

THE USE OF INFORMATION FROM THE ENVIRONMENT IN THE STRATEGIC DECISION-MAKING PROCESS OF BRAZILIAN AND AMERICAN BUSINESS OWNERS OF SMALL BUSINESS

O USO DA INFORMAÇÃO DO AMBIENTE NO PROCESSO DE DECISÃO ESTRATÉGICA DE EMPRESÁRIOS BRASILEIROS E AMERICANOS DE PEQUENAS EMPRESAS

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ABSTRACT

This study aims to understand the practices of Brazilian and American small and medium enterprises with regard to the use of environmental information in the strategic decision-making process. Some aspects were studied in depth: description of the activities performed by these business owners regarding the environmental information and analysis of the differences and similarities between the practices of business owners in the two countries. The research is of an exploratory nature, with a qualitative approach that used the mapping of experiences as a method. The results suggest that both Brazilians and Americans sought to use information from the environment as an aid in the process of strategic decision-making. Some differences were noticed between Brazilian and American practices: the use of intuition, the sharing with family members and the dissemination of environmental information among team members. This study may contribute to the competitiveness of smaller companies in Brazil, which are still susceptible to a high mortality rate.

Keywords: environmental information, strategic decision, small and medium enterprises, Brazilian and Americans business owners.

RESUMO

Este estudo busca entender as práticas de pequenas e médias empresas brasileiras e americanas no que diz respeito ao uso de informações do ambiente durante o processo de tomada de decisão estratégica. Alguns aspectos foram estudados em maior profundidade: descrição das atividades realizadas pelos proprietários com foco nas informações do ambiente e na análise das diferenças e similaridades entre as práticas dos empresários dos dois países investigados. A pesquisa possui natureza exploratória, com abordagem qualitativa, utilizando como método o levantamento de experiências. Os achados sugerem que tanto brasileiros quanto americanos buscam utilizar as informações do ambiente como essenciais no processo de tomada de decisão estratégica.

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Algumas diferenças foram notadas ao se comparar a prática entre brasileiros e americanos: o uso da intuição, o compartilhamento com os membros da família e a disseminação das informações com a equipe de trabalho. Esse estudo poderá contribuir com a competitividade de pequenas empresas no Brasil, ainda sujeitas a altos índices de mortalidade.

Palavras-chave: informação do ambiente, decisão estratégica, pequenas e médias empresas, proprietários brasileiros e americanos.

INTRODUCTION

Several changes are observed in contemporary organizations, and information management has significant prominence in the search for competitive advantages. The uncertainties of the business environment, considered as a set of variables that affect the company and that it cannot interfere in, makes the management of information essential for companies of all sizes.

Organizations manage information in order to interpret the environment, create innovative knowledge and make pivotal decisions, such as defining their path and strategies. Despite the complexity of the organizational decision-making process, it is part of the life of the organization, and the combination of culture, information and consensus can make it more efficient (Choo, 2006).

From this point of view, information from the environment is essential for the organizational decision-making process, assisting the executive in the evaluation of possible alternatives. In the case of strategic decisions, the environmental information and analysis are essential, because these decisions affect the course of the company as a whole and relate to long-term decisions, which are complex and hard to change quickly, as defined by Ansoff (1997).

Due to the importance that decision-making has on corporate governance, there are several methodologies and technologies to support managers in these processes, but their use is still limited in smaller firms (Huang, 2009), either due to the lack of access to the method or to the nature and characteristics of small businesses. To this, Cronquist (2008) adds that little is known academically about how owners and managers of SMEs acquire, select, interpret and analyze information to devise strategies and develop their operations.

It is a fact that small and medium enterprises (SMEs) also use very few environmental monitoring practices, although they are subject to the environment's uncertainties, even more severely when compared to larger companies, due to the limited resources they can apply to research and technology to support their analysis. Although the studies related to the monitoring of environmental information are still more targeted on large companies, such activities have a lot to contribute to small and medium enterprises. Understanding the competitive environment better can generate several strategic advantages for smaller companies (Cancellier *et al.*, 2005).

Observing these issues from another perspective, comparing the best practices developed by SMEs from different countries can provide greater knowledge on the subject, exploring the difficulties and suggesting new possibilities. One can assume that American business owners, inserted in another context and having a daily reality different from Brazil, can share information from the environment in a more dynamic and structured way. Besides, American small companies already have, for quite some time, well-developed environmental analysis activities (Subramanian *et al.*, 1993; Walters *et al.*, 2003) and are rated in a similar way to the Brazilian ones (SBA, 2002).

In this context, the current study aims to discuss small and medium-sized companies in the information technology sector (IT), comparing the practices of Brazilian and American business owners. Inserted in a dynamic environment with many uncertainties, IT companies are very susceptible to changes in their business environment. This study seeks to answer the following question: How do Brazilian and American small and medium-sized information technology enterprises use information from the environment to make strategic decisions?

The study's main objective consists of describing practices of Brazilian and American small and medium IT companies regarding the use of information from the environment to make strategic decisions. Other aspects were also investigated: (i) Understanding the activities of search, analysis and use of information from the environment during the process of strategic decision-making and (ii) Finding out the main differences and similarities between the activities of business owners from both countries.

Empirically, business owners who work in the information technology (IT) sector have been chosen for this study. IT is an important sector in the Brazilian market: data from the yearbook of the *Associação Brasileira de Software* (ABES, 2014) show that Brazil reached the 8th position in the world ranking with a domestic market of US\$ 25.1 billion, representing 3% of the world market.

All three topics that make up the dimensions of the current study are issues already established in the literature, but they are still poorly studied when taken together. It is important to notice that a search was carried out in the database Web of Science using the following key expressions: environmental

scanning, small and medium enterprises (SME) and strategic decision. The study considered the period between 1990 and 2010, and no studies were found that contained all key expressions related to the topic proposed for this study, which shows its originality and justifies its development.

Besides the introductory chapter, this article has four chapters: the second is a review of the theory, the next one presents the method used and its procedures, chapter 4 discusses the results achieved with the interviews and the last chapter presents the final considerations, research limitations and suggestions for future studies.

THEORETICAL REVIEW

In this chapter we will present the theoretical concepts that guided the empirical research.

SMALL AND MEDIUM ENTERPRISES AND THEIR BUSINESS OWNERS

When analyzing the latest research by ABES (2014), by *Serviço Brasileiro de Apoio às Micro e Pequenas Empresas* (SEBRAE, 2013), and the one performed by Machado *et al.* (2009), it appears that today's small and medium enterprises have considerable importance both economically and socially for several countries. Their importance goes beyond the economic and social factors, as they stimulate competitiveness, develop new technologies and provide support to large enterprises through outsourcing and supply chain.

Despite this importance and the annual growth of 51.3% of smaller companies in Brazil, they have a high mortality rate, which is caused by several economic or legal reasons and even by personal reasons of their owners (SEBRAE, 2005). In the United States, the mortality rate of small and medium enterprises is also high. Data from the SBA (2011) point out that 31% of these companies cease their activities up to two years after opening the business. Several factors are listed in the literature for this high rate and may be noteworthy: financial aspects, issues related to business management (Huang, 2009; Sandberg *et al.*, 2001; Souza *et al.*, 2014) as well as economic policies and government support, and personal problems of the owner (SEBRAE, 2005, 2008).

It is also worth noting that there are many characteristics of smaller companies regarding management models, the performance of their leaders and how they seek and use information, and that such features may affect the process of environmental analysis and strategic decision-making. Centralized decisions and the existence of few hierarchical levels are details observed in several other studies such as Hambrick (1981), Huang (2009), Leone (1999) and Najmaei and Sadeghinejad (2009). Few hierarchical levels, especially at the strategic level, cause the management of the business to be centered on the person of the owner or a small group of people.

However, although the centralization often has a negative connotation, the absence of many hierarchical levels favors the small and medium enterprises with regard to better communication among their employees. Savioz and Blum (2002) suggest that smaller companies, with a familial and simple structure, have greater internal cooperation among individuals and better communication when compared to large companies.

Some other positive aspects regarding the existence of few hierarchical levels and of centralization can be seen in smaller companies. Berte *et al.* (2007) cite the speed of decision-making and Cancellier *et al.* (2005), Hambrick (1981) and Savioz and Blum (2002) perceive greater flexibility and adaptability as advantages of small and medium enterprises that have a less static structure.

Small and medium-sized enterprises of information technology, which are the object of investigation in this study, besides having inherent characteristics of smaller companies, have particularities of the industry to which they belong and should be concerned with a more rigorous analysis of the business environment, as suggested by Benczúr (2005). In this regard, Hatonen (2010) comments on the rapid changes in their environment, the innovation of products and greater investment in technology development due to the short cycles of their products. These are issues that must be considered when analyzing the decision-making processes of companies in this sector.

With respect to owners, which are the social subjects in this study, Leone (1999) characterizes them as paternalistic concerning relations with their employees, due to the fact that they have a closer relationship with them and know their problems and life projects. Lybaert (1998) investigated various characteristics of owners and managers of small and medium enterprises and their interference in the way smaller companies use the information from their environment. She lists different and individual psychological characteristics such as the locus of control, internality, greater need for personal fulfillment, craving for knowledge, sense of responsibility, greater desire for performance and confidence. She also emphasizes that there is a large influence in the management by the family owners of small and medium enterprises, leading to the assumption that, since they often use their own financial resources, the owner also has a concern about the projects of their family to make decisions in the company. Leone (1999) complements this aspect adding that the entrepreneur's personal life directly affects the company's existence.

Almeida and Moreira Junior (2004) and Machado (2006) add to these findings the observation that, in general, the small business owner has limited time to undertake work related to a strategy based on their involvement with daily tasks, which are more operational, and does not have many employees for such activities.

Despite being the primary decision-maker and the fact that their personal characteristics directly affect the decision-

making process, the manager of an SME is not aware of the wide variety of information necessary and useful for their business as well as what sources could be used to access the data needed. The entrepreneur knows little about competition and lacks awareness or motivation to carry out such activities (Leone, 1999; Lybaert, 1998).

INFORMATION FROM THE ENVIRONMENT

Nonaka and Takeuchi (1997) conceptualize information as a stream of messages posted in a particular context, and McGee and Prusak (1994) consider that information is the set of data that are collected, organized and meaningful, managed in such a way as to encourage competitive advantage, and it is an important strategic resource of organizations.

To this Choo (2006) adds that information is used by the organization in three ways: to make sense of changes in the external environment, in search of competitive advantage, to generate knowledge and learning and to make important decisions, such as strategic ones.

According to Almeida (2009), information from the environment is those pieces of information that are essential to the organization's business and that the company can do little or nothing to change. Choo (2006) adds that information from the environment is essential for the control of uncertainty by the company and, therefore, essential to strategic decision-making.

Managing the information environment, monitoring it, is still a challenge for companies of all sizes. According to Choo (2002), despite the importance of the topic, knowledge about it is still limited, mainly because of the peculiarities of the environments in which firms are embedded. Despite all the processes involving steps such as the search and use of information, companies are different from each other and the particularities of the environments in which they operate may be significantly different.

Choo (2006) retrieves his 2002 model and adds that the organization that manages the information is able to adapt to the changing environment and become more innovative and creative, focusing on learning and decisive action. This model has three stages: information needs, information seeking and information use. Although the analysis and interpretation of information is not highlighted in the model, the author (Choo, 2002) realize that information can be provided in different ways for the organization and it must know how to interpret that information, giving meaning to environmental signals.

In a somewhat different manner, but keeping the same line of thought, Daft and Weick (1984) comment that the organization uses the information in a process with three stages: monitoring, interpretation and learning. Monitoring, or scanning, is considered to be the stage of data collection using formal and informal sources. In the second stage, interpretation, when information has meaning, the participation of people is fundamental. The last stage, learning, involves a new response or action.

According to Cronquist (2008), interpretation is also fundamental to the process. He believes that organizations that manage information from their environment intend to anticipate the future and adapt to changes that may occur in it; thus, just gathering various data from the environment and not turning them into knowledge adds no value to the process of environmental analysis.

Interpreting the environment is essential for technology companies. These companies have less power to develop new markets, since they focus their efforts on developing technologies. Monitoring the environment can make technology companies develop new competences in new markets, which may represent a significant difference (Danneels, 2008).

Specifically about small Brazilian companies, Souza *et al.* (2014) stress the difficulty they face regarding the access to knowledge sources and highlight that this issue is a problem to be taken into consideration, for it is largely related to the managers' profile and the enterprises' performance.

STRATEGIC DECISIONS AND DECISION-MAKERS

Strategic decisions can be defined as those that are important in term of actions that determine important resources and the need for adjustments that they demand, as defined by Eisenhardt and Zbaracki (1992). For these authors, strategic decisions are crucial because they involve fundamental issues that define the course of the company. Mintzberg *et al.* (1976) add that the strategic decision-making is quite specific; it is characterized as complex, single and without pre-defined limits.

In reviewing the literature, Elbanna (2006) emphasizes that the same decision may be strategic for a particular industry and not for another one. Additionally, according to Eisenhardt and Zbaracki (1992), strategic decisions are political: whoever has power decides what they want, using such decisions to strengthen their power in the organization.

Saffu *et al.* (2007), in conducting a survey of 200 owners of small and medium enterprises, have concluded that strategic decisions are especially important for the survival of companies. This is in agreement with the results obtained by Huang (2009), who also points out specific features of the process of strategic decision-making in SMEs: Decisions are made by the owner with little input from the group, little information is obtained internally, there are few business owners who develop alternatives to make strategic decisions, and imitation of the competition seems to be constantly used.

Regarding strategic decision-making, it is noteworthy that several authors study established models; one can mention the model of Mintzberg *et al.* (1976), which represented a break with the previous linear models, of Eisenhardt (1989) for being a model proposed to IT companies, and of Huang (2009) for being specific to small and medium enterprises.

By studying 25 cases of strategic decision-making, Mintzberg *et al.* (1976) propose a model composed of three

main stages in the strategic decision-making process: the identification phase, routine recognition and diagnosis. Despite its apparent simplicity and similarity with the model of Simon from the 60s, presented by Ansoff (1997), the authors innovate by proposing that there is a relationship of sequential steps. Eisenhardt and Zbaracki (1992) commented that this model was innovative with regard to the classical theories of decision-making in which the sequence of ordered steps prevailed.

The model of Eisenhardt (1989) is aimed at IT companies, which is the focus of this study. It presents a complex proposal for strategic decision-making, considering the volatility of the market where such companies are located. Based on this argument that the technological environment is challenging, the author proposes a model that seeks to meet the need for dynamism of this type of company executive.

The third model studied was that of Huang (2009), who dealt specifically with small and medium enterprises. The author conducted a multiple case study with 20 Chinese SMEs. After analyzing the data, he suggested a model of five stages, not necessarily sequential, as follows: identifying opportunities, finding information, analyzing information, considerations of internal factors and decision-making. For the author, the identification of opportunities is related to variables that are observed in the organization's environment, being more related to economic factors that impact the growth in the demand for products and services, government policies, such as new financing, and information obtained through the owner's network of personal relationships.

As regards the decision-maker, for Keeney (2004) a good decision-maker always considers, at any level of decision, all information available on the subject. It is very difficult to use intuition for complex decisions, such as the strategic ones,

although it is necessary to use a certain degree of subjectivity. Choo (2006) also comments on the rationality of the decision-maker, and the rational decision is limited by a lack of full knowledge of future consequences.

There has been growth, however, in the interest regarding both academic and empirical perspectives that examine the intuition of the manager as one of the factors that affect the strategic decision-making, as pointed out by Elbanna (2006). Authors such as Eisenhardt have studies in this direction.

For Eisenhardt and Zbaracki (1992), intuition and insights should also be considered in the decision-making process, even as a strategic complement to rationality. They comment that the cognitive ability of managers should be taken into account in making decisions. Intuition is also present in the decision-maker of small and medium enterprises. In this case, decisions, especially strategic ones, are centered on the figure of the owner as the main business manager, as mentioned by different authors (Almeida and Moreira Junior, 2004; Berte et al., 2007; Hambrick, 1981).

With respect to information technology companies, Eisenhardt (1989) cites that the manager's ability to make decisions is directly related to organizational performance, which puts the decision-maker under higher pressure. The author surveyed executives from eight companies in the sector, suggesting that emotional factors such as frustration, distrust and anxiety interfere with the process of decision-making. For the author, "[...] emotion is critical to understanding the strategic decision-making" (Eisenhardt, 1989, p. 573).

As can be observed in the theoretical review, there is a relation between the three dimensions of the present study as the specific characteristics of an owner of a SME interferes with the manner in which they analyze the environment and makes

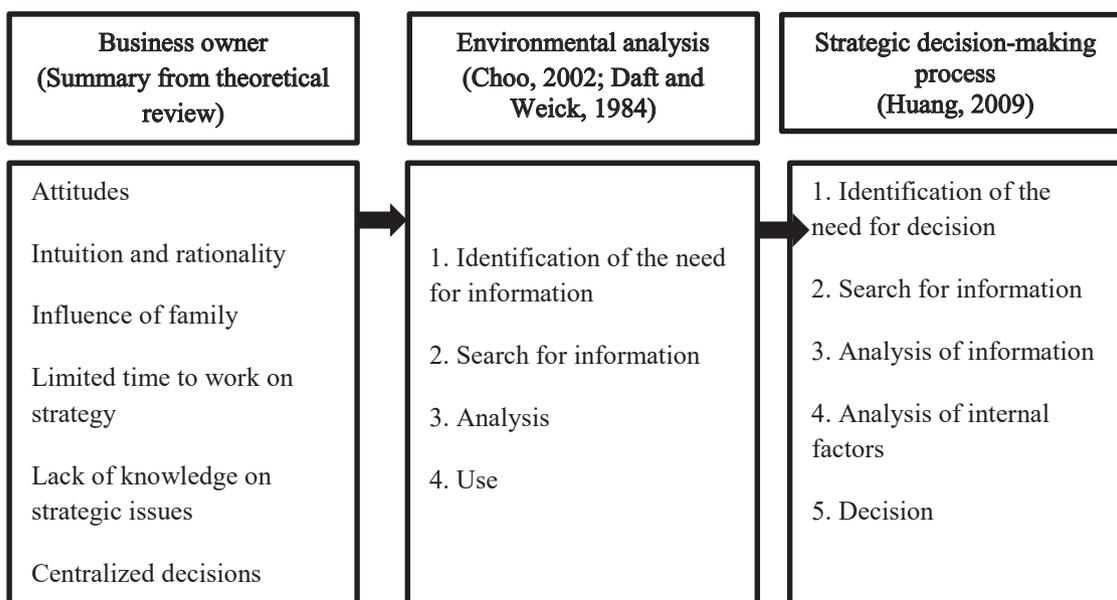


Figure 1. Theoretical model based on the theoretical review.

decisions, as they are the principal or only decision-maker of the company. Some of these aspects were studied in depth, as can be seen in Figure 1, which introduces the theoretical model of this study.

METHODOLOGY

This is an exploratory study of the few detected previous studies that combine the three themes, namely, environmental analysis, strategic decision-making process and SMEs, as discussed in the introductory chapter. The choice of a qualitative approach is justified since it focuses on understanding and describing human behavior through a frame of reference, having a more subjective perspective of the data (Martins and Theóphilo, 2007). To this Flick (2009) adds that one of the characteristics of qualitative research is to study situations and people in their daily practices.

The method used was a mapping of experiences, cited by Mattar (2007), that aims to understand the relevant experiences and deepen knowledge of the topic under study. With this method, this study tried to obtain the experiences of owners of small and medium enterprises, who are the social subjects of this research. According to Flick (2009), qualitative research widely uses semi-structured interviews to collect data, which is consistent with what Mattar (2007) says about the method of mapping of experiences, in which discourse analysis is one of the possibilities for analyzing the findings.

Efforts were concentrated on the selection of social subjects, considering the access to respondents and ease of collaboration. In addition, a few requirements were noted: nationality, being owner of a SME of information technology, being active in the company and being the primary decision-maker. Table 1 presents the profile of respondents. Moreover, the study uses the characterization of a company

according to its size, following the definition of SEBRAE (2013), which conceptualize as a SME a company that has from 10 to 99 employees.

In this study in-depth interviews were conducted with ten business owners, Brazilians and Americans, taking into account fourteen strategic decisions, which is a number sufficient to elucidate the problem outlined in the current study, as recommended by Mattar (2007) for the method used.

To collect data, semi-structured individual interviews were conducted. It was decided to use interviews focused on the problem by following the steps proposed by Flick (2009) to perform them: (i) sending a questionnaire prior to the interview to collect preliminary data and qualifiers, (ii) development of an instrument, with exmanent questions, (iii) conducting the interview and (iv) developing an interview protocol.

As regards the instrument, a semi-structured guide was developed, considering the issues shown in the theoretical model (Figure 1). The instruments were tested in June 2011 with two business owners, one Brazilian and one American, with a profile similar to that proposed for the study, for the identification of possible difficulties and failures in their understanding.

The interviews lasted about one hour. Regarding units of analysis in this study, namely, strategic decisions, 14 were considered units of analysis described by the interviewees (Table 2).

It is worth mentioning that there was a concern with the ethics of the research project, following the recommendations proposed by Flick (2009), i.e., non-maleficence, autonomy and justice.

The interviews were not recorded, but were transcribed immediately after their completion. Highlighted phrases, presented in this study, are faithful to the respondents' statements, since they were copied in full during the interview. This methodology takes into account the content of speech, and interpretations are based on transcripts of interviews (Flick, 2009).

Table 1. *Classification of respondents.*

Nationality	Business owner interviewed	Sector of the company	Lifetime	Number of employees
Brazilian	B1	Providing solutions for business management software	29 years	70
	B2	Development and implementation of digital solutions	15 years	92
	B3	Solutions for human resources	24 years	60
	B4	IT services	13 years	60
	B5	Providing software and services	08 years	70
American	A1	Distribution BI	08 years	90
	A2	Telecommunication	12 years	62
	A3	ERP Development	15 years	60
	A4	Software development	05 years	29
	A5	Software development	07 years	14

Table 2. *Units of analysis.*

Business owner interviewed	Strategic decision	Description of strategic decision
B1	Decision 1	Regionalizing the company
	Decision 2	Discontinuing a branch
B2	Decision 3	Partial outsourcing of product development
	Decision 4	Closing an office in Rio de Janeiro
B3	Decision 5	Establishment of a new company of distance learning platform
B4	Decision 6	Vertical integration for the education segment
B5	Decision 7	Prioritization of one specific supplier
A1	Decision 8	Integration of BI tool with ERP
A2	Decision 9	Operations in a new region
	Decision 10	Use of new technologies
A3	Decision 11	Cloud Computing Solutions for mobile devices
A4	Decision 12	Large investment in software to support vertical markets
	Decision 13	Operations in other countries
A5	Decision 14	Discontinuance of the sale and implementation of ERP systems

ANALYSIS OF RESULTS

The findings of the interviews were analyzed according to the theoretical framework used to support this study and are discussed in the following sections.

GENERAL CONSIDERATIONS ABOUT BUSINESS OWNERS

Analyzing the drivers of decision-making processes, we can suggest that the majority of them is started according to business needs, and few cases were cited where the will or the benefit of the entrepreneur would be the initial motivator, which corresponds to a comment by Elbanna (2006).

All Brazilian business owners interviewed consider themselves more intuitive to make strategic decisions for their companies. Some split the process of decision-making at the time from the decision itself, commenting that the process is more rational, while the decision is more intuitive, which corresponds to the comments by Eisenhardt and Zbaracki (1992), who believe that intuition is present in decision-making and acts as a complement to rationality.

The data obtained from the study by Souza *et al.* (2014), made in Campinas, a city of the state of São Paulo, Brazil, also point toward the use of induction in the formulation of strategies of small companies, which corroborates the findings of the current research and those obtained by Moreira *et al.* (2013), who found 64% of samples using acquired knowledge from past experience in order to make decisions.

However, American business owners interviewed considered themselves more rational in the process of decision-making and in the execution of the decision, using for it various data collected earlier. This result coincides with the study of Keeney (2004), who notes that a decision-maker should use the information available in a rational way.

It should be remarked that, according to Elbanna (2006), it is difficult to describe what intuition is, and various definitions of different authors are presented in this study. It should be noted that in the present study the entrepreneur was asked directly if they are more intuitive or rational, so that the responses represent only the perception of the interviewee on the topic.

Also concerning the decision-making process, it is worth mentioning that none of the business owners surveyed used the assistance of experts or consultants for the decision-making, a topic that is also discussed in the study of Lybaert (1998). Only interviewee B3 contacted his network of relationships in the process of seeking information from the environment.

As regards the family's influence on strategic decision-making of SMEs cited by Leone (1999) and Lybaert (1998), it was noticed in the interviews that there are differences between the two business groups: the majority of Brazilian business owners interviewed considered the opinion of their family in the process, while the Americans did not share strategic decisions with their family. It is noteworthy that the American business owners commented that they share the decision with their family if the decision had an impact on it such as a possible company city change or personal investments. Among the Brazilians, decisions were discussed with

their spouses and in some cases with their children. In two companies, the wives are even actively working in them. These issues are probably related to differences in culture and values between Americans and Brazilians.

There was no unanimity with regards to centralization, mentioned in several previous studies, such as those of Berte *et al.* (2007), Cronquist (2008) and Najmaei and Sadeghinejad (2009), suggesting that centralized management may be more related to personal characteristics of the entrepreneur or the decision to be taken than to the company's size. It was observed that the same manager is sometimes more and sometimes less centralizing, depending on the type of decision.

It should be noted that the focus of this study is strategic decisions, which makes the issue of non-centralization exciting at times, in the light of the theoretical framework presented. Considering the definition of Ansoff (1997) that strategic decisions are centralized, non-regenerative, the results of the interviews may suggest that there is currently a major concern with the team's participation and opinion during the process.

With regard to the involvement of the entrepreneur in strategic activities, it can be said that all business owners, except for one Brazilian, have been operationally involved with their business. Only entrepreneur B4 commented that he was solely responsible for strategic activities, adding: "Those who deal with the team in my company are the directors. I do not get involved with operational issues".

The study of Machado (2006) shows that the owners of smaller companies have little knowledge of strategic tools and market information. However, it was noticed in this study that the business owners surveyed have knowledge of such practices, but lack time and resources to implement them. This question may suggest that business owners have sought to gain greater administrative knowledge in MBAs, since most respondents did so. In accordance with what Machado (2006) comments on marketing knowledge, it was found that owners of SMEs are still lacking information on the market, especially the Brazilian ones.

Another important difference observed between the two groups of respondents concerns the allocation of people in business. All respondents mentioned that Brazilian employees share the same physical space, while all Americans said that their employees work in different locations, and in several cases they work in a home office system. It was observed that there is a decentralization of the main office in American companies, which is spread in several states or even different countries. Often they use labor allocated in another country, such as India (Interviewee A3), Argentina (Interviewee A4) and the Philippines (Interviewee A5). The allocation of human resources in other countries, according to respondents, is related to the high cost of American labor, which in the sector of information technology is both expensive and specialized. Among the Brazilian respondents, this issue was commented on only by interviewee B2.

INFORMATION FROM THE ENVIRONMENT

Analyzing the data obtained and the interviews, it was found that the procedures for monitoring the environment for strategic decision-making, although unstructured, follow the steps proposed in the models of Choo (2002) and Daft and Weick (1984). They represent cycles of monitoring, and not always are all steps performed, as also discussed by Raymond *et al.* (2001).

The first phase of Choo's model (2002) is the identification of the need for information, in which the entrepreneur is concerned with the focus and scope of monitoring, especially the one that requires a more thorough search. The process of identifying the need for information seemed to be very informal and intuitive in all the decisions described. When asked about this phase, the business owners interviewed limited themselves to assessing whether they had sufficient information to help them to make the decision.

Regarding the search for information, it was shown that it was informal, unsystematic, in almost every strategic decision-making process described by the business owners interviewed, with a prominence of personal sources. For this step we investigated two indicators: (i) the frequency and sources and (ii) methods used to perform the activities in this phase of monitoring the environment. As the unit of analysis in this study is a strategic decision, the frequency did not highlight in the present research, being investigated in more general terms. It was found that all respondents often monitor the environment, even if informally. Respondents B4, B5, A1, A2, A4 and A5 cited that they conduct frequent and formal studies.

It was noticed that there were few informal sources cited, like impersonal sources, especially the Internet, and personal information for the search process. Networks of relationships, an important source described in the literature by Berte *et al.* (2007) and Huang (2009), were discussed only in two cases examined, B3 and B4.

The use of specific methodologies for information seeking was not mentioned, even though some of the respondents, such as A2, found the question interesting and considered assessing possible methodologies that might aid in completing the systematic search for information. It was observed that American business owners were more accustomed to the use of technological resources to search for information from the environment, mainly due to having to share that task with people placed in different places, as many of them work in the home office system.

Among the Brazilian business owners, only interviewee B1 mentioned the use of spreadsheets to organize data before presenting them to the team. Others, such as B2, used the same search resources to discuss information in the analysis phase. Among Americans this phase seems to be a little more structured: analysis of the environment takes place in virtual scheduled meetings, and various aspects are analyzed, such

Table 3. Summary of steps for environmental monitoring.

Nationality of the respondent	Decision	Need for new information	Search	Analysis	Use
Brazilian	1	Yes	Yes	Informal	Yes
	2	Yes	Yes	Informal	Yes
	3	No	No	Informal	Limited
	4	Yes	Yes	Informal	Yes
	5	Yes	Yes	Informal	Yes
	6	No	No	Informal	Limited
	7	Yes	Yes	Informal	Yes
American	8	Yes	Yes	Informal	Yes
	9	Yes	Yes	Formal	Yes
	10	Yes	Yes	Formal	Yes
	11	Yes	Yes	Formal	Yes
	12	Yes	Yes	Formal	Yes
	13	Yes	Yes	Formal	Yes
	14	Yes	Yes	Formal	Yes

as return on investment (ROI), effort, risk, cash flow, among other financial issues involved.

It was found that the majority of respondents think that information from the environment was essential to strategic decision-making. Only two respondents, interviewee B2 and B4, mentioned that they use little information from the environment. On this point, interviewee B1 added, "all the information I had I use to decision-making". Instead, the two business owners who used information from the environment commented that experience and intuition have a great weight in the decision.

The American business owners who consider themselves rational in the process of strategic decision-making mentioned that they had used information actively; respondent A4 even commented that "information was relevant to the process and was always considered when making the decision". Table 3 presents a summary of steps taken by the business owners interviewed during the process of strategic decision-making.

Observing Table 3, we found that Brazilians have a more informal, less structured process, while Americans seek to systematize the monitoring of the environment with an increased use of technological resources for sharing and analyzing information.

With regard to internal communication, which is cited by Savioz and Blum (2002), who suggest that smaller companies have better communication when compared to large companies, it may be worth mentioning that this was a point emphasized by the business owners interviewed.

It was found that the business owners interviewed seek to use environmental information as an aid in the process of

strategic decision-making, seeking to implement the decisions, since they are aware that the latter will be important for the company and difficult to reverse.

FINAL CONSIDERATIONS

The main objective of this research was to understand how Brazilian and American small and medium enterprises use information from the environment during the process of strategic decision-making in their companies. In order to answer the question presented in the introductory chapter and achieve the goals outlined, we obtained secondary and primary data that lead the authors of this essay to some considerations on the subject.

There are clear differences between Brazilian and American respondents that concern strategic decision-making and the way of analyzing the environment. The main differences relate to the use of intuition or rationality in the process, sharing with family and informality versus formality in the monitoring information to be used in the strategic decision-making process. The survey showed that interviewees from both countries use information from the environment to make strategic decisions, but differ in how they seek and analyze such information during the process. These differences suggest that cultural values can influence the process of environmental analysis.

The American respondents consider themselves to be more rational, using more information from the environment in the process, sharing it with the team through the decision process, analyzing the risks involved and financial matters.

The Brazilian respondents cited that they make more use of experience and intuition, sharing decisions with their families. They worry about the aspirations of partners and the quality of life. They seek the information they need to assist in the decision-making process, but in an informal manner and with little help from technological resources. Another difference observed concerns the existence of the home office work in the United States, which is not mentioned by any respondent in Brazil. This difference suggests that American companies are more structured in sharing information with the team, using electronic channels such as intranets and videoconferences for this purpose.

Concluding the analysis, the data presented in this study suggest that although the strategic decision making is still a somewhat unstructured process, there is a tendency towards change in this picture, mainly due to better managerial resources, the desire to share with the team, share with people working in different places and countries, the greater use of best management practices and better qualification of the business owner.

There are some methodological limitations to this study. First of all, it is important to mention that one of the characteristics of both qualitative research and the convenience sample is not to generalize the data. Therefore, the suggestions presented here are limited to the context studied. On the one hand, the selection of survey respondents by convenience facilitates access to social subjects and increased cooperation during the interview, but such selection criteria may be biased because they are selected by the investigator. The interviews, since they are personal, may have caused some embarrassment among respondents, especially because we are discussing business strategy, which may decrease the reliability of responses. In addition, some values present in the American but not in the Brazilian culture may have hindered the development of the interview protocol, which is one of the steps proposed for the method of data collection.

Moreover, the Brazilian companies surveyed were based only in the state of São Paulo, while the American ones were dispersed across the United States, which somehow may have caused a bias.

Another important issue that should be mentioned regards the company size, since the majority of respondents had a substantial number of employees, considering that they were smaller companies. Despite being within the proposed classification for this study, the firm size may have influenced the results. It should also be noted that all companies were already consolidated in the market, with several years of existence – the shortest time was five years – and have significant differences that may have caused biases.

Based on the limitations observed and the data obtained, future studies may be suggested. It is recommended that future studies consider the comparison between companies of different sizes within the SME segment, thus enabling

the identification of possible differences. It is also suggested that multidisciplinary studies consider values and cultures of different countries in order to analyze issues related to family involvement and intuition in strategic decision-making. Additionally, multidisciplinary studies could also be done to examine the personal characteristics of business owners and how they make strategic decisions in their companies.

REFERENCES

- ASSOCIAÇÃO BRASILEIRA DE SOFTWARE (ABES). 2014. *Mercado brasileiro de software: panorama e tendências*. Available at: <http://central.abessoftware.com.br/Content/UploadedFiles/Arquivos/Dados%202011/Publicac%CC%AOA7ao-mercado-abes-2014.pdf> Access on: 14/10/2014.
- ALMEIDA, M.I.R. 2009. *Manual de planejamento estratégico*. 2ª ed., São Paulo, Editora Atlas, 156 p.
- ALMEIDA, M.I.R.; MOREIRA JUNIOR, A.L. 2004. A análise do ambiente organizacional na pequena empresa: um estudo em PMEs na cidade de São Paulo. *In: Congresso Latino-Americano de Estratégia, XVII, 2004*. Available at: <http://www.ead.fea.usp.br/eadonline/grupodepesquisa/publica%CC%AOA7%CC%80B5es/martinho/59.pdf>. Access on: 22/10/2014.
- ANSOFF, H.I. 1997. *Estratégia empresarial*. 8ª ed., São Paulo, McGraw-Hill do Brasil, 203 p.
- BENCZÜR, D. 2005. Environmental scanning: How developed is information acquisition in Western European companies? *IR Information Research*, 11(1): paper 241. Available at: <http://InformationR.net/ir/11-1/paper241.html>. Access on: 23/10/2014.
- BERTE, E.C.O.P.; RODRIGUES, L.C.; ALMEIDA, M.I.R. 2007. *The influence of the small technology-based firm characteristics on its strategy formulation process*. *In: International Conference on Management of Technology. Proceedings...* Miami, IAMOT, p. 1917-1932.
- CANCELLIER, E.L.P.; ALMEIDA, M.I.R.; ESTRADA, R.J.S. 2005. Monitoramento do ambiente externo na pequena empresa: aplicações e limitações dos sistemas existentes. *In: Encontro de Estudos em Estratégia, II. Proceedings...* Rio de Janeiro, 3ES, CD-Rom.
- CHOO, C.W. 2002. *Information management for the intelligent organization: The art of scanning the environment*. Medford, ASIS Monograph Series, 272 p.
- CHOO, C.W. 2006. *A organização do conhecimento: como as organizações usam a informação para criar significado, construir conhecimento e tomar decisões*. 2ª ed., São Paulo, SENAC, 425 p.
- CRONQUIST, B. 2008. The quest for intelligence in SMEs: Acting on external information by development of internal practices. *In: International Conference on Intellectual Capital and Knowledge Management & Organizational Learning*, 5, New York, 2008. *Proceedings...* New York, ICICKM, p. 129-136.
- DAFT, R.; WEICK, K.E. 1984. Toward a model of organizations as interpretation systems. *Academy of Management Review*, 9(2):284-295.
- DANNEELS, E. 2008. Organizational antecedents of second-order competences. *Strategic Management Journal*, 29(5):519-543. <http://dx.doi.org/10.1002/smj.684>

- EISENHARDT, K.K. 1989. Making fast strategic decisions in high-velocity environments. *The Academy of Management Journal*, 32(3):543-576. <http://dx.doi.org/10.2307/256434>
- EISENHARDT, K.K.; ZBARACKI, M.J. 1992. Strategic decision-making. *Strategic Management Journal*, 13(special issue):17-37. <http://dx.doi.org/10.1002/smj.4250130904>
- ELBANNA, S. 2006. Strategic decision-making: Process perspectives. *International Journal of Management Reviews*, 8(1):1-20. <http://dx.doi.org/10.1111/j.1468-2370.2006.00118.x>
- FLICK, U. 2009. *Introdução à pesquisa qualitativa*. 3ª ed., Porto Alegre, Artmed, 405 p.
- HAMBRICK, D.C. 1981. Specialization of environmental scanning activities among upper level executives. *Journal of Management Studies*, 18(3):299-330. <http://dx.doi.org/10.1111/j.1467-6486.1981.tb00104.x>
- HATONEN, J. 2010. Outsourcing and licensing strategies in small software firms: Evolution of strategies and implications for firm growth, internationalization and innovation. *Technology Analysis & Strategic Management*, 22(5):609-630. <http://dx.doi.org/10.1080/09537325.2010.488066>
- HUANG, X. 2009. Strategic decision making in Chinese SMEs. *Chinese Management Studies*, 3(2):87-101. <http://dx.doi.org/10.1108/17506140910963602>
- KEENEY, R.L. 2004. Making better decision-makers. *Decision Analysis*, 1(4):193-204. <http://dx.doi.org/10.1287/deca.1040.0009>
- LEONE, N.M.C.P.G. 1999. As especificidades das pequenas e médias empresas. *Revista de Administração*, 34(2):91-94.
- LYBAERT, N. 1998. The information use in a SME: Its importance and some elements of influence. *Small Business Economics*, 10:171-191. <http://dx.doi.org/10.1023/A:1007967721235>
- MACHADO, J.R. 2006. *Planejando a estratégia de pequenos negócios*. Rio de Janeiro, Qualitymark, 80 p.
- MACHADO, J.C.; TORRES, M.; ABREU, M.A. 2009. *Desafios e oportunidades de negócios com pequenas e médias empresas*. Relatório da Serasa Experian Business Information. Available at: http://www.serasaexperian.com.br/cursosinteresses/palestras/ftp/ftp_0099.pdf Access on: 25/01/2011.
- MARTINS, G.A.; THEÓPHILO, C.R. 2007. *Metodologia da investigação científica para ciências sociais aplicadas*. São Paulo, Atlas, 252 p.
- MATTAR, F.N. 2007. *Pesquisa de marketing*. 4ª ed., São Paulo, Atlas, 314 p.
- McGEE, J.; PRUSAK, L. 1994. *Gerenciamento estratégico da informação*. 21ª ed., São Paulo, Elsevier, 244 p.
- MINTZBERG, H.; RAISINGHANI, D.; THEORET, A. 1976. The structure of "unstructured" decision processes. *Administrative Science Quarterly*, 21:246-275. <http://dx.doi.org/10.2307/2392045>
- MOREIRA, R.L.; ENCARNAÇÃO, L.V.; BISPO, O.N.A.; ANGOTTI, M.; COLAUTO, R.D. 2013. A importância da informação contábil no processo de tomada de decisão nas micro e pequenas empresas. *Revista Contemporânea de Contabilidade*, 10(19):119-140. <http://dx.doi.org/10.5007/2175-8069.2013v10n19p119>
- NAJMAEI, A.; SADEGHINEJAD, Z. 2009. How does knowledge management matter in enterprise strategic flexibility? Multiple case study approach based on SMEs in Malaysia. *IBIMA Business Review*, 1:32-54.
- NONAKA, I.; TAKEUCHI, H. 1997. *Criação de conhecimento na empresa*. 19ª ed., Rio de Janeiro, Elsevier, 362 p.
- RAYMOND, L.; JULIEN, P.A.; RAMANGALAHY, C. 2001. Technological scanning by small Canadian manufacturers. *Journal of Small Business Management*, 39(2):123-138. <http://dx.doi.org/10.1111/1540-627X.00012>
- SAFFU, K.; WALKER, J.H.; HINSON, R. 2007. An empirical study of perceived strategic value and adoption constructs: The Ghanaian case. *Management Decision*, 45(7):1083-1101. <http://dx.doi.org/10.1108/00251740710773925>
- SANDBERG, W.R.; ROBINSON, R.B.; PEARCE II, J.A. 2001. Why small businesses need a strategic plan. *Business and Economic Review*, 48(1):12-15.
- SAVIOZ, P.; BLUM, M. 2002. Strategic forecast tool for SMEs: How the opportunity landscape interacts with business strategy to anticipate technological trends. *Technovation*, 22:91-100. [http://dx.doi.org/10.1016/S0166-4972\(01\)00082-7](http://dx.doi.org/10.1016/S0166-4972(01)00082-7)
- SERVIÇO BRASILEIRO DE APOIO ÀS MICRO E PEQUENAS EMPRESAS (SEBRAE). 2005. *Boletim estatístico de micro e pequenas empresas*. Available at: www.sebrae.com.br Access on: 05/01/2011.
- SERVIÇO BRASILEIRO DE APOIO ÀS MICRO E PEQUENAS EMPRESAS (SEBRAE). 2008. *10 anos de monitoramento da sobrevivência e mortalidade de empresas*. São Paulo, Sebrae-SP, 111 p. Available at: http://www.sebraesp.com.br/arquivos_site/biblioteca/EstudosPesquisas/mortalidade/10_anos_mortalidade_relatorio_completo.pdf Access on: 23/10/2014.
- SERVIÇO BRASILEIRO DE APOIO ÀS MICRO E PEQUENAS EMPRESAS (SEBRAE). 2013. *Anuário do trabalho na micro e pequena empresa*. Available at: http://www.sebrae.com.br/Sebrae/Portal%20Sebrae/Anexos/Anuario%20do%20Trabalho%20Na%20Micro%20e%20Pequena%20Empresa_2013.pdf Access on: 14/10/2014.
- SMALL BUSINESS ADMINISTRATION (SBA). 2011. Office of Advocacy. Available at: <http://www.sba.gov/sites/default/files/files/sb-faq.pdf> Access on: 28/09/2011.
- SMALL BUSINESS ADMINISTRATION (SBA). 2002. Small Business Advocate. Vol. 21, n. 6. Available at: <http://www.sba.gov/sites/default/files/files/june02.pdf>. Access on: 21/04/2011.
- SOUZA, M.C.A.F.; MAZZALI, L.; SILVEIRA, R.L.F.; BACIC, M.J. 2014. Pequenas empresas industriais de longa permanência no mercado: uma análise a partir da literatura e de evidências empíricas. *Gestão & Produção*, 21(1):157-170. <http://dx.doi.org/10.1590/S0104-530X2014000100011>
- SUBRAMANIAN, R.; FERNANDES, N.; HARPER, E. 1993. Environmental scanning in U.S. companies: Their nature and their relationship to performance. *Management International Review*, 33(3):271-286.
- WALTERS, B.A.; JIANG, J.J.; KLEIN, G. 2003. Strategic information and strategic decision-making: The EIS/CEO interface in smaller manufacturing companies. *Information & Management*, 40:487-495. [http://dx.doi.org/10.1016/S0378-7206\(02\)00063-0](http://dx.doi.org/10.1016/S0378-7206(02)00063-0)

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