

The Mature of Strategic Business of Small and Medium-Sized High-Tech Companies in Brazil

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Abstract

This paper sets out to analyze the use of strategic planning in small and medium-sized high-tech companies in Brazil. These companies need strategic planning in order to support the performance and enhance the competitiveness, by enabling effective responses to be found for market changes and uncertainties, and to refine their management capacity so as to generate and disseminate new knowledge at the same time as managers develop innovation, creative products in accordance with the customer's needs. The major result of this paper is the matrix of mature strategic business, which is based on the management actions. The matrix derived from theoretical concepts, it used in practice by 13 companies for the evaluation their own specific business development. This indicates clearly the absence of formal planning models but underlines the importance of the strategic awareness, personal commitment of the manager in pursuing objectives and the relationship with the stakeholders.

Keywords: High Technology, Matrix mature of strategic business, Small and Medium Business, Strategic Planning.

1. Introduction

This paper sets out to analyze the use of strategic planning in small and medium-sized high-tech (SMET) companies in Brazil. Balkin *et al.* (2000) suggest that high-tech companies are those that invest more than 5% of their turnover in R&D, always with high levels of creativity (O'REGAN *et al.*, 2008) in the development of innovation.

SMETs have an *ad hoc* management style, with few hierarchical levels, which are flexible and adaptable to changing market needs and have a high potential for innovation (GUNESEKARAN *et al.*, 2000). They have highly skilled workforce; the systematic adoption of technological innovation in product and process; have short lines of communication; close relationships with clients; less bureaucracy; strong interest in product development and technological change; developing forms of co-operation. Their management is personalized and subject to a single assessment under the manager's decision-making powers (RUBERY *et al.*, 2004).

High-tech organizations should be able to translate learning processes into managerial competences, according Hamel and Prahalad (1993). Ruiz-Mercader *et al.* (2006) express this as transforming knowledge management into innovation initiatives to improve business performance. Jarzabkowski and Balogun (2009) argues that this integration, only arise from active negotiations and compromises between the manager, employees and SMET' stakeholders.

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The strategic planning will depend on the ability of the SMETs to withstand the risks of innovating and managing the future (SALAVOU *et al.*, 2004), to diminish the risk of decision-making, administrative negentropy, which forms because of the difficulty of visualizing the company's future horizon, both in relation to the opportunities and the threats. There are many techniques to support the decision making on the design of the ideal mix of business and to the launch, change needs and withdrawal of products or services. These strategies have other goals: to set goals, challenges, goals and balance the resources and has a relationship of current and potential markets of SMET. Each model is represented in Table 1.

Table 1 – Strategic position Models

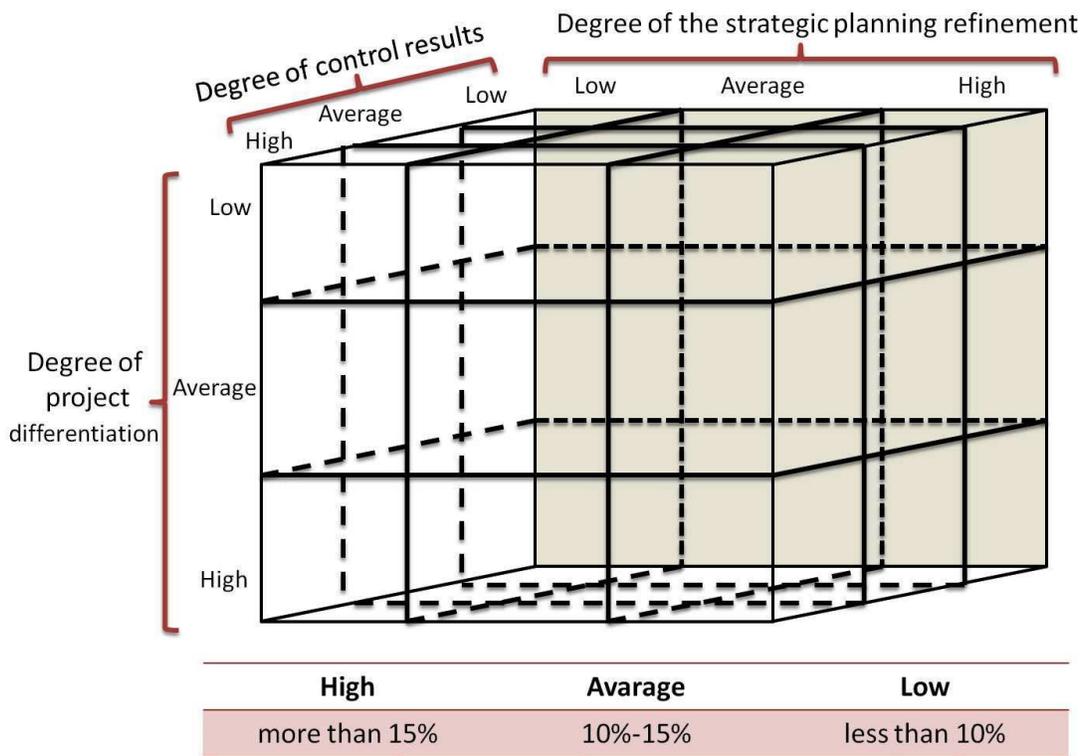
Situations	Name of technique	Year and author	Description
Current business	BCG Matrix	1970, Boston Consulting Group	Graphical analysis based on the concept of portfolio life cycle. This matrix is one of the most common forms of representation of internal and external environment of the company, and is based on sustaining the experience curve.
	Life cycle of the product, service or business	1975, Arthur D. Little Consulting	Has the analysis of the product life cycle, business or service: introduction, growth, maturity and decline, and the company's competitive position: leader (larger participation marketshare) or follower (low participation on marketshare).
	Profit Impact of Market Strategies	1972, GE	Model allowed detect the firm position by the rate of return on investments to provide income data to better segment from the conditions of bidding.
	McKinkey/GE	1979, GE	Designed to detect new areas of business opportunities, product lines and services, business strength and attractiveness of the sector through the end of the ROI and to prioritize strategies.
	Lorange e Vancil	1977, Lorange e Vancil	Identify the adjustment of the project, as part of business strategy, uses a two-dimensional structure: competitive strength and attractiveness of business.
	Performance model of products, services or business	1974	Requires determination of the area where is located the product and its market and the instruments that provide the relevant measures to evaluate them. Determines trends for the product line in terms of sales, share, profitability, and projections of future performance of the portfolio company.
	Business attractiveness model	1976	Based on the business according to their attractiveness and business location determined by technological factors, competition, economic, financial, market and socio-political and the volume of sales.
Future business	Petrov Matrix	Petrov	Based on the technology portfolio relates the attractiveness and technological position of the company.
	Booz-Allen and Hamilton Matrix	2003, Booz, Allen and Hamilton	Has a strong technological approach that links the importance of technology and technology company's relative position in the industry.
	Abell's Model	1980, Abell	Has a tripod: definition of business, setting objectives and developing strategies.
Establishment competitive advantages	Business Profile Matrix	1974, Arthur D. Little Consulting	Assumes adequate market analysis and focuses on the identification of the fit between a segment and a product differentiation that makes the maximum rate of return.
	Porter's Five forces	1980, Porter	Describes why and how the strategy contributes to the strategic positioning and competitive business, considers five forces: threat of new competition, threat of substitute products or services, bargaining power of customers (buyers), bargaining power of suppliers and intensity of competitive rivalry.

These techniques have low degree of adaptability. Porter (1980) technique has high degree, but can be applied only in the industry, not in small and medium enterprises. This is why this paper is concerned, and the major contribution is the matrix of mature strategic business based on the management actions. The matrix derived from theoretical concepts, it used in practice by 13 SMET case of study. The implications of this research can assist small businesses to do strategic planning and to better position from their SMET competitors.

2. The matrix proposed of SMET' mature strategic business

The model proposed in this article pre-supposes the active participation of the manager and the SMET staff to promote competitive advantages and the corret use of their resources. Figure 1 shows the matrix of the degrees of maturity of refinement of strategic planning, differentiation and control of IT projects offered by SMET. The matrix located the company in the quadrant as per analysis of the average percentage of three components and comparing to others companies. The matrix consists of nine quadrants that are explained below.

Figure 1- Matrix of strategic management position of SMET



1. Emphasis on competence - the stage of functional development of human resource management, in which SMETs concern themselves to finding the right people in the labor market and remunerating them for their work, as well as training them in accordance with the work to be performed. In other words, this is a state of neutrality, internal to the strategy, which should prepare the company to stimulate maturity of the degrees of refinement of strategic planning, differentiation and mensurament of the results. Systems are developed to maintain information and the main concern of human resource management is to prevent high staff turnover. Managers take responsibility for many operational activities such as recruitment and selection of human resources.

2. Emphasis on projects – SMET has a flexible organizational structure, in which there is no standardization of administrative procedures or work processes. It depends on minimal expert advice on training and acquiring skills for the job. The work is coordinated by the managers through strategic direct supervision, has responsibility of giving instructions and monitoring their employees actions. But, there is no formal structure for managing marketing, financial, human and production resources. Strategic decision making is centralized, and it enables a quick response to the dynamic competitive environment. Strategy formulation is the responsibility of the manager, and overall competence of the organization needs him to make decisions.

This level of maturity, depends on developing the managerial expertise of managers for the purpose of managing and adapting strategic planning, differentiation and control of project results offered by the SMET. The stage of neutrality is external to production, when production performance is measured by comparing the production cycle of SMET with other competitors. Companies view their processes of development projects as a set of stable decisions.

3. Emphasis on strategy - In this stage, there is greater stimulus to innovate. SMET reviews their structure and decision-making processes to differentiate the company's projects and each department starts to have autonomy in the formulation of strategies. There is the need for planning and control systems, adequate management of the performance of human resources and controlling costs. Measures of capacity building and training of human resources should be targeted on integrating strategies. At this point, the importance of improving quality and reducing costs must be emphasized. The internal support of management for the business strategy will provide a basis for global competitive strategy, by examining the consistency of their decisions with business strategy.

Where, managers recognize the value of start using instruments such as an organogram and mission statement to structure production activities.

4. Emphasis on competitiveness – SMET is acting in complex competitive environments in which there are frequent changes to projects and the decision-making process itself is configured as an *ad hoc* system, which occurs by exploiting market opportunities. There is the establishment of strategic, tactical and functional strategies which should facilitate and contribute to the success of the competitive strategy set for each department, by establishing priorities or competitive dimensions. As to the functional strategy of production, the highest priorities are: cost, quality, delivery performance and flexibility, while the tactics are to set up network-based work in teams, organizational learning, the management of organizational culture and the establishment of communication. These elements require managers to be pro-active, obtained by their high level of involvement in the organization. In the stage of external support from management to the business strategy is based to a significant degree on the skills of the human resources at participating effectively in the design of business strategy. These are considered the competitive advantages generated by a SMET.

5. Emphasis on innovation – Business strategy innovation helps SMET to be more profitable while building a sustainable competitive advantage on technological innovation. SMET firms have learned that one must understand the business problems, processes and current information infrastructure in order to address the business problems. Their employees have the experience or skills to develop the appropriate knowledge, because innovation is a social phenomenon. On the other hand each company should provide incentives that induce those individuals to embrace new practices, procedures and technology. The SMET have formal technical programs to gather, analyze and use knowledge, creativity and technology information to watch their competitors, to track emerging trends in technological development and to anticipate significant technology-based on innovation.

6. Emphasis on customers needs – SMET first identifying what the customer needs and translated into the planning of a new product and a new service; or to promote improvement in product or service offered. Customer service standards and service level agreements need to be developed to meet expectations. These service level agreements internal or external of SMET should be put in place, the customers pointed what attribute of the products or services are important. It is use to determine expectations against the customer satisfaction levels. Other aspect of customer relationship management concerns empowering staff to deal with customer problems or requests, to promote a customer-friendly workplace.

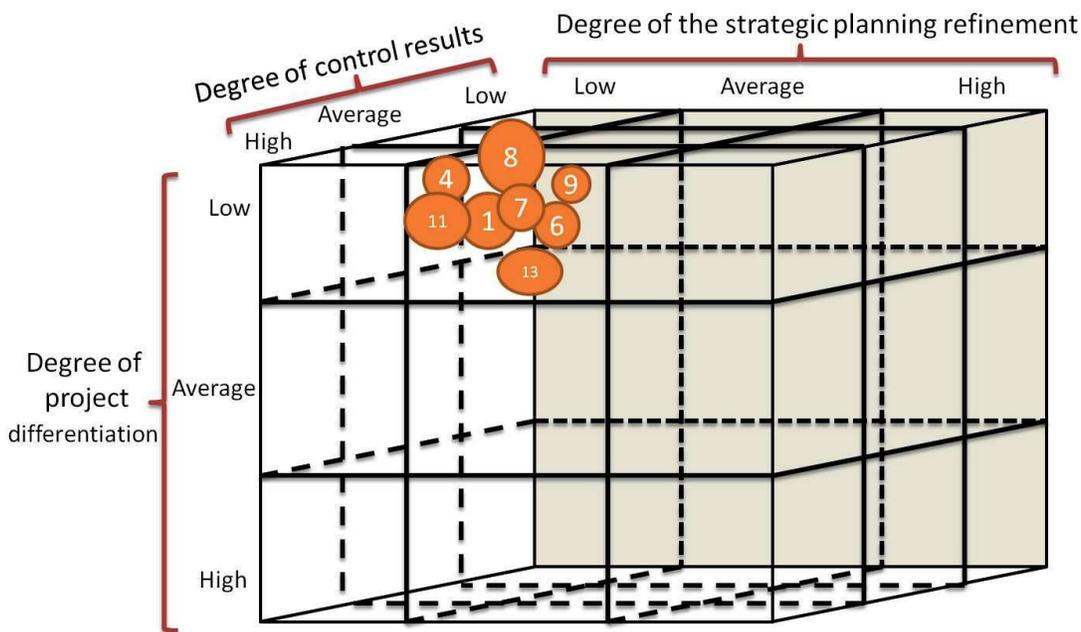
7. Emphasis on owner management view – Managers have de idea to launch the SMET into market, they are engaged in business administration to three component resources: financial resources, tangible resources and human resources, in at least five functional areas: legal contracting, manufacturing or service production, marketing, accounting, financing, and human resource. They developed their skills in these areas and are constantly striving to find new and creative opportunities to generate incremental revenues and profits. But have a strong problem to trust in their employees to solve problems of strategic issues.

8. Emphasis on money (Return on investment - ROI) – It is an analytical tool used to analyze potential investments in information technology (IT).

It can measure financial return on IT and innovation project that has been development of SMET firms and to prioritize the project portfolio. Measuring the financial return is important to help the organization realize strategic goals and objectives.

9. Emphasis on the bussines alliance - The bussines alliance is a framework that promotes the distribution and accessibility to information and to transform the communication more fluid. Also assume the role of economic opportunity and notice some unexplored techniques and decrease the uncertainty related to the existence of technical and economic problems whose solution is still unknown. By sharing resources, expertise and promote integration between the stakeholders, the alliance is to generate new business and promote innovative entrepreneurship and opportunity. The great difficulty in forming the alliance is to find partners with similar goals and similar level of commitment and business involvement. The individualism derived from the corporate culture or social incompatibility of management styles and lack of clarity in the intended goals of the companies and lack of confidence. And have great importance due to their ability to bring out the potential competitive advantage of a SMET.

Figure 2- SMET positioned on the matrix proposed



To SMET be positioned in the correspondent quadrant of the matrix, a strong analisis are done to position the product or service according with the total sales or volume of business, both can be expressed by the diameter of a circle, which represents the relative share of the market relative to its competitors: less than 10% - the company has marginal participation; between 11% and 24% - the company has an average attendance of sales; and greater than 25% - the company has high volume of business comparing with their competitors.

3. Research Setting and Data Collection

This paper is charaterized as exploratory and descriptive and the design rests on the model proposed by Yin (2003), which breaks down into four steps: preparation, definition, preliminary effort and outcome.

The first phase consists on the surveying the literature and collecting literature available on the subject. After that a matrix was constructed, a case study was conducted. The questionnaires were used to interview SMET managers, it was structured based on theoretical reference and have two parts: the first part identify the profile of company managers, the second part collects managers opinions to structure a matrix proposed. After drafting the questionnaire, a pre-test was done to verify if there was a need to incorporate possible adjustments. The pre-test was conducted to one IT consultant manager and one IT administrative assistant, which did not alter the original questionnaire significantly. The contributions were restricted to lexical and semantic analysis to improve how to apply the final questionnaire, an instrument of this study.

The study opted for a non-probability sample of 13 managers of small and medium high-tech companies. Specific information was collected through direct contact with manager involved with the phenomenon investigated. The group of managers was chosen, because they are well informed about changes in management practices, processes, and structures. The research happens by the years 2009-2011.

The last stage of the study comparing the data obtained from the managers to construct the matrix. The data obtained from the survey were interpreted in a qualitative way and the results are presented in two sections: one for the data profile of the individual manager and the other about the developing the strategic planning of SMETs. In this paper, the business names will not be given, they are renamed as “Case Study Company” followed by the number used to refer to it in the questionnaire evaluated, the sample are:

Case Study Company 1 - specializes in providing services and consultancies on Information Technology. It operates in the administration of databases specifically in the Databases of the Microsoft SQL Server. It also has software for business and industrial management;

Case Study Company 2 – is a technological center which offers training courses and training in software engineering and information technology;

Case Study Company 3 – focuses on developing applications for mobile or handheld devices and provides consultancy services specializing in corporate solutions;

Case Study Company 4 – sets out to find integrated solutions for the design of hardware, software and of services in the operational environment of companies;

Case Study Company 5 – focuses on strategic solutions in information technology: organizing information, knowledge management, e-learning and management of IT skills;

Case Study Company 6 - provides application solutions in software and software houses. It specializes in processes, architectures and tools to support software development and training IT professionals;

Case Study Company 7 - provides services in three main IT areas: training, consultancy and software development;

Case Study Company 8 - provides consultancy services in IT, which target the following areas: infrastructure of technology; CRM (client relationship management) and hardware;

Case Study Company 9 - provides consultancy services in information technology for development needs in Java;

Case Study Company 10 - provides audit services in information technology in order to examine the validity and security of the software implemented;

Case Study Company 11-provides consultancy services in IT and software development;

Case Study Company 12 - provides solutions for software applications in client companies and IT training;

Case Study Company 13 – draws up strategic solutions in information technology: organizing information, knowledge management and financial management.

4.1 General results of data collection

In this section the general results of the data sample are describe. The average age is 32 years and the level of education: five respondents hold a master's degree, while the others have graduation degree focussed in computer science, software engineering , information systems graduate, analysis and development of systems and business. This result shows the need of these managers to meet market requirements by focussing on providing the best service and the continuous learning. The number of employees is between 30 to 100, or 38 employees per SMET. According to the sample SMET have from 1 until 27 years operation on market.

The last aspect analysed refers to the routine activities attributed to each manager that have many functions concentrated in the commercial, human resources, and financial areas. This is happens, because the manager needs to investigate opportunities to establish partnerships with other companies and identify potential clients. But, the activities of supervising teams, managing people, audit, quality management and technical assistance are not attributions of managers. A negative highlight is the neglect of quality management of IT service; none SMET monitor their service or have technical assistance.

4.2. Results of SMET Strategic Planning

The results about structuring the strategic planning showed that 69.2% SMET do strategic planning. These draw up the planning as follows: the managers themselves conduct it internally or are done with consultants out-sourced. Two companies review annual and quarterly the planning.

Managers sample emphasis the reviewing to achieve goals on operating results, to have dynamic changes in accordance with the information technology market. The others which do not develop strategic planning, says that are unfamiliar with the technique or do not have time their priority is the sales. The main activities reported by managers are: the analysis of the strengths, weaknesses, opportunities and threats, the drawing up of the mission and vision, controlling and monitoring the strategy, formulating the firm's budget. The data sample shows the concentration on analyzing the external forces and adapting them to the SMET's business needs. SMET needs to understand their macro-environment. This research dealt with how SMETs analyze their strategic position with their clients, suppliers, and the market in which it and its competitors operate. About 76.92% of SMETs analyze the market, by examining the contact via e-mail or web site, doing marketing survey, and in the moment of sales in the direct contact with their clients.

Another index of this research shows that 92.31% of SMET respondents analyze the market: SMETs monitor it on Web sites, newspapers, magazines and consulting or analysing their clients directly, others conduct market research. With regard to analysing data on competitors it was found that 69.3% of the managers do, the main activities are: market research, and the contact between managers in the same industry at events or meetings. The analysis suppliers is conducted by 53.8% of the companies, and 46.15% of SMETs do not do so because they are satisfied with their suppliers. However, the main activities of SMET that analyze their suppliers: ask for recommendations, survey in websites or newspaper or magazine, experiment for a period to test, consult a staff member. However, the information drift from SMET stakeholders is partly neglected, about 53.8% of companies consider only the views of their clients, 30.77% their competitors and 23.08% only their suppliers and the market. About the employee's involvement to developing strategic planning, three of the companies consider this is fundamental; six of them consider it is relatively important, while 4 do not consider it all.

Another point mentioned lists the results expected from the manager developing strategic planning. The expectation is that the organization's activities will continue as designed in the planning. There is also the conceptualization that it serves to guide the company and helps to establish indices of assessment; other companies further reported: that planning emphasizes that their strategic objectives are focused on the years 2010 – 2014; and for others, the need arises to reposition the company's actions and to align ideas among everyone involved in the company. During another part of the interview, the SMET managers attributed weights so as to reveal the degree of the characteristics that influence the development of strategic planning to be refined are presented in Table 2. A striking piece of data was on choosing to improve the organization's relationship with the market and to prompt the future vision of the company's actions being selected as important by all managers in this survey. These data reflect an excellent prospect of SMETs developing strategic planning.

Table 2 – The strategic planning refinement

<i>Characteristic analyzed</i>	<i>No</i>	<i>Little</i>		<i>Very</i>	<i>Sum total of the weights by characteristic</i>
	<i>Important</i>	<i>Important</i>	<i>Important</i>	<i>Important</i>	
<i>Planning</i>	<i>Weight 1</i>	<i>Weight 2</i>	<i>Weight 3</i>	<i>Weight 4</i>	
Lack of qualified professionals	1	0	5	2	24
Lack of future vision	1	0	2	5	27
Centralizing power by the founder-managers	1	2	3	2	22
Difficulty in accepting change	0	3	3	2	23
Difficulty in retaining and hiring staff	0	0	3	5	24
Lack of time and resources	0	0	2	6	30
Lack of commitment by staff	0	1	2	5	28
The company is not doing well – few contracts	0	3	4	1	22
Difficulty with the competition	2	3	3	1	21
Improves the relationship of the organization with its staff	0	0	3	5	29
Promotes a collective awareness	0	1	3	4	27
Net interest income of the business to invest	0	1	3	4	27
Guides programs for internal improvement	0	2	6	0	22
Prompts the future vision of the company's actions	0	1	6	1	26
Increases the management capacity to take decisions	0	0	5	3	27

On analysing the data in Table 2, it is seen that managers have difficulty in assessing threats; they also claim they lack the time to think about the company's strategic issues. Moreover, managers also center on the element of lack of time their difficulty in assessing threats, as major obstacles to beginning to develop a more systemic way of thinking about strategic management. In Table 3 and 4 present the degree of control on the SMET results and project differentiation that influence the development of these to success and to better position their competences.

Table 3 – The strategic project differentiation

<i>Characteristic analyzed</i>	<i>No Important</i>	<i>Little Important</i>	<i>Important</i>	<i>Very Important</i>	<i>Sum total of the weights by characteristic</i>
<i>Differentiation</i>	<i>Weight 1</i>	<i>Weight 2</i>	<i>Weight 3</i>	<i>Weight 4</i>	
Do not know the cost of products	0	0	3	5	24
Not segment customers	0	3	3	2	23
Balancing the factors of SWOT	2	3	3	1	21
Producer-oriented on customer need	0	3	4	1	22
Improves the relationship of the organization with the market	0	1	3	4	27
Innovation-oriented on customer need	0	1	2	5	28
Customer are training to use the IT	0	1	5	2	25
Features are include after-sale	1	3	1	3	22
Examines the life cycle portfolio	1	3	2	1	16
Makes analysis of market share	0	0	3	5	29
Use the creativity of employees	0	1	3	4	27
Uses employee motivation	0	1	2	5	28
Uses knowledge workers	0	1	6	1	26
Training and development their employees	0	1	5	2	25
Uses all technology available in the market	0	0	2	6	30

Table 4 – The strategic control on the results

<i>Characteristic analyzed</i>	<i>No Important</i>	<i>Little Important</i>	<i>Important</i>	<i>Very Important</i>	<i>Sum total of the weights by characteristic</i>
<i>Control</i>	<i>Weight 1</i>	<i>Weight 2</i>	<i>Weight 3</i>	<i>Weight 4</i>	
Difficulty in corect features costumers	0	0	3	5	29
Difficulty in evaluating threats	2	0	5	1	21
Immediate needs in the results	0	3	1	4	25
Difficulty in establishing, monitoring and controlling the company's targets	0	1	3	4	27
Do not use the point of economy of scale	0	1	5	2	25
Product finish on time	1	3	1	3	22
Shortening delivery time	1	3	2	1	16
Product available on time	0	0	3	5	29
Features are corect after sale	0	1	3	4	27
Do ROI analysis	0	1	2	5	28
Analyzes the rate of growth of the company	0	0	3	5	24
Analyzes the growth rate of each product portfolio	0	3	3	2	23
It analyzes the contribution margin for each product portfolio	2	3	3	1	21
Analyzes the market	0	3	4	1	22
Analyzes competitors	0	1	3	4	27
Does the budget for planning	0	1	2	5	28

The data analysis shows the prevalence of SMETs performing part of the activities of strategic planning, which can assist them in conducting business in the long period of time. When making an analogy with the strategic schools of Mintzberg *et al.* (2002), the characteristics of the SMET managers can be aligned with those of the entrepreneurial school. This school combines the profile of each manager with the formation of strategy.

For it, the formation of strategy formation is a holistic process influenced by the decision-makers's intuition, judgment, technical and behavioral skills, as well as his/her knowledge and life experience.

The mental representation that each manager has for strategy for which evidence was found from the sample as a strategic perspective was that they expect that the organization's activities will follow from what was drawn up when planning. There is also the conceptualization that it serves to guide the company and helps to establish indices of assessment; other companies further reported: that planning emphasizes that their strategic objectives are focused on the years 2010 – 2014; and for others, the need arises to reposition the company's actions and to align ideas among everyone involved in the company.

This will cause the central vision of each contextualization to express how the strategy will be implemented in the SMET, and, furthermore, the way that the results will be measured, analyzed and provided as feedback to the company, if it is more in the style of democratic, authoritarian, transactional or situational leadership. As a result of this theme, what can be noted with respect to the degree of staff involvement in developing strategic planning, is that three companies consider this is fundamental, six of them consider such involvement is relatively important, and 4 do not consider this at all. This piece of data shows the relationship of how leadership as a result of the manager's understanding will contribute to strategic decision making.

Another point with the data sample is flexible and fewer hierarchical levels of SMETs. This can be used especially in the first years of implementing a strategic plan, since strategies are part of the manager's own level of mental abstraction, who can dictate the direction and the integration of SMET. But, at the moment that the SMET begins to expand there is the need for more formal procedures to control the implementation of strategies. Another obstacle lies in the fact that strategies have to spring from the behavior, knowledge and skills of an individual employees, which makes the company dependent on the wishes of that person, and fails to incorporate ideas and suggestions from varied sources of thinking.

According to the data sample the strategic planning has been contributing to improving the organization's relationship with its employees and promoting a collective awareness. It can give dynamism to the design a clear direction for a SMET's market position and the possibility of changing alternative strategies, without losing the results established by SMETs. According Andersen (2004) in dynamic environments, complex strategy formation processes are complement by decentralized decision structure with formal mechanisms of rational analyses and operational integration.

But in the same way, some negative characteristics can contribute to small businesses becoming vulnerable to the market risks of IT sector: lack of future vision; lack of time and resources, difficulty to establishing the strategic planning, monitoring and tracking the company's goals; employees' commitment. Each SMET manager should propose operational strategies and tactics to reduce their weaknesses. Thus, it is worth recalling some of the premises of the business school proposed by Mintzberg *et al.* (2002):

- Using the sense of direction in the long-term or of a vision of the future of the organization the manager proposes and making this available to SMET' employees;
- Drawing up strategy grounded on the manager experience;
- Proposing training for employees who need technical and behavioral skills;
- Implementing ways to measure and control strategies;
- Using the strategic vision in a flexible way on accordance with the uncertainties and risks of IT market;
- Active searching for new opportunities and have closer relationship with clients.

4.3. Positioning SMET in the matrix proposed

The diagnosis, showed in Figure 3 and Table 5, of the technological capacity of SMET was done using the proposed model with data crossing from tables 2, 3 and 4 in which it decided to consider the percentage of responses in relation to the average of the quadrant (Figure 2).

Table 5 – The percentual results

<i>Sum total of the weights by characteristic Planning</i>	<i>%</i>	<i>Sum total of the weights by characteristic differentiation</i>	<i>%</i>	<i>Sum total of the weights by characteristic control</i>	<i>%</i>
24	6,03%	24	5,97%	29	7,36%
27	6,78%	23	5,72%	21	5,33%
22	5,53%	21	5,22%	25	6,35%
23	5,78%	22	5,47%	27	6,85%
24	6,03%	27	6,72%	25	6,35%
30	7,54%	28	6,97%	22	5,58%
28	7,04%	25	6,22%	16	4,06%
22	5,53%	22	5,47%	29	7,36%
21	5,28%	16	3,98%	27	6,85%
19	4,77%	29	7,21%	28	7,11%
29	7,29%	27	6,72%	24	6,09%
27	6,78%	28	6,97%	23	5,84%
27	6,78%	26	6,47%	21	5,33%
22	5,53%	25	6,22%	22	5,58%
26	6,53%	30	7,46%	27	6,85%
27	6,78%	29	7,21%	28	7,11%
Total 398		Total 402		Total 394	

The six main results that SMET are oriented to strategic missions performed, it indicates: (1) adopted strategic postures; (2) had organic organization structures; (3) employed relatively innovation forces; (4) offered training to their employees; (5) offered relatively broad product lines; and (6) emphasized R&D activity geared toward the development and refinement of existing products. Managers must constantly deal with corrections or new strategies and make decisions about markets, customers, costs and productivity, legal aspects, and others. This requires the ability to respond quickly to prompt the competitiveness positions on long-term business.

According to Covin *et al.* (1994); Romano (1990); Harrisson and Laberge (2002); Six and Sorge (2008), the results of high tech firms expressed the dimensions of success, these companies are influenced by technology, competitive edge, R&D, innovation product life-cycle, market change, product/market mix and customer needs. The last one are the major determinant of product innovation which influenced SMET growth, to do so the leadership behaviour has influence management innovation, during this research we discovered that SMET managers can be aligned with the entrepreneurial school of Mintzberg *et al.* (2002). In the same idea, Vaccaro, *et al.* (2012) linked organizational size and influence the impact of leadership, their study indicates that smaller, less complex, organizations benefit more from transactional leadership in realizing management innovation, because can implement managerial activities to monitoring SMET progress towards the achievement and rewarding people according to their performance using extrinsic motivation to increase productivity to achieve goals.

5. Conclusions and limitations

Small and medium-sized high-tech companies have unique characteristics related to the size, structure, culture and resource constraints, which influence the way managers administer them. This mode of management determines the creation of competitive advantage. It is in this sense that strategic planning becomes important for this type of organization. However, this paper points out the boundaries of the main SMET strategic activities done. SMETs take a simplistic approach to working on their limitations, in which the analysis of strengths, weaknesses, threats and opportunities, drawing up statements on their mission and vision, controlling and monitoring strategy and implementing them represent the actions taken by the organizations analyzed. To prompting the development of strategic planning there is the need of organization's closer relationship with the market and with the SMET future vision. In some SMET there is the juxtaposition of managers' functions due to the characteristics of the organization itself. Other important data about the SMET managers are their difficulty of monitoring and controlling strategies. The cultural and structural constraints arise from the *ad hoc* style, in which the structure which has few hierarchical levels requires an accumulation of functions around the managers. The priorities that take up much of managers' time are on other less strategic actions, like as: selling, organizing meetings and maintaining contact with clients (NUTT, 2008). The characteristic of flexibility increase the SMET potential for innovation, leads to strategic planning being viewed as a management tool firmly focused on targets and goals. But, the analysis of competitors, suppliers and employees are not considered important to developing strategy.

Strategic planning is best viewed as a multidimensional phenomenon consisting both from stakeholders or environmental structure and internal conscious awareness (BLOODGOOD and MORROW, 2003). This fact corresponds the alignment of the strategic level of thinking when developing and aligning goals and objectives. SMET reviewed according to their need to improve business performance, in which have internal stimulus to achieve better results.

This study met its primary objective which was to assess qualitatively the use of strategic planning in high-tech companies, by identifying the SMET particularities and difficulties. This allows others SMET monitor the quality of the innovative product so that the first of these to reach the market can achieve the highest prices and the most robust sales in a short period of time. Another contribution of this model is the assumption of top management being actively involved. Despite the difficulties mentioned of attracting and retaining staff and the leaders themselves, the latter should act so as not to limit the creative capacity and skills of SMET staff. The limitation of this paper is to invest in more companies, using a classification methodology of decision making, which a multicriteria model. These two factors will be the basis for future analysis.

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