997) define a capability as the set of differentiated technological skills, complementary assets, organizational capabilities and routines that provide the basis for the competitiveness of a business in particular. According to them, the capability of an organization is its demonstrated ability to address situations involving competition.

Helfat & Peteraf (2003) consider a capability to be the ability to perform a coordinated set of tasks, using the resources, with the purpose of achieving a final result.

According to Hitt et al. (2008), capabilities are critical factors in the pursuit of strategic competitiveness and are based on the development, transfer and exchange of information and knowledge through the human capital of the company.

2.4 VRIO analysis model

The VRIO model – value, rarity, inimitability and organization (Barney, 1991, 2011; Barney & Clark, 2007; Barney & Hesterly, 2011) – is designed to assess the potential of strategic resources and capabilities to generate a sustainable competitive advantage for an organization. This is relevant because not all of them can be used strategically as the source of a competitive advantage: only those that have the attributes of being valuable, rare, difficult to imitate and a emphasized in the organization. Below, the concepts related to each of these attributes are explained in more detail (Helfat & Peteraf, 2003; Teece et al., 1997) as used in this article:

a) Valuable (V): A resource is valuable when it enables a company to implement strategies aimed at improving its efficiency and effectiveness, and at exploring opportunities and neutralizing threats (Barney & Hesterly, 2011). As stated by Barney & Clark (2007), value is an attribute of a resource that incorporates the products and services offered to customers, differentiating them from those offered by competitors. Valuable resources are not negotiable on the market, but are built and accumulated inside of the company (Vasconcelos & Cyrino, 2000).

b) Rare (R): According to Barney (1991), a rare resource is controlled by a small number of competitors and tends to become a source of competitive advantage. However, if a resource is rare, but does not create value, it will not be considered a strategic resource (Barney, 1991). Johnson et al. (2007) provide examples of rare resources, such as the brand or the privileged location of the installation of a retail store, and rare capabilities, such as brand management and customer relations, among others.

c) Inimitable (I): Barney & Hesterly (2011) assert that valuable and rare resources are considered to be sources of a sustainable competitive advantage when the companies that do not have them face a competitive disadvantage in getting them or developing them. Barney & Clark (2007) identify three mechanisms that prevent or hinder them: historical conditions (why they do not reproduce), causal ambiguity (imitator companies do not understand the resources and capabilities that generate the competitive advantage) and social complexity (the interpersonal dynamics between the different areas in the company).

d) Organization (O): Barney & Hesterly (2011) state that the potential for a company to obtain a competitive advantage depends on the value, rarity and inimitability of their resources. However, to take advantage of this potential, a company needs to be organized to exploit its resources and its abilities efficiently and effectively. According to Barney & Clark (2007), the policies and procedures of a company should be aligned with the primary purpose of ensuring that its strategic resources and capabilities are exploited, so that they will become sources of a sustainable competitive advantage.

2.5 Competitive advantage and economic value

Barney & Hesterly (2011) consider that a company has a competitive advantage when it generates a greater economic value than its competitors through the use of its resources and strategic capabilities in its products and services. Economic value is considered "[...] the difference between the perceived benefits obtained by a client who buys products or services of a company and the total economic cost of these products or services" (Barney & Hesterly, 2011, p. 9).

According to Besanko et al. (2006), economic value is created by means of production and exchange in the market. The perceived benefit of a product represents the value that consumers attach to it; the cost represents the value of the inputs used for the preparation of the finished product. Thus, the value created is the difference between the benefit realized by the consumer and the cost of the finished product. Priem (2007) considers the perceived value as being the subjective evaluation of the benefits used by consumers as a criterion in making their buying decisions.

Economic value is created for the customer in relation to the product or service and captured by the company as economic profit as a result of the transaction, which is related to the price of the product (Barney & Hesterly, 2011).

2.6 Opportunities and threats

According to Johnson et al. (2007), companies use their resources and capabilities to take advantage of opportunities in the market and to reduce threats from competitors, in their pursuit of a competitive advantage. They further state that the opportunities are gaps in the market for a product or service that have not been exploited by the competition.

Barney & Hesterly (2011) understand that opportunities can be identified by the observation of generic industry structures, which have been divided into sectors: emerging, fragmented, mature and declining. The performance in each one of them requires a combination of resources and capabilities. The unmet needs for products and services available on the market are sources of value creation for the customer.

Barney & Hesterly (2011) utilized the SCP (structure-conduct-performance) model of the economics of industrial organization to conceptualize an environmental threat as any individual, group or organization outside of the company that may reduce its competitiveness by increasing costs or decreasing revenue. The threats represent part of the rivalry between companies that offer similar products and services or their conquest for the same important or potential customers. Moreover, they are forces that tend to increase the competitiveness of a sector and maintain the performance of a company at a competitive-parity level.

Barney & Hesterly (2011) identify five threats: a) the imminent entry of new competitors); b) increased rivalry with direct competitors; c) a rival's substitute products and services that meet the same needs of existing customers; d) price increases or reductions in the quality of supplies from suppliers; and) changes in the habits and income of buyers.

2.7 Strategies of businesses

Grant (1991) defines a strategy as being the integration of a company's internal resources in order to seize opportunities and reduce threats in the market in an effort to obtain a competitive advantage. Mahoney & Pandian (1992) consider that a company selects a strategy in order to generate income, based on its resources and capabilities.

To implement its strategies, a company relies on its resources, including all of its assets, skills, organizational processes, information and knowledge, in an effort to improve its efficiency and effectiveness (Barney, 1991). A strategy is the establishment of criteria for the combination, integration and processing of resources and capabilities in order to achieve results that are superior to those of competitors.

Barney & Hesterly (2011) basically consider two business-level strategies: cost leadership and differentiation of products. This can be distinguished from Porter (1992), who, in addition to these strategies, presents a generic approach, i.e. that a strategy could be a combination of both.

A company that chooses a cost leadership strategy focuses on gaining advantages by reducing its costs to levels that are below those of its competitors. In this way, the company becomes the lowest-cost producer in its sector, with economies of scale and patents or privileged access to raw materials as its main sources of competitive advantage (Porter, 1979). The low price strategy seeks to offer a lower price than those of the company's competitors, while maintaining similar perceived benefits for the product or service, compared to those offered by its competitors (Johnson et al., 2007).

The strategy of product differentiation is a means by which companies seek to gain competitiveness by increasing the perceived value of their products or services in relation to the perceived value of the products or services of other companies (Barney & Hesterly, 2011).

Product differentiation strategies add value by enabling companies to establish higher prices for their products and services than those of their competitors. Companies that implement this strategy can successfully reduce several environmental threats and explore various market opportunities (Barney & Hesterly, 2011).

3 Methodological procedures

This section introduces the methodological procedures adopted in this research, including an explanation of its rationale and a discussion of the collection and processing of the data.

3.1 Type and search method

We adopted a descriptive exploratory study (Collis & Hussey, 2005) because there is little knowledge about the phenomena that are present in the theme explored in this study (Godoy, 1995), i.e. resources, capabilities and competitive advantage in the ITCF environment in Brazil.

The method used was the qualitative method, which according to Merriam (2002), seeks to describe and understand the phenomena researched in the real contexts in which they occur. Although various approaches are presented by Merriam, we adopted the basic qualitative study, which aims to understand the processes and visions of the individuals involved, based on interviews, which are described and interpreted based on the literature that addresses the subject.

3.2 Subjects of research and study environment

The subjects of the research were seven managers of large ITCF businesses who have experience and effective involvement with various aspects of the subject under study in the city of São Paulo. For the interviews, invitations were made via phone directly to five of the respondents, and the others were contacted at the suggestion of the five initially contacted. The same number of participants were involved in Godoi & Mattos (2006) study, who stated that the definition of the participants must provide greater analytical understanding and greater consistency to the subject of investigation, which occurred in this study.

The respondents were informed at the time of the invitation that the confidentiality of their statements would be maintained in conformity with research ethics; they were also informed that their companies act in the same market segment and are competitors among themselves. The condition of secrecy made it easier for the respondents to answer the questions clearly and objectively.

Companies whose managers participated in the study are positioned among the Top 10 most representative in terms of revenues in the ITCF business. With a broad scope of expertise, they offer all of the services listed as the main information technology services in their portfolios: management consulting, technology services, *outsourcing*, infrastructure services, hosting, large computers to nanotechnology, systems integration, operations, support and maintenance of networks and project management, and software systems for projects and training.

3.3 Data collection

The data were collected through personal face-to-face interviews supported by a script with 12 open-ended questions (see Chart 1) that were drawn up on the basis of the theoretical framework and were formulated identically for all respondents (Patton, 2002).

The interviews were taped with the consent of all of the interviewees, and they had an average duration of 60 minutes. The responses were transcribed, reviewed and subsequently handled using content analysis techniques pursuant to Bardin (2002). The first interview was of an experimental nature designed to check the clarity of the questions and the completeness of the data obtained by the questions, and it resulted in adjustments to the final script. Basic theoretical concepts having an immediate relationship with the basics of the study were presented in the questions in a brief manner to facilitate the understanding of their meaning by the interviewees. This procedure allowed them to provide objective responses and to have a clear understanding.

3.4 Data processing

The data were processed through categorical content analysis, which is a set of techniques that uses systematic procedures, with the goal of obtaining short descriptions of the content of the messages (Bardin, 2002). It involves the following steps: a) pre-analysis: This step consisted of the *ipsis litteris* transcription of the responses of the interviewee managers;

Chart 1. Objectives, questions and categories.

Goals	Questions from the interview script	Categories of analysis
1 - Describe the most relevant resources and capabilities involved in the quest for a competitive advantage.	1- What services are marketed more by your company's portfolio? 2- Of these services, which generate more economic value to customers? 3- What benefits are perceived by customers as (the most) differentiated compared to your competitors through the use of these services?	C1-broad Scope of services slightly differentiated by benefits and rates.
	4- Based on these benefits, what has been the practice in relation to price competition? 5- What resources, whether tangible or intangible, assets and capabilities are strategic for your customers for them to have the perception that they are obtaining higher economic value in connection with the services of your company? 6- What resources and capabilities are essential for the customers' perception that they are obtaining greater economic value in the provision of services?	C2- Strategic human resources
	7- Are they rare compared to those used by competitors? 8-Do you have high costs for competition because of means that are not reproducible, difficulties in identifying what resources and capabilities are strategic or poor clarity in interpersonal dynamics? 9-Do you have the structural and process support to explore the competitive potential of these resources and capabilities?	C3- Skills in customer relations
2 - Identify the opportunities and threats that are the objectives of the strategies of the enterprises.	10-What opportunities have been obtained by marketing more services?	C4- Opportunities for the provision of services
	11-What kinds of external threats have your business faced?	C5- Threats to human resources
	12-In view of the resources and capabilities previously appointed, what strategies are adopted to take advantage of opportunities and to reduce threats in the business of IT consulting?	C6- Customer retention: relationship and investment in human resources

b) exploration of the material: On the transcripts of the interviews, the semantic units, i.e. keywords, expressions and phrases related to established codes that were the basis for categorization, were highlighted; c) processing of data and interpretation: This step resulted in a categorization that corresponded with the semantic classification through the convergence of semantic units; according to Bardin (2002), the first objective of this process is to provide, through condensation, a representation of the raw data. In this way, different categories of analysis were built that enabled the constituent parts of statements to be classified. The categories accounted for the reduced synthesis of meanings obtained from the testimonies, without which it would be impractical to carry out the analysis.

In the categorization of the data, sheets were used to facilitate the visualization of the semantic units; its reduction for the elaboration of the themes and the synthesis of the analysis categories listed in Chart 1 are discussed in the next section.

3.5 Reliability, quality and credibility of the study

To ensure the reliability of the results obtained in the analysis of the data, the validation technique of using experts in the field was employed, because, according to Merriam (2002), in qualitative research, the understanding of reality is based on the interpretations and understanding of the researcher regarding the phenomena in question. Merriam asserts that the validation strategy is best suited for use among colleagues who are familiar with the design theme, and who read and comment on the data processed from the interviews.

The objectives of the study and the script of the interviews were submitted to two experts for consideration and validation regarding its relevance and consistency, and they were considered consistent and appropriate. These experts have operated in the area of ITCF for over 20 years and have engaged in work of relevance to customers in the financial, food, automobile assemblers, energy and defense (Navy, Army and Air Force) sectors, among others.

4 Analysis and interpretation of the data

This section provides the analysis and interpretation of the material that was obtained in the interviews from the summaries that resulted in the categories of analysis, but are not connected to the specific goals, as presented in Chart 1.

With a view to the authorization for the disclosure of the names of the companies, the managers are identified as E1, E2, E3, E4, E5, E6 and E7, and they are listed according to the chronological order of the completion of the interviews. Their companies are identified as A, B, C, D, F and G.

Category 1: Broad scope of services slightly differentiated by benefits and rates

The respondents specified a wide range of services provided by ITCF that are considered the most outstanding in their portfolios and that would be potential generators of a competitive advantage for their businesses, although a large part of them are common to the researched enterprises. Chart 2 presents the most frequently marketed services that are common among the companies.

The fact that the types of services are only slightly differentiated means that they are an object of competition between these companies, leading to practices aimed at differentiated prices and greater economic value relative to customers. Because of this fact, differences were not observed in the management and development of the resources and capabilities among the companies, which were addressed in the following categories.

This condition did not allow an understanding, with the necessary clarity, of the strategies adopted by the companies according to the perspective of the generic strategies of Barney & Hesterly (2011) and Porter (1979), as will be seen in category 6. Apparently, the issues of cost and differentiation in the implementation of services do not easily fall into this conceptual generalization.

Category 2: strategic human resources

In the identification of tangible strategic resources, "dynamic" human resources and intangibles, and "technical knowledge" were singled out by six of the seven respondents (Grant, 1991; Barney, 1991; Hall, 1992; Andersén, 2011; Kristandl & Bontis, 2007) for the provision of their services and as potential generators of a competitive advantage (Grant, 1991; Peteraf, 1993).

Dynamic human resources

In their consideration of human resources as strategic assets, the managers have a convergent attitude as to its relevance to the ITCF business, as illustrated in the testimonials below:

Chart 2. Services among companies.

Most outstanding services	Common services among the companies
Outsourcing	E1, E2
Systems implementation	E1, E2, E5
Managing	E1, E3, E6
Systems integration	E1, E4, E7
Solution design	E4, E5, E6
Critical Systems	E7

> [...] *our heritage stems from the people who have know-how, technical knowledge and experience, and who ensure the achievement of successful services.* [...] (E3 Manager).

> [...] *It is essential to have, develop and maintain a body of highly qualified human resources who have great experience* [...], *people who have been with the company for a long time, who have experience and knowledge of its culture. We've been trying to bring in new people to form human capital as our strategic resource.* (Manager E6).

In the statements, the reference to dynamic human resources shows that the existence of people, by itself, does not generate value for the customer or for the company (Bowman & Ambrosini, 2000; Besanko et al., 2006).

However, although such human resources are valuable resources, they are not considered by the managers to be rare; thus, a question arises as to why they would not, over the long term, be controlled by a company or a small number of competitors (Barney, 1991), given the possibility of migration between them (Dierickx & Cool, 1989). If that happens, a company's technical knowledge, *know-how* and experiences would be suddenly at an end, only to be offered by a competitor. Addressing this, one of the managers sought to highlight one resource that would be effective strategically:

> *I think that there are no rare resources. As human resources are generics, I think you have to have qualified human resources,* [...] *with the ability to understand the business and to be an entrepreneur* [...], *but it is very difficult to find these skills in a single person, because that's a rare resource.* (E4 Manager).

With regard to the possibility of these resources being imitated or reproduced by other companies, there was a consensus that human resources can be trained to absorb the technologies of the services rendered, and that these resources can be imitated, with time being the crucial issue (Barney, 1986, 1991):

> [...] *Yes, there is a long learning curve to be considered as a specialist.* (Manager E2).

It is important to note that imitation or replication, through training and development, refers to the more technical level of human resources and not to the level of the managers who comprise the top management.

Technical knowledge

One of the elements identified in the human resources of ITCF, i.e. knowledge about the design of complex solutions, which involves work methods and technologies, and the domain of *know-how* and experience, was emphasized by the managers, as they are rooted in the company's history and are accumulated through past experiences (Grant, 1991; Barney, 1991; Hitt et al., 2008), especially those aimed at complex solutions. Accordingly, some of the managers' statements illustrate the prominent reasons for this:

> [...] *customers know that the company's staff has a background, a knowledge and a value that they often can't find in other competitors.* (E1 Manager).

> [...] *the development of the templates of the basic procedures of its architectures that work, the past experiences, the organization and the facts that replicate its knowledge in each area are what has been done by the company* [...]. (Manager E5).

The view of this, this resource can be considered as valuable (Barney & Clark, 2007) by directly relating its value to a competitive advantage, and this is perceived through meeting the needs and expectations of customers (Prahalad & Hamel, 1995; Peteraf & Barney, 2003).

In addition, knowledge regarding the design of complex solutions is considered to be rare, because it can be controlled by one or a small number of competitors (Barney, 1991), as indicated in the following statement:

> [...] *our company has knowledge that the others don't. The other work, such as technological support, can be achieved by all large enterprises.* (E1 Manager).

With regard to being imitated, many doubts were expressed by the managers that this type of knowledge could be imitated only through the migration of people between competitors (Bandeira-de-Mello & Cunha, 2001). According to the managers of companies B and F, there are some assumptions, such as the learning curve and the temporary maintenance of this knowledge, which can be sources of a competitive advantage (Barney & Clark, 2007). Some managers were emphatic in saying that imitation of this knowledge is not possible, because it has been acquired over time (Barney, 1986, 1991; Grant, 1991; Peteraf, 1993):

> *Decidedly, the knowledge has been developed over time. You cannot replicate it, and thus, it is a key resource* [...]. (Manager E5).

> [...] *it has a learning curve* [...]. (E2 Manager).

> [...] *thinking in this business follows the concept that it is tailor made* [...] *in order to replicate the solutions and components that we've developed, to be used in other projects the company* [...]. (E3 Manager).

As in the case of the previous resource, the knowledge described by the interviewees referred to those involved in the operational level of human resources, not the senior management level.

Category 3: Capabilities in the relationship with customers

Among the strategic capabilities considered by the respondents (Teece et al., 1997; Prahalad & Hamel, 1990; Johnson et al., 2007; Hitt et al., 2008; Mahoney & Pandian, 1992), the one that stood out was that of the relationship developed with customers (Johnson et al., 2007). This relationship is built over time by means of the provision of services as experienced in various situations and provides a reliable link that is difficult for the competition to break. Such a capability, in addition to being regarded as valuable, is considered to be rare, as shown in the following statement:

> [...] *If you have ever had the opportunity to perform some work with a particular client, it acquires a natural confidence in your work* [...]. (E1 Manager).

The imitation of this capability is difficult for the competition to carry out, because it is founded in the bonds developed between the firm and its client, which have been built over time (Barney, 1991; Prahalad & Hamel, 1998, Barney & Clark, 2007). This is a reflection of the positive results obtained and the effective fulfillment of the contracts:

> [...] *the customer already has an established relationship and knows that the company will deliver the final product. If you have a problem with delivery,* (the company) *will run back to meet the deadline.* (E1 Manager).

> [...] *one of the things that ensures the continuity and longevity of the relationship is the work done previously that has demonstrated expertise* [...] *the delivery of what was agreed. This reinforces the company in front of both the customers we have, as well as many of the new ones.* (E3 Manager).

The respondents made it clear that learning is the element that helps them to explore the competitive potential of their relationships with customers (Mahoney & Pandian, 1992; Prahalad & Hamel, 1995, 1998; Teece et al., 1997). Learning is transmitted by means of working methodologies, training in the implementation of technical standards, governance processes, and solution-based global data repositories, as illustrated in the following opinion:

> [...] *what the company regards as best market practices, in fact, are conducted through a global data repository* [...] *for the practices adopted by different customers in different countries* [...]. (E2 Manager).

In this category, we observed the involvement of senior management managers as the leaders of the contracts; they used their skills to create the links between the customers and the technical human resources. These managers thus represent the bond of trust between the company and the client.

Category 4: opportunities for the provision of services

According to the respondents, ITCF business opportunities occur mainly on occasions involving the provision of services to a particular customer, which takes advantage of the relationship that has been established.

In a competitive environment, the search for new opportunities to provide services is part of the dynamics of the day-to-day work; this follows the observations of the professionals who work with the client and have knowledge of the business. The managers interviewed unanimously held this view, as illustrated by the following testimony:

> [...] *I think that many opportunities are identified when you are developing work for a particular client.* (E2 Manager).

> [...] *Since he was hired in the company of the client, you end up developing a relationship and can develop other things for which you don't see competition, and then, you can create value through the services offered.* (E2 Manager).

> [...] *another input for us to identify opportunities is also to participate heavily in conferences, seminars, international fairs, etc. The relationship, whether internal or external, with our clients reveals these opportunities.* (E2 Manager).

Although the question that generated this category referred to the opportunities that were obtained, the unanimous interpretation was in relation to how they were detected. This possibly has to do with the broad scope of services that are only slightly differentiated by benefits and rates, which was mentioned in Category 1.

Category 5: threats to human resources

With respect to the various external threats that directly affect the business of the companies that were the subject of this research, the following have been identified as the most significant: low values for services charged by smaller competitors, new competitors of various sizes and origins, and the turnover of human resources at the operational level (Barney, 1986, 2001; Porter, 1979, 1980; Barney & Hesterly, 2011).

Among these threats, the greatest is the turnover of human resources at a time when there is a growing demand for ITCF services. This increases the need to employ qualified and experienced professionals to replace those taken by competitors through wages and benefits above those paid by the companies in the study. This is usually threatening and can even lead to contractual renegotiations with respect to the supply of services, highlighting the difficulty of implementing quick replacements of human resources technicians. The following statement illustrates this concern:

> *Among the threats that exist, it's actually the worst threat, because they take the technical knowledge along with them* [...]. (E2 Manager).

The entry of new competitors in the industry, as has been the case with international companies that have been established and with others that have changed their positions to act in the field of ITCF services (Porter, 2003), has forced companies to reinvent themselves, as demonstrated by the following report:

> [...] *There are large potential competitors on the market, which are companies also interested in entering in the business of consulting; this constitutes a threat*. (Manager E7).

As the companies in the study are among the Top 10, it is possible that the market positioning of this type of service can be seen and regarded as consolidated, creating the understanding that the greatest threat is the loss of human resources.

Category 6: customer retention and investment in human resources

The predominant focus of business strategies (Porter, 1979; Grant, 1991; Mahoney & Pandian, 1992) has been customer retention. This has created an awareness and appreciation of the relationship with customers and the investment in human resource technicians, as shown in the following statements:

> *What we do is to strengthen the relationship with the client* [...] *As there is turnover even at the level of the managers, we focus on a constructive and positive relationship.* (E1 Manager).

> [...] *investing in training, in development for which a person will choose to remain in the organization. The differential of company B has been its human resources* [...]. (E2 Manager).

> [...] *providing better conditions for the maintenance of this resource is important, as is the climate of work or the environment, and the wages, as far as possible* [...], *as well as promoting the gradual transfer of knowledge of this resource to others in order to form followers* [...]. (Manager E5).

> [...] *holding the people who helped to develop the solutions that are differentiated,* [...] *to maintain the close relationship with the client* [...]. (Manager E7).

The strategies formulated by these companies are based on the experience they have gained over the years in their areas of expertise in providing services and on the retention of this knowledge, which is applied in new demands for services. As customers are other businesses and not consumers, the respondents indicated that it would make little sense for a generic strategy to be the most frequently used (Barney & Hesterly, 2011, Porter, 1979). In the ITCF business, each service contract is the subject of a specific negotiation, with a view to the creation of economic value for the customer and an economic return for the company (Bowman & Ambrosini, 2000; Besanko et al., 2006).

5 Final considerations

To answer the original question of this article about how consulting firms use their resources and capabilities in the pursuit of a competitive advantage, it can be affirmed that those who participated in the study use their knowledge of technical and human resources in their relationships with customers as crucial components of their business strategies. These resources and capabilities are strategically used by taking advantage of the links that they have established with clients to identify new business opportunities, so as to create barriers to new incoming threats, in their quest for a competitive advantage over competitors.

The human resources represented by the technical staff who have knowledge regarding the design of tailor-made solutions and complex project experience, and who provide personalized attention and inspire confidence in customers, add value to the provision of services, which constitutes a factor of competitiveness among the competitors. There was concern among the managers interviewed because these people are sources of knowledge transfer to other persons in their own company, thereby creating a cycle that preserves the essence of the business. The knowledge acquired by such people is a decisive factor in providing complex services that is absorbed in the cost experience of the tenders.

The client relationship was characterized by the managers as strategic and as consolidated by effective service that has been provided previously, as well as by the learning that has been provided to these customers. Based on this observation, we can affirm that this ability is a barrier to new entrants.

In considering whether human resources technicians are strategic, although they are able to create value for customers, and are well placed and emphasized in the structure of the companies in this study, they do not have the attributes of rarity and inimitability.

The rarity of these resources, as well as their imitation by competitors is difficult for one or a small number of companies to maintain, given the possibility, and the existing practice, of turnover in the technical staff among the companies engaged in this type of business. As a result, human resources, in terms of the knowledge and experience of the people involved, by itself, cannot be considered as a strategic pursuit of a competitive advantage, as it only partially meets four of the conceptual attributes in the VRIO analysis model.

With regard to the relationships with customers, the analysis identified that the four essential attributes, i.e. valuable, rare, hard to imitate and highlighted in the organization, were met. This occurs through the establishment of reliable links, through the achievement of effective results and the knowledge transfers that happen over time in the service provider-client relationship. It is appropriate to observe that the relationship with customers is always led by a senior manager, whose turnover rate is very low in comparison to that of the technical staff.

This ability is valued as a rare asset because there are many competitors that have difficultly imitating what has been developed in the course of the provision of services that have been successfully delivered and work methodologies, via technological support and intelligence, that have been built into the client's business. To win new customers, a company can utilize the image and reputation acquired and maintained with its existing customers.

As a result, it is possible to affirm that relationships with customers have the capability to be or become a source of a sustainable competitive advantage for the companies in the study.

The above considerations show that the ITCF business is supported mainly by qualified human resources and capabilities, and the effectiveness of the results provided to clients by means of different relationships. Thus, the people who help to maintain and gain new clients are those whom the companies seek to retain.

As can be seen, human resources alone do not guarantee that a competitive advantage will be achieved, because the business strategies adopted by the companies were quite similar to each other. What makes the difference is the performance of the individuals who are at the strategic level, which constitutes the permanent part of the human resources.

In confronting threats to their business, the companies that are the subject of this research are less concerned about the low values collected by new competitors with lesser reputations because they are considered to be at the top in their segment. However, they are also susceptible to decreased profit margins and reduced financial results, as the number of new entrants in the sector has increased in recent times.

Another threat that is also significant, but less predictable, is the mergers and acquisitions of national and international consulting companies that are offering competitive services and know-how with a high standard of efficiency, as well as technological support at the same level as that offered by the companies in the study.

The rationale of RBV was of great value in its characterization of the way that the resources and capabilities are connected to opportunities and threats, and in its characterization of business strategies, as it facilitated communication with the managers who were interviewed because of the objectivity of its concepts. In addition, it was helpful in the design of the study and the analysis, which is expected to be the academic contribution of this article.

With respect to the contribution of the companies that participated in the study, it became apparent that the management of their resources and capabilities, as well as their business strategies, have been focused on the same points, which makes it more costly for them to obtain a competitive advantage. This became clear in the interviews of the managers, who are part of the senior management of the various companies, given the high degree of convergence in their conceptions, reasoning and visions about the ITCF business.

The continuation of this research is recommended to expand the knowledge about certain aspects that were not considered in the scope of this article, for example, the use of the brand and the reputation of the company and the loyalty of clients as competitive strategies.

It would also be relevant research to consider the opinions of the companies' customers, to assess how the resources and capabilities identified in this article are perceived as benefits that create value in the services provided.

Among the limitations of the study was the limited time made available by the managers for the interviews as a result of their work schedules. Because of this, the script for the interviews had to be followed to the letter, leaving few opportunities to explore other aspects that could have made a broader contribution to the results of this article.

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