FACULDADE SULMINEIRA FASULMG
MultiCultura REVISTA ELETRÔNICA
Revista Científica Online
v. 5, pp. 35-57, Jan./Jun. 2019
ISSN: 2526-2394

ANALYSIS OF FACTORS SUPPORTING SWOT IN ORGANIZATIONAL STRATEGIC PLANNING

Rogério dos Santos Morais[1 *]
José Dirnece Tavares Paes[2]
Geraldo Ramos da Silva[3]
Maurício Ricardo Soares[4]

Abstract: This study identifies the challenges in strategic planning theory and explores effectiveness in planning practice at the strategic, tactical, and operational organizational levels using field research among employees from the beverage, private healthcare, education, banking, aerospace, telecom, pet, and petroleum industries in Brazil. The results show that all industries practiced the concepts presented in the strategic planning literature, but were deficient in quantitative analysis of the strategic factors that support strengths, weaknesses, opportunities, and threats analysis. Strategic and tactical organizational levels guide the planning process, while operational levels were excluded from strategy-related issues.

Keywords: Strategy - Strategic Planning - Tactical Planning - Operations.

1 INTRODUCTION

Strategic management describes the plan as a road map for the organization, requiring a sequence of activities involving different levels of the organization (VARADARAJAN, 2010).

Strategic planning also has an important role in validating strategy with external stakeholders (ABDALLAH and LANGLEY, 2014). Perera and Peiró (2012) describe strategic planning as a valid and useful tool to guide all types of organizations.

Strategic planning aims to establish a direction for the organization. The process can be as complex as the plan itself and requires reflection, discussion,

[1] Ph. D, Universidade Metodista Piracicaba, Rodovia do Açucar, Piracicaba/SP, CEP: 13423-170, Brazil. E-mail: rogeriosmorais@uol.com.br
[*] Corrsponding author.
[2] Ms. Faculdade Sul Mineira, Rua. Dr. Mello Viana, 75, Centro, São Lourenço/MG, CEP: 37470-000. E -mail: dirluci@uol.com.br
[3] Ms. Universidade Paulista, R. Francisco Bautista, 1315, Jardim Santa Emilia, São Paulo/SP, 04182-020. E-mail: progeraldo@gmail.com
[4] Ms. Universidade Vale do Rio Verde, Av. Castelo Branco, 82, Chácara das Rosas, Três Corações/MG, 37417-150. E-mail: prof.mauriciors@gmail.com

Revista Científica Online
v. 5, pp. 35-57, Jan./Jun. 2019
ISSN: 2526-2394

interaction, a SWOT (strengths, weaknesses, opportunities, and threats) analysis against competition, drawing up plans, and setting goals and targets (FREZATTI, et al., 2011). The plans must define goals, how they will be achieved, the required strategies and resources, and methods to overcome obstacles. The plan should allocate responsibilities and specify the expected return and the timeframe. Such a plan is conceived from an informal desire for some objective (MATOS, VENÂNCIO and DUTRA, 2013).

A system of formalized strategic planning guarantees that the priority allocations of time and resources are established and activities are integrated and coordinated with the expectation of an adequate return (DAROSI and ANDERLE, 2014).

Matos, Venâncio, and Dutra (2013) reviewed the strategic planning research from 1997 to 2012 and found that while the topic has been discussed for more than a century, it remains current. However, the literature still lacks tools and practical methods for implementing and controlling the quantitative analysis of SWOT related strategic factors for managers in their daily activities (LEE, et al., 2013).

Analyzing the current knowledge of strategic analysis, established authors such as Porter (2009), and Rajasekar and Al Raee (2013) emphasize the necessity of the five strategic forces to analyze competitiveness. Other authors (BARNES and LIAO, 2012; Bowersox, Closs, and Cooper, 2007; D'Aveni, 2010; Hooley, Piercy, and Nicouland, 2011; MINTZBERG, AHLSTRAND, and LAMPEL, 2010; MORGAN, 2012) emphasized different types of strategic factors. Thus, Morgan (2012), Lee, Kim, and Park (2012), and Morgan and Lee (2012) perceive the need to determine the main strategic factors based on the classics and to quantify these strategic factors by predominance to support an analysis of mainly external factors.

In this way, it is fundamental to think of the strategic factors, such as incoming power, exit power, bargaining power, rivalry of equals, rivalry of substitute products, positioning, supply chain management, and technological innovation (Kluyver and Pearce, 2010, pp.55). Therefore, Singh, Garg, and Deshmukh (2008) and Lee, Kim, and Park (2012) are strong in affirming the need to create organized and structured frameworks to quantify the strategic factors of competitiveness through research and analysis that allows a view of the different results of the studies through a holistic approach that integrates and presents them in a coherent way. Morgan (2012)

Revista Científica Online
v. 5, pp. 35-57, Jan./Jun. 2019
ISSN: 2526-2394

reveals that, in addition to allowing greater integration of generated knowledge, quantitative frameworks should also be useful in identifying strategic priority factors for managers' attention.

Lee (2012) developed a method to quantitatively analyze SWOT-related strategic factors that this study will adopt considering the lack of tools and practical methods of implementing quantitative analysis to support SWOT for strategic planning. This study addresses the unique aspects of various industries and the effect of these aspects on management and information transfer related to strategic planning. The study also reveals new appealing options for permanent dynamic planning, monitoring, evaluating, adjusting, and readjusting strategy for a range of business activities. Thus, addresses managers' interest in competitive forces and quantifying them in a structured way to meet their firms' objectives. This study is justified by the lack of literature concentrating on the main strategies or that proposing a strategic management tool to analyze a business sector. Therefore, the study uses Zaccarelli (2012) as a reference guide to create and develop a "business quality methodology." It incorporates Porter's (2009) competitive forces and four other strategic factors advocated by Kluyver and Pearce (2010): international competition, market positioning, adoption of corporate supply chain strategies, and technological innovations as essential elements for an effective sectoral analysis.

In this context, the main objective is to find out if strategic planning is really current, if it is still strongly practiced by the organizations, and if there is a deficiency in the quantitative SWOT analysis by the management. The secondary objective is to contribute a quantitative tool to analyze the strategic factors that support the SWOT analysis and the managers in the strategic decisions. This study collects and organizes the prevalent strategic factors in the literature to use a quantitative method.

In the rest of this paper, sections 2 and 3 present a review of the literature and describe the methodology, respectively. Section 4 reports the results of the research and section 5 proposes a tool to quantify the strategic factors supporting SWOT analyses in organizations. The final section concludes with a summary and discussion of implications and future research directions.

Revista Científica Online
v. 5, pp. 35-57, Jan./Jun. 2019
ISSN: 2526-2394

2 LITERATURE REVIEW

2.1 Strategic planning

Strategic planning was considered a new practice in the 1980s, and became popular among goal-oriented and well-organized firms. Planning is a management tool necessary in competitive environments. Over time, inconsistencies have developed between existing theories of strategic planning and their practical application (PHILLIPS and MOUTINHO, 2014).

Organizations require a structured plan or guide to achieve its goals and desired objectives. Strategy thus describes the path to success within the competitive environment (MCHATTON, et al., 2011).

2.2 Defining the mission, vision, and values

The mission of an organization is its rationale behind its existence and should reflect the essence of the company (SCORSOLINI, 2012). If the mission reflects what the company does and its reason for existence, the vision evokes the ultimate goal incorporating the greater scope of the business (MATOS, VENÂNCIO and DUTRA, 2013). The firm’s values aim to establish a culture of ethics and morality that guide operations. Managers must ask what beliefs and values the organization should adopt to achieve its purpose with respect to the market, collaborators, and business ethics (VARADARAJAN, 2010).

2.3 Field analysis and SWOT

An industry analysis is a relevant and integral part of strategy development, particularly when the industry has strong national and international competition (GRINSTEIN, 2008). The definition of each competitor in an industry has a direct impact on strategic analysis and serves as the basis for business strategies (RAJASEKAR and Al RAEE, 2013).

The SWOT analysis covers both the internal and external organizational environment: the strengths and weaknesses are related to the internal environment

Revista Científica Online
v. 5, pp. 35-57, Jan./Jun. 2019
ISSN: 2526-2394

and the opportunities and threats are linked to the external environment (YÜKSEL, 2012). A strategic organizational analysis is an essential step in the design of a sustainable, competitive business model (TEECE, 2010).

2.4 Goals and objectives

Bold strategic planning tackles challenges, and the planning process can achieve clearly defined goals and objectives. The combined elements of challenge, objectives, and time provide organizational targets to meet (NICOLETA and ALINA, 2014). Goals are quantitative values to reach at a predetermined point in the future, and organizational effectiveness reflects the degree to which an organization achieves its goals within the time limit. If firms take an excessive amount of time to meet its goals, management should determine one or more intermediate goals to improve monitoring over time (ZHENG, YANG, and MCLEAN, 2010).

2.5 Establishing the core strategy

The ability to think strategically is a fundamental requirement for managers of organizations. Leaders must nurture strategic thinking in management practices to sustain planned growth (RAJASEKAR and AL RAEE, 2013). The organization must then be structured to implement the planned strategy (CLAVER-CORTÉS, PERTTUSA-ORTEGA, and MOLINA-AZORÍN, 2012).

2.6 Competitive positioning

A successful product meets customer needs and even exceeds their expectations. However, consumer requirements differ, and companies generally compete to answer these needs by positioning themselves optimally (VARADARAJAN, 2010).

Organizations can gain a competitive advantage if they are positioned to provide customer value (DOHERTY and TERRY, 2013).

Revista Científica Online
v. 5, pp. 35-57, Jan./Jun. 2019
ISSN: 2526-2394

2.7 Implementation of strategic decisions

O'Reilly et al. (2010) find that mid-level leaders should manage employee resistance to improve strategic plan implementations. Managers should help employees understand that the implementation is in their best interest and requires their support. Clarke and Fuller (2010) show that support from leaders at the lowest levels in a hierarchy is crucial to the success of a strategic implementation.

Olson, Slater, and Hult (2005) find that many executives argue that successfully implementing a strategic plan is more important than creating a brilliant strategy because doing is more difficult than planning.

2.8 Monitoring and controlling efforts

Although monitoring and controlling the formal strategic planning process is essential for performance, research shows that strategic planning effectiveness decreases when uncertainty in the competitive environment increases. Klag and Langley (2014) discuss the debate over the effectiveness of formal strategic planning compared with other management styles that are more responsive to the environment. Increasingly, company leaders express the need to change strategic plans to adapt to a turbulent external environment (DIBRELL, CRAIG, and NEUBAUM, 2014).

2.9 New entrants in the market

According to Degen (2009), all apparently successful business attracts new competitors; if there are no barriers that hinder the entry of new competitors, businesses tend to lose profitability due to an excessive number of competitors. The lower the financial barrier to enter the market, the easier the entry of new competitors due to the little investment needed (PORTER, 2009).

2.10 Consumer bargaining power

Strategic negotiation skills are increasingly indispensable in the business

Revista Científica Online
v. 5, pp. 35-57, Jan./Jun. 2019
ISSN: 2526-2394

world. Bargaining power represents the position of the negotiator in regards to the relative ability to influence the outcome (THOMPSON, 2009). According to Porter's second force, consumers can have more concentration in the negotiation, have a different purchase option, and look for lower costs to switch suppliers.

2.11 Supplier bargaining power

The bargaining power of suppliers can directly influence the competitiveness of a market and powerful suppliers may charge more or less based on their current strategic intention (BRIGGS and SHORE, 2007). When the industry is characterized by a low level of competition, suppliers tend to have greater bargaining power over customers (HAN, PORTINFIEL, and LI, 2012). The strategic customers of powerful suppliers will have better options, and the weaker and less strategic customers of these suppliers will face higher prices. Suppliers transfer their costs and charge higher prices of their weakest clients in the market (PORTER, 2009).

2.12 Substitute products

A competitive product can replace the main industry product directly or by offering the same value to the customer under better buying conditions (CECCONELLO and AJZENTAL, 2008). The competitive intensity among companies may increase if either the new entrants to the business make use of already existing technology (copycats) or they improve on existing products in the market (innovations) (HOOLEY, PIERCY, and NICOULAND, 2011).

2.13 Rivalry between current competitors

Porter's fifth force involves an industry competitor's efforts to sustain and improve market share, profitability, and image. Intense rivalry limits the profitability of the industry as a whole (RAJASEKAR and AL RAEE, 2013).

In such a situation, organizations facing intense competition will be unable to compete effectively or survive in the market if they do not develop different strategies

Revista Científica Online
v. 5, pp. 35-57, Jan./Jun. 2019
ISSN: 2526-2394

to reduce costs. The real challenge is to manage costs because implementing a low cost strategy generally has negative effects on quality (ELGAZZAR, et al., 2012).

2.14 International competition

Virtually all companies today are affected by market globalization in one way or another. The maturity of many Western markets has in some cases forced the expansion of businesses, seeking to recover lost market share (CAVUSGIL, KNIGHT, and RIESENBERG, 2010). In a global economy, companies in a given sector can become more competitive and productive through the implementation of strategies that include sophisticated investment in modern technologies (GRECKHAMER, 2010).

2.15 Technological innovation

Technology management has attracted more and more attention from academia and industry (PRIEM, LI, and CARR, 2009).

The management of technological innovation represents the company's oversight of its activities to select, develop, and market new products aligned with its organizational strategy, which will allow the company to be more competitive and achieve profitable growth in the long term (KESTER, et al., 2011). Scholars on the subject of innovation, such as Hitt et al. (2001), Hoskisson et al (1999), and Priem, Li, and Carr (2012), have debated whether technological innovations are driven by the technological advances themselves or rather by the strategies to differentiate the business from competitors and improve market demand.

3 METHODS

3.1 Research methods

We used both extensive literature and exploratory field research to achieve the general and specific objectives in this study. One of this study's objectives is to

Revista Científica Online
v. 5, pp. 35-57, Jan./Jun. 2019
ISSN: 2526-2394

examine the current strategic planning analyses and to investigate its effectiveness in practice. Literature research is essential to understand strategic planning and the processes involved in the planning methodology in a competitive business environment. The main purpose of the exploratory research in this study is to enhance and advance knowledge of the effectiveness, movement, alignment, and adaptability of strategic planning. The study adopts the traditional model of strategic organizational planning as a reference.

3.2 Sample

The survey-targeted employees from three organizational levels—the strategic, tactical, and operational—with at least four years of administrative experience. The study addresses a number of industries based on their economic value and availability for research purposes, namely: private health, private education, beverage, telecom service, oil, and banking.

3.3 Industry definitions

The telecommunications industry is highly competitive with substantial economic and financial activity. The five largest companies in this industry in Brazil are currently Vivo, Oi, TIM, Claro, Embratel, and Ericsson, comprising 98% of the market, that strategically compete for market share in mobile telecommunications and Internet services, but not in landline communications. Additionally, this industry in Brazil has received 32 billion dollars in investment to improve coverage and reduce costs (ALENCAR, 2011).

Managers in the private healthcare industry have adopted strategic planning in a significant number of institutions to improve competitiveness and have a positive impact on the development of business processes. (DE OLIVEIRA and SCHILLING, 2011).

The survey in the beverage manufacturing industry was sent to Heineken/Femsa. The industrial sector of drinks as well as being responsible for the production of beers, soft drinks, and juices, is also responsible for generating a parallel market for recycling materials (ALMEIDA, et al., 2016).

Revista Científica Online
v. 5, pp. 35-57, Jan./Jun. 2019
ISSN: 2526-2394

There is much more to the industrial sector of pets than the ones dogs and cats. Pet owners today do not limit your connection with animals and buy toys for the iguanas, buy medicines for turtles, decorate your fish tanks and buy food for these pets (TORTOLA, 2007).

Petrobras, an oil and gas organization engaged in exploration and production; refining, commercialization, and transportation of oil and natural gas; petrochemicals; distribution of derivatives (BARROS, 2014).

The Brazilian Banking sector was the most profitable. The results show superior performance of large banks (TECLES and TABAK, 2010).

The Brazilian aerospace company better known as Embraer, finished third in the overall ranking executive jet units sold worldwide in 2010 (FRED, 2011).

Private educational institutions. In 2010, the three largest higher education institutions listed on the stock exchange were worth 7 billion reais (BORGES, DOMINGUES, and CORDEIRO, 2016).

3.4 Data collection instrument

The data collection instrument was developed according to the strategic planning structure suggested in the literature. A questionnaire composed of 18 questions collected responses based on a Likert scale administered to participants. The final sample consists of 205 responses, a 50% response rate.

4 RESULTS

4.1 Sample characteristics

The survey targeted large companies within their respective industries, which are highly competitive and have substantial economic and financial activity. The 102 responses represent a cross-section of company departments: strategic (15%), tactical (25%), and operational (60%).

Revista Científica Online
v. 5, pp. 35-57, Jan./Jun. 2019
ISSN: 2526-2394

4.2 Field research results

Involvement in strategic planning. The majority of respondents, 68.1%, claimed to be involved in strategic planning. Those at the strategic level have extensive involvement with planning. Respondents with no involvement in strategy increases as operational employees represent a significant portion of the respondents at 16.2%. Additionally, some pet industry professionals are indifferent to their involvement with planning.

Knowledge of company missions, values, and visions. The results related to knowledge of the company's mission, vision, and values. A vast majority of respondents, 99%, responded that they understand the mission, vision, and values of the company's strategic plan in detail, indicating that these have been well disseminated among staff.

Knowledge of strategy deployment. The results related to respondents' knowledge of the deployment of the organizational strategy. Most respondents (78%) indicate that they understand how their companies deploy strategic plans. Some respondents from the cooperative banking sector stated strategic plans are deployed casually, and not as described in company literature. Respondents in the education and aerospace industries responded that strategy deployment is top-down in nature and the operational departments do not have a sense of connection with the deployment. Some respondents add that the executive leadership does not effectively disseminate the strategic plan information to the lower hierarchical levels.

Knowledge of activities and alignment. The results relate to respondents' knowledge of the company's activities and alignment capacity for strategic planning. Most respondents, 70.3%, indicated that they understood the company's capacity for activities and alignment regarding planning. The results show that some officials "do not know" or are "indifferent" about the company's ability to plan and align activities. The 30.2% of respondents expressing this opinion all work at the operational level. This suggests that high value employees at the operational level are indifferent to strategic planning, signaling that the strategic and tactical levels do not effectively spread the planning throughout the organization.

Revista Científica Online
v. 5, pp. 35-57, Jan./Jun. 2019
ISSN: 2526-2394

Ongoing management, monitoring and planning evaluation. The results related to company performance related to ongoing management, monitoring, and evaluation of the strategic plans. The majority of respondents, 73.3%, responded that they understood how the company operates in terms of managing, monitoring, and evaluating the strategic plan. The results show that up to 26.7% of employees "do not know" or are "indifferent" to management's monitoring and evaluation of planning. While this is significant, the employees with this opinion work at the operational level.

Competitor reaction scenarios. The results related to respondents' opinions of company adaptations to competitors' reactions to the strategic plan. Less than half of the respondents, 46%, indicated that they have knowledge of the analysis of competitors' reactions to their company's strategic plan. However, the majority, 54%, "do not know" or are "indifferent" to the analysis of the reactions of competitors, and all of these employees belong to the operational level.

Actions related to challenges, opportunities, and agile plan management. The survey results concerning company actions in terms of challenges, opportunities, and the strategic plan management. Most respondents, 72.8%, are aware of their companies' challenges, opportunities, and strategic plan management. A considerable number, up to 28.5%, are "indifferent" or "do not know" this information.

Supply chain management in planning. The results related to the alignment of supply chain management with strategic planning. Most respondents, 65.9%, stated that they had knowledge of supply chain management in their company's strategic planning. Significantly, 34.1% "do not know" or are "indifferent" to this knowledge.

Analysis of the competitive environment. The results related to analysis of the competitive environment as part of strategic planning. The majority of respondents, 69%, stated having knowledge of the analysis of the competitive environment in their company's strategic planning. At the operational level, up to 31% were "indifferent" or unaware of their company's competitive environment.

Top management belief that success is linked to leadership commitment.

The results related to top management support in strategic planning. Most respondents, 63.3%, reported that top management provides support, and they believe that successful planning is linked to leadership commitment within the company. Strategic-level employees consider their support from the operational level

Revista Científica Online
v. 5, pp. 35-57, Jan./Jun. 2019
ISSN: 2526-2394

is linked to strategic planning success, though the operation level did not share this perception. A substantial percentage of operational-level respondents do not believe that strategic planning success is linked to leaders' support and commitment. The results were equivalent among employees of the same level, even when they were from different segments. An interview with director of Petrobras confirmed that the strategic level of the organization has total involvement with strategic planning throughout its process. The results demonstrate that managers do not have and do not use a quantitative method of analyzing the strategic factors that support the strategic planning SWOT.

4.3 Quantitative analysis method for strategic factors to support SWOT

The strategic factor evaluation method is a quantitative field research tool to obtain greater accuracy as to the value of each competitive factor and to advance the analytical knowledge of organizational strategic planning. Scores vary from 1 to 5 and are used to evaluate aspects related to the final average composition for each competitive factor. A value of 1 means that the strategic factor is low in intensity or may even reflect a strategic vulnerability to the business. A value of 5 means that it is a strong factor. This guide will help managers quantify the composition of each strategic factor, the values of which will depend on field research.

Table 1. Quantification of Entrance Barrier Factor

	Related terms	Aspects of each strategic factor
1	Investment	The greater the investment, the greater the difficulty of new competitors, the higher the score.
2	Strong brand	Acquiring renowned brand facilitates the entry of new competitors. The larger the user, the lower the score.
3	Bureaucratic rules for entry into business	The easier the solution to the bureaucracy, the greater the ease of entry of new competitors. The more bureaucratic the business, the higher the score.
		End result: average

Source: Porter (2009, pp.4), Zaccarelli (2012, pp.232).

FACULDADE SULMINEIRA FASULMG
MultiCultura REVISTA ELETRÔNICA
Revista Científica Online
v. 5, pp. 35-57, Jan./Jun. 2019
ISSN: 2526-2394

Table 2 shows the method of evaluating the competitive output barrier strategic factor.

Table 2. Quantification of Exit Barrier Factor

	Related terms	Aspects of each strategic factor
1	Number of competitors	A high number of competitors in a sector may hinder sales. The lower the competition in the industry, the higher the score.
2	Investment recovery time	The easier the recovery of investments, the higher the score.
3	Financial difficulties in company closure	The lower the difficulty of assuming costs, the higher the score.
		End result: average

Source: Porter (2009), Zaccarelli (2012).

Table 3 shows the measurement of the market positioning strategic competitive factor.

Table 3. Quantification of Market Positioning Factor

	Related terms	Aspects of each strategic factor
1	Large number of competitors in the same position	The greater the number of competitors in the same position, the lower the score.
2	Best current position in relation to competitors	The score should be higher.
3	High potential to meet positioning	The score should be higher.
		End result: average

Source: Hooley, Piercy, and Nicouland, (2011, pp.148).

Table 4 presents the measurement of the customer power in business strategic competitive factor.

Table 4. Quantification of Customers' Trading Power Factor

	Related terms	Aspects of the composition of customers' bargaining power factor
1	Customer choice options	The fewer the companies, the lower the customer's negotiating power because of lack of options. The fewer the customers' options, the higher the score.
2	Companies with short deadlines for negotiation	Companies' products have short trading time frames or cannot be stored, and the corporation is in the position to negotiate quickly, which is bad for the business. The more the company can negotiate quickly, the lower the score.
3	Low purchasing power of client	The entrepreneur is in a good situation if the customer's power is weak in relation to the selling company. The customer cannot

Revista Científica Online
v. 5, pp. 35-57, Jan./Jun. 2019
ISSN: 2526-2394

		afford to impose terms. The weaker the customer's power, the higher the score.
		End result: average

Source: Porter (2009, pp.4), Zaccarelli (2012, pp.236).

Table 5 shows the method of evaluation of the strategic factor of rivalry of equals.

Table 5. Quantification of Rivalry Factor

	Related terms	**Aspects related to the current rivalry factor**
1	Balance in competition	The more balanced the competitors, the greater the competition and the less attractive the business. The more balanced the competition, the lower the score.
2	Stagnant market	Stagnant markets and slow growth tend to produce more competition. The higher the stagnation or the slower the growth, the lower the score.
3	Overhead costs	High fixed costs in relation to net income signal increased competition in the sector. The higher the costs of profits, the lower the score.
		End result: average

Source: Hooley, Piercy, and Nicouland, (2011, pp.84), Zaccarelli (2012, pp.234).

Table 6 illustrates the measurement of the rivalry with international products strategic competitive factor.

Table 6. Quantification of Rivalry among International Products Factor

	Related terms	**Aspects related to the rivalry with international products factor**
1	Natural and technological resources	Natural and technological resources are factors for development. If the features and enhancements are unique, the higher the score.
2	Delivery time	The longer the delivery time for international rivals' products, the higher the score.
3	Relationships with channels and representatives	Success in international transactions is dependent on strong relationships with distribution channels and sales representatives. The better those relationships, the higher the score.
		End result: average

Source: Cavusgil, Knight, and Riesenberg (2010, pp.55), Hooley, Piercy, and Nicouland, (2011, pp.86).

Revista Científica Online
v. 5, pp. 35-57, Jan./Jun. 2019
ISSN: 2526-2394

Table 7 shows the measurement of the supplier's bargaining power strategic competitive factor.

Table 7. Quantification of Suppliers' Bargaining Power Factor

	Related terms	Aspects related to the supplier's bargaining power factor
1	Many suppliers and few buyers	The fewer the vendors offering similar conditions to a small number of competing buyers, the higher the score.
2	Payment term supplier	If suppliers' payment terms are short and make it hard to close the deal, the firm's negotiation power will be low. The lower the company's power, the lower the score.
3	Delivery time supplier	The more the supplier sells to its rivals and has short-term delivery, the lower the score.
		End result: average

Source: Kluyver and Pearce (2010, pp.55), Porter (2009, pp.4); Zaccarelli (2012, pp.236).

Table 8 shows the method of evaluating the supply chain management in relation to competitors' competitive strategic factor.

Table 8. Quantification of Supply Chain Management Factor

	Related terms	Aspects related to the management of the supply chain factor
1	Inventory costs	The lower the inventory costs relative to competitors, the better the contribution margin. The lower the costs of stock, the higher the score.
2	Suppliers' delivery time	The shorter the delivery time from suppliers and the exact amount needed by the company in relation to its competitors, the higher the score.
3	Transportation costs	Transport costs can provide a competitive edge over competitors. The lower these costs, the higher the score.
		End result: average

Source: Calixto, Formigoni, and Stettiner (2011); Hooley, Piercy, and Nicouland, (2011); Kluyver and Pearce (2010, pp.77).

Table 9 shows the measurement of the technological innovations management relative to competitors' strategic competitive factor.

Table 9. Quantification of Technology Innovation Factor

	Related terms	Aspects related to technological innovation factor
1	Development time	The shorter the time needed to develop and market new products relative to the competition, the higher the score.
2	Frequency of new product launches	Frequency in product launches may contain the competition and create or maintain market leadership. The higher the frequency, the higher the score.

Revista Científica Online
v. 5, pp. 35-57, Jan./Jun. 2019
ISSN: 2526-2394

3	Innovation cost	The costs of innovation should be lower than those of competitors. If cost is reduced, the score increases.
		End result: average

Source: Porter (2009, pp.22); Hooley, Piercy, and Nicouland, (2011, pp.263); Kotler and Armstrong (2011, pp.56).

The data obtained and compiled from the field research provide the scores by which administrative priorities may be established.

CONCLUSION

Contrary to authors positing that strategic planning is no longer valid, the field research in this study, in addition to the considerable amount of recent literature, shows that strategic planning occurs in practice in 100% of the industries surveyed.

Reflection, discussion, interaction, internally assessing strengths and weaknesses, analyzing the market opportunities and competition, developing plans, and setting goals occurs with greater intensity among the strategic and tactical levels, with less involvement from the operational levels. However, the vast majority of professionals at all hierarchical levels, with the exception of a small proportion of professionals at the operational level, consider themselves to be involved in strategic planning simply by understanding the company mission, vision, and values. In terms of deployment strategies and monitoring and aligning plans, a considerable number of operational-level respondents claimed no knowledge of these strategies. The lower the hierarchical level, the lesser respondents understood strategic planning management as a day-to-day practice in the organization.

Operational-level employees, for the most part, were not aware if their company analyzes the competitive environment based on strategic planning. However, this varies by company. The Heineken/Coca T Cola Company has a team dedicated to strategic planning, which shares the company status with all employees at the operational level, including its evolution and monthly targets to involve all employees in the strategy process. In another example, Embraer in Brazil conducts training with employees of all levels who have an interest in learning more about strategic planning.

One notable result from this study is that a large percentage of employees "do not know" of or are indifferent" to strategy management in terms of the supply chain, which is concerning because efficiently managing the supply chain is a main source of competitive advantage for today's companies.

Additionally, successful implementation of a strategic plan is linked to the commitment of company leadership, but respondents at the operational level and a small number of respondents at the tactical-level indicated that they do not believe leadership conducts planning deployment in a manner that is clearly communicated to all involved. Respondents from the aerospace industry reported that many employees do not have correct knowledge about strategic planning, which causes misalignment and compromises the final result. The research results show equivalent responses among employees at the same levels and departments, even when they represent different industries.

The article is relevant to engineering managers because it presents a breakthrough in quantitative SWOT analysis. In addition, managers also struggle to understand how forces and opportunities influence the company in a positive direction and how weaknesses and threats influence the company negatively.

All organizations can and should assist in strategic planning because this approach remains current, and could be improved. Field research results suggest that strategic and tactical levels need to improve the dissemination of strategic planning among employees. Another deficiency found was in the bibliographic research on the current SWOT analysis to be very qualitative and this article brings a contribution and an advance where pointing a tool of quantitative market analysis of the strategic factors that support the SWOT analysis, giving, yes, better conditions of Strategic actions of managers. Future studies could create and develop management tools to improve the alignment of strategic planning between all organizational levels.

REFERENCES

ABDALLAH, C., and LANGLEY, A., 2014. The double edge of ambiguity in strategic planning. **Journal of Management Studies**, 51(2), pp.235-264.

ALENCAR, M., 2011. The evolution of telecommunications in Brazil. **IEEE Communications Magazine**, 49, pp.4-8.

Revista Científica Online
v. 5, pp. 35-57, Jan./Jun. 2019
ISSN: 2526-2394

ALMEIDA, C. M. V. B., RODRIGUES, A. J. M., AGOSTINHO, F., and Giannetti, B. F., 2016. Material selection for environmental responsibility: The case of soft drinks packaging in Brazil. **Journal of Cleaner Production**, 30(1), pp.1-7.

BARNES, J., and LIAO, Y., 2012. The effect of individual, network, and collaborative competencies on the supply chain management system. **International Journal of Production Economics**, 140(2), pp.888-899.

BARROS, M., 2014. **Tools of legitimacy:** The case of the Petrobras corporate blog. *Organization Studies*, 35(8), pp.1211-1230.

BORGES, G., DOMINGUES, M., and CORDEIRO, R., 2016. Student's trust in the university: Analyzing difference between public and private higher education institutions in Brazil. **International Review on Public and Nonprofit Marketing**, 13(2), pp.119-135.

BOWERSOX, D. J., CLOSS, D. J., and COOPER, M. B., 2007. **Gestão da cadeia de suprimentos e logística** [Supply Chain Management and logistic]. Rio de Janeiro: Elsevier.

BRIGGS, W., and SHORE, B., 2007. Competitive analysis of enterprise integration strategies. **Industrial Management & Data Systems**, 107(7), pp.925-935.

CALIXTO, F., FORMIGONI, A., and STETTINER, C. F., 2011. **Logística:** um enfoque prático [Logistics – A Practical Approach]. São Paulo: Saraiva.

CAVUSGIL, S. T, KNIGHT, G, and RIESENBERG, J. R., 2010. **Negócios internacionais:** estratégia, gestão e novas realidades [International business: strategy, management and new realities]. São Paulo: Pearson.

CECCONELO, A. R.; AJSENTAL, A. **A Construção do Plano de Negócio.** São Paulo: Saraiva, 2008.

CLARKE, A., and FULLER, M., 2010. **Collaborative strategic management:** Strategy formulation and implementation by multi-organizational cross-sector social partnerships. *Journal of Business Ethics*, 94, pp.85-101.

CLAVER-CORTÉS, E., PERTUSA-ORTEGA, E. M., and MOLINA-AZORÍN, J. F., 2012. Characteristic of organizational structure relating to hybrid competitive strategy: Implications for performance. **Journal of Business Research**, 65(7), pp.993-1002.

D'AVENI, R. A., 2010. The age of temporary advantage. **Strategic Management Journal**, 31(13), pp.1371-1385.

DAROSI, G.C.M., and ANDERLE, D.F., 2014. Analysis of Scientific Production about Strategic Planning Situation (SPS). **Magazine Espacios**, 35, pp.4.

Revista Científica Online
v. 5, pp. 35-57, Jan./Jun. 2019
ISSN: 2526-2394

DE OLIVEIRA, L. R., and SCHILLING, M. C. L., 2011. Analysis of nursing service in the planning process in hospital. **REGE Revista de Gestão**, 18, pp.225-243.

DEGEN, R. J., 2009. **O empreendedor:** Empreender como opção de carreira [The entrepreneur: undertake as a career option]. São Paulo: Pearson.

DIBRELL, C., CRAIG, J. B., and NEUBAUM, D. O., 2014. Linking the formal strategic planning process, planning flexibility, and innovativeness to firm performance. **Journal of Business Research**, 67(9), pp.2000-2007.

Doherty, N. F., and Terry, M., 2013. Improving competitive positioning through complementary organisational resources. **Industrial Management and Data Systems**, 113(5), pp.697-711.

ELGAZZAR, S. H, TIPI, N. S, HUBBARD, N. J, and LEACH, D. J., 2012. Linking supply chain processes performance to a company's financial strategic objectives. **European Journal of Operational Research,** 223(1), pp.276-289.

FRED, G., 2011. Brazil's bizjet phenom. **Aviation Week & Space Technology**, 173, pp.50.

FREZATTI, F., AGUIAR, A. B., GUERREIRO, R., and GOUVEA, M. A., 2011. Does management accounting play role in the in planning process? **Journal of Business Research**, 64(3), pp.242-249.

GRECKHAMER, T., 2010. The stretch of strategic management discourse: A critical analysis. **Organization Studies**, 31(7), pp.841-871.

GRINSTEIN, A., 2008. The relationships between market orientation and alternative strategic orientations: A meta-analysis. **European Journal of Marketing**, 42(1/2), pp.115-134.

HAN, C., PORTINFIEL, T., and Li, X., 2012. Impact of industry competition on contract manufacturing: an empirical study of U. S. manufactures. **International Journal of Economics**, 138(1), pp.159-169.

HITT, M., BIERMAN, L., SHIMIZU, K., and KOCHHAR, R., 2001. Direct and moderating effects of human capital on strategy and performance in professional service firms: A resource-based perspective. **Academy of Management Journal**, 44(1), pp.13-28.

HOOLEY, G., PIERCY, N., and NICOULAND, B., 2011. **Estratégia de marketing e posicionamento competitivo** [Marketing strategy and competitive positioning]. São Paulo: Pearson.

HOSKISSON, R., WAN, P. W., YIU, D., and HITT, M., 1999. Theory and research in strategic management: swings of a pendulum. **Journal of Management**, 25, pp.417-456.

KESTER, L., GRIFFIN, A., HULTINK, E. J., and LAUCHE, K., 2011. Exploring portfolio decision-making processes. **Journal of Product Innovation Management**, 28, 641-661.

KLAG, M., and LANGLEY, A., 2014. Critical junctures in strategic planning: Understanding failure to enable success. **Organizational Dynamics**, 43(4), pp.274-283.

KLUYVER, C. A, and PEARCE, J. A., 2010. **Estratégia:** uma visão executiva [Strategy – An Executive Overview].3rd ed. São Paulo: Pearson.

KOTLER, P., and ARMSTRONG, G., 2011. **Princípios de marketing** [Principles of Marketing]. São Paulo: Pearson.

LEE, H., KIM, M. S., and PARK, Y., 2012. An analytic network process approach to operationalization of five forces model. **Applied Mathematical Modelling**, 36(4), pp.1783-1795.

LEE, K. C., LEE, H., LEE, N., and LIM, J., et al. 2013. An agent-based fuzzy cognitive map approach to the strategic marketing planning for industrial firms. **Industrial Marketing Management**, 42(4), pp.552-563.

MATOS, O. A., VENÂNCIO, D. M., and DUTRA, A., 2013. Strategic management in higher education institutions: Mapping of scientific publications in the period 1997-2012. **Magazine University Management in Latin America** – GUAL, 7, pp.106-127.

MCHATTON, P. A., BRADSHAW, W., GALLAGHER, P. A., and REEVES, R., 2011. Results from a strategic planning process benefits for a nonprofit organization. **Nonprofit Management and Leadership**, 22(2), pp.233-249.

MINTZBERG, H., AHLSTRAND, B., and LAMPEL, J., 2010. **Safári de estratégias** [Safari strategy]. 2nd ed. Porto Alegre: Bookman.

MORGAN, N., 2012. Marketing and business performance. **Journal of the Academy of Marketing Science**, 40(1), pp.102-119.

NICOLETA, B., and ALINA, V., 2014. Organizational strategic planning of human resources. **Management Strategies**, 7, pp.606-610.

OLSON, E. M., SLATER, S. F., and HULT, G. T. M., 2005. The importance of structure and process to strategy implementation. **Business Horizons,** 48(1), pp.47-54.

O'REILLY, C. A., CALDWELL, D. F., CHATMAN, J. A., LAPIZ, M., and SELF, W., 2010. How leadership matters: The effects of leaders alignment on strategy implementation. **Leadership Quarterly**, 21(1), pp.104-113.

PERERA, F. D. P. R., and PEIRÓ, M., 2012. Strategic planning in healthcare organizations. **Revista Española de Cardiología (English Edition)**, 65(8), pp.749-754.

PHILLIPS, P., and MOUTINHO, L., 2014. Critical review of strategic planning research in hospital and tourism. **Annals of Tourism Research**, 48, pp.96-120.

PORTER, M. E., 2009. **Competição:** on competition [Competition: On competition]. Rio de Janeiro: Elsevier.

PRIEM, R. L., Li, S., and CARR, J. C., 2012. Insights and new directions from demand-side approaches to technology innovation, entrepreneurship, and strategic management research. **Journal of Management**, 38(1), pp.346-374.

RAJASEKAR, J., and AL RAEE, M., 2013. An analysis of the telecommunication industry in the Sultanate of man using Michael Porter's competitive strategy model. **Competitiveness Review**, 23(3), pp.234-259.

SCORSOLINI, F., 2012. Mission, vision and values as speech marks in work organizations. **PSICO,** 43(3), pp.325-333.

SINGH, R. K., Garg, S. K., and DESHMUKH, S. G., 2008. Strategy development by SMEs for competitiveness: A review**. Benchmarking: An International Journal**, 15(5), pp.525-547.

TECLES, P., and TABAK, B. M., 2010. Determinants of bank efficiency: The case of Brazil. **European Journal of operational Research**, 207(3), pp.1587-1598.

TEECE, D. J., 2010. Business models, business strategy and innovation. **Long Range Planning**, 43(2-3), pp.172-194.

THOMPSON, L. L. (2009). **O Negociador** [The Negotiator]. São Paulo: Pearson.

TORTOLA, J. O., 2007. Grocers's best friend: The global pet expo last month dished out plenty of evidence that the pet product market is booming. **Progressive Grocer**, 86, 21.

VARADARAJAN, R., 2010. Strategic marketing and marketing strategy: Domain, definition, fundamental issues and foundation premises. **Journal of the Academy of Marketing Science**, 38(2), pp.119-141.

YÜKSEL, İ., 2012. An integrated approach with group decision making for strategy. **International Journal of Academic Research in Business and Social Sciences**, 2(11), pp.134-161.

Revista Científica Online
v. 5, pp. 35-57, Jan./Jun. 2019
ISSN: 2526-2394

ZACCCARELLI, S. B., 2012. **Estratégia e sucesso nas empresas.** [Strategy and success in companies]. 2nd ed. São Paulo: Saraiva.

ZHENG, W., Yang, B., and MCLEAN, G. N., 2010. Linking organizational culture, structure, strategy, and organizational effectiveness: Mediating role of knowledge management. **Journal of Business Research**, 63(7), pp.763-771.