The Perception of Small and Medium Enterprises’ Managers in the city of Ouro Preto, A Humanity, Historical and Cultural Patrimony, Minas Gerais State, Brazil, about the Development of Strategies and Performance

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ABSTRACT

Background: In the scene of intense changes in the national and international economical contexts seems to be present in a more intensively form in businesses of small size, for the organizational structures characteristics of this business’ segment shows the survival and performance challenges against the dynamism and the strong competitively in the current organizations’ context. Objective: The objective of this research was to analyze the main aspects of the development of strategic actions in small and medium enterprises and evaluate which of these aspects are related to performance, having as the starting point the perception of their managers, in the municipality of Ouro Preto-MG. Results: By the multiple linear regression analysis technique, it was possible to verify that the predictive variables that are more correlated with perceived overall performance, indicate that the strategic formation processes’ characteristics that were observed in the participating enterprises, are related to the aspects of intentionality and pattern. The results that were obtained indicate that the intentionality, the pattern and the formality represent the aspects of developing strategies that are more common in the municipality’s small and medium enterprises, as well as those that are more related to the perception of performance by their managers. Conclusion: It is possible to conclude that the small and medium enterprises that were surveyed revealed that strategies are related to the idea of intention, verified by the variable that emerged in the multiple linear regression analysis: “strategy was exhaustively discussed before being adopted” presents a negative direction, indicating that the businesses have not changed the adopted strategies.

INTRODUCTION

In the scene of intense changes in the national and international economical contexts seems to be present in a more intensively form in businesses of small size, for the organizational structures characteristics of this business’ segment shows the survival and performance challenges against the dynamism and the strong competitively in the current organizations’ context. Cochia and Machado-da-Silva, (2004, p.12) point out that small businesses “need to understand that strategic thinking is increasingly taking on a relevant role in the organizations’ decision process”.

The strategy investigation field is very ample and complex, as well as there are several and plural significances and attributed approaches. The investigation about the strategies’ contents is related to ideas and their interrelationships, in other words, intentions, propositions and internal logic, mutual influences, articulations, eventual discrepancies, incongruities, translated, in a general manner, in the form of a mission, values, philosophies, objectives and a group of propositions and guidelines that are not formalized (Meirelles, 2003). Pinheiro (1996, p.47) declares that a “corporate strategy is that will allow, or not, a company to adapt to the changes that are caused, in these occasions, by situations that affect its structure and activity”.

It is undeniable the importance of the small and medium enterprises in the national economy as a mean of generation new jobs and an alternative of income for the social groups deprived of resources. The SEBRAE/DIEESE (2011), informs that, in Brazil, between 2000 and 2010, the small and medium enterprises
created 6.1 million registered jobs, raising the total of jobs in these businesses from 8.6 million working positions, in 2000, to 14.7 million in 2010. This agency also informs that nowadays the small and medium enterprises account for 99% of the firms that operate in Brazil, for 51.6% of the formal private sector jobs that do not belong to the agricultural segment, and for 40% of the payrolls. These data indicate the significant importance of the small and medium enterprises within the Brazilian economy.

Considering the roll that this organizational segment plays in the national economy, for it works as an alternative for a small portion of the Brazilian population to have their own business and, at the same time, as an alternative of having a formal job for a big portion of the population, this study has as its objective to analyze the strategy formation processes and its association with the small and medium enterprises’ performance, having as its starting point the perception of their managers, in Ouro Preto’s municipality.

The municipality of Ouro Preto was the first Brazilian city to be declared by the United Nation Organization for Education, Science and Culture, as a Humanity Historical and Cultural Patrimony, in the year of 1980. It is located in the central region of Minas Gerais state, or in the metallurgic macro region and the state’s mountain region.

A diagnosis of Ouro Preto’s municipality, carried out by the SEBRAE (1996), is the only study conducted up to now about this region, showing many adversities arising from the organizational context in which the small and medium enterprises are inserted. These adversities are related to the external as also to the internal environments, which reveal the great adjustment challenges of these organizations. In this sense, the study of strategic administration in small sized businesses in the Ouro Preto municipality can help to understand the factors that have influence in the behavior and attitudes in reason of the changes that characterize the globalized economy scenario.

Considering the Ouro Preto’s municipality’s diagnostic, done by the SEBRAE – MG, which points out the difficulties and challenges faced by the owners of small businesses and due to the complexity and dynamics that characterize the organizational context, this research presents the following question: Which characteristics or the strategic development process in small and medium enterprises that are associated with performance in their managers’ perception?

The proposal of investigating the development of strategies in small and medium enterprises can contribute to the comprehension of this organizational segment’s behavior, which has a prominent economic and social importance in Brazil, since it is responsible for a big portion of the formal jobs, contributing towards the income generation for a great part of the population. The small and medium enterprises also represent a business alternative with an entrepreneur characteristic for the public with limited resources, but that have the objective of developing their own business.

In this sense, the investigation in the strategic administration field can contribute to increase the knowledge about the strategic development process in small size businesses in this municipality, with the objective of analyzing how they are constituted and how they relate to the performance’s perception by their managers, in the perspective of their best performance and their competitively in regards to their challenges in the external and internal environment, that characterizes this organizational segment in Ouro Preto’s municipality.

**Theoretical Reference:**

**Small and medium enterprises: approach and range:**

The lack of definition to classify the MSFs is due to the diversity of criteria that were originated from the specific legislation of the official financial institutions and of the sector’s representative organs, which sometimes are based on the value of sales, and other times on the number of occupied people.

Pinheiro (1996) informs that the characteristics of a small size enterprise in the business area are usually delimited by the following factors or conditions: the firm belongs to an individual or a small group of people; it is run by the owner in an independent manner and even when he or they are professionalized, he/she maintain themselves as the main center of decisions; its capital is basically financed by the owner(s); has a limited occupation area, usually where it is located or, at the most, the region where it is located; its productive activity does not occupy a prominent position or predominance with relation to the market.

About the small businesses’ specifications, Ricci (2010) notices, in this group’s literature, three approaching dimensions of the small firms’ specificities: 1) Manager: that is related to the businesswoman’s personnel characteristics. In this dimension, the objectives of the small firms are confounded with those of their managers. The manager acts according to his principles, intuition, instinct and impulse. He is a centralizer, accumulating several functions, depends on certain types of employees, low level of specialization, little or no knowledge about managing instruments, has several activities and is responsible for developing strategies (Gomes, 2000; Escrivão Filho, 1995). 2) Organization: that is related to the internal aspects, which are the result of the labor division, departmentalization and the interaction of people. Small businesses do not present a sophisticated administrative structure, having a less complex vertical (number of management levels) and horizontal (positions and departments) (Gomes, 2000; Ricci, 2010). 3) Context: that is related to the external environment, reflected in the strategic process, although it is not controlled by the individual actions of the firms’ managers (Gomes, 2000).
A big number of scholars have tried to evaluate the relationship between the strategic formation processes in small size enterprises. Far from reaching a consensus, it is possible to verify, however, that the aspects resulting from their structures is what characterizes them, (the environment, business sector, the informality or formality in the strategic formation processes), and characterize the studies that were carried out in this field of research. Hessel and Paiva (2006), when investigating how the businesses of small size develop their strategies in order to allow them to have a good performance for a long period of time, highlight the problematic context in which they act, characterized by low entrance barriers, an intense competitive process, average or low profits and fragmented sectors.

Lopes (2009), when trying to prove the impact of the strategic administration processes in the small businesses, informs that the studies that were done by the SEBRAE (2010), show that the small businesses formulate their strategies according with the perceptions of the market’s reactions, or, in other words, small firms are usually followers of the large organizations’ strategies and align their objectives and structure according to the moment that the market is in. Hofer et al. (2010), when elaborating a study about strategy formation and entrepreneurial attitude, questioned if the entrepreneur’s perception about the reference environment affects the adoption of the type of strategy, in other words, if the entrepreneurial attitude affects the strategy’s contents. Cochia and Machado-da-Silva (2004), when verifying the interpretive schemes as strategy mediators of managers of small businesses in the clothing and food sectors in the State of Paraná, due to technical and institutional pressures, observed that the occurrence of strategic positioning is similar in a group of organizations that work in the same sector, and that the strategic positioning is different in groups of organizations from a different environmental context.

Investigating the reaction of small and medium sizes companies from the electric/electronic sector with regards to the strong competitive environment, threats and perceived opportunities, Jansen et al. (2005) highlights the strategies’ emergencies that are directed to alliances, as well as innovation and product differentiation.

The following investigation seeks to understand the formation of strategies in small and medium enterprises in Ouro Preto’s municipality, associated with the businesses’ performance perception by their managers. In order to classify the small and medium enterprises that are being investigated in this study, the SEBRAE’s criteria was used, according the establishment’s classification by the number of employees: industrial small and medium enterprises with up to 19 employees and in trade and services with up to 09 employees; small businesses of the industrial sector having between 20 and 29 and, in the trade and service sector from 10 to 49 employees.

**Strategy: concepts and formation:**

It is understood that the origins of thinking and acting strategically, it principles, ideas and concepts applied to the government, diplomatic and business purposes, are based on military actions. The study about business strategy started in the first half of the XX century, through business policy courses in the USA. According to Meirelles (2003), it was during the decades of 1950 and 1960 that the concept of strategy started to be part, in a definite way, of the business world and began to be part of the business schools curriculums. For the author, strategy as a business and managerial practice discipline, spread during the 1960 decade, with the strategy planning methodologies.

Several authors define strategy starting from different perspectives and dimensions. Some emphasize strategy in a rationalistic-mechanistic perspective (Meirelles, 2003). Others use an ethnographic and symbolic approach to investigate the non-rational aspects. Others try to conciliate both (MEIRELLES E GONÇALVES, 2006; Meirelles, 2003). In any case, these authors contribute and have contributed to broaden the vision about the strategic administration’s scientific investigation.

For Chandler, apud Pugh and Hisckson (2004), strategy would be the determination of goals and objectives in long-term bases, together with the adoption of action lines and the allocation of resources in order to reach these objectives. The structure, in its turn, would correspond to an organization established to manage the activities that arise from the adopted strategies. The structure would match the strategy as an answer to the pressures coming from the external environment. Starting from the positive strategies, the firm would try to penetrate new markets and develop new products. The defensive strategies, on the other hand, would be used to defend a market position.

Strategy is, for Mintzberg and Quinn (2001), the pattern or plan that integrates the main standard or plan that integrates the main goals, policies and sequence of actions of an organization in a coherent form. A well formulated strategy contributes with the organization and allocation of an organization’s resources in order to facilitate, based on its internal competencies and deficiencies, the adjustments caused by the changes in the environment and the contingent arrangements carried out by their opponents.

The knowledge of the competitive pressures’ basic sources propitiates the initial work for the development of an agenda for the strategic action. They accentuate the critical efforts and the firm’s weak points, give life to the firm’s positioning in the sector, show clearly the areas where the strategic changes may offer bigger
advantages and accentuate the places where the tendencies of the sector are more promising, which can be seen as an opportunity or a threat. Understanding these sources can also become of great help, when, in the future, these areas could be taken into consideration for diversification (Porter, 1998, p.12).

For Mintzberg (2001), it is possible to apply five definitions of strategy in the management field: strategy is a plan when it implies in some sort of conscious action with the intention of dealing with a determined situation; strategy is a standard when it implies in a behavior recurrence in the organization, whether desired or not; strategy is a pretext when a conscious and deliberate action is a trick, a bluff; strategy as a position is the manner in which an organization puts itself in the environment; strategy as a perspective reveals a manner of seeing the world.

The thought and the strategic action also can be identified through two perspectives. The rationalist perspective addresses the strategy’s formulation and implementation in organizations by the rationality bias of the procedures that were objectively constituted. This approach favors the strategies’ formation, starting from the objectives, methods, programs and action plans that were clearly defined. The strategic formulation, from the prescriptive or normative schools, such as the design school, the planning school and the positioning school, favors this model of field approach. Within this perspective, there is Henderson’s (1998) approach, which shows strategy as a deliberate search of an action plan to develop and adjust a firm’s competitive advantage. Another perspective emphasizes the strategic thought and action as a product of a social, economic and cultural process that was historically constituted, in other words, it is constituted starting from the relations that are formed daily in defined social contexts.

From the organizational strategies’ procedural point of view, the strategies can be deliberate or emergent. The deliberate strategies are those whose intentions were firstly performed. The emergent strategies are those that appear in the absence or in spite of the intentions, when they were not carried out (Mintzberg, 2001). For Mintzberg (2001), for a strategy to be really deliberate, it is necessary that the established intentions by the management to be accepted by all the organization’s members and performed as initially planned, with the intervention of political, technological or market forces. Likewise, the strictly emergent strategies would constitute a consistent action pattern, which would appear without any intent of suggestion.

In the same manner, Minzberg (1998) clarifies that there are no pure emergent and deliberate strategies. The author explains that nobody has enough knowledge to predict events beforehand, to ignore the need of learning during the whole process and not to be flexible enough to relinquish control of the organization.

Mintzberg, Ahlstrand and Lampel (2000) carried out an ample literature revision about strategy management and presented a model that has ten schools of strategic formation that are classified into two groups: Prescriptive Schools; Descriptive Schools. In the prescriptive group there are the Design school, Planning and Positioning School. Now, in the descriptive group, the authors point out the Entrepreneurial, Cognitive, Learning, Power, Cultural and Environmental Schools. Furthermore, the authors propose a Configuration School as a form of reconciliation between all the mentioned schools. In each of these schools, strategy configures itself in a different form, starting from the distinctive characteristics of each organization.

**Organizational Performance and Small and Medium Enterprises:**

Management, in the words of Pinheiro (1996), should be understood as a dynamic process by which individuals use human and material resources with the objective of obtaining solutions for projects and institutional problems. In this sense, the organizational performance analysis is essential to evaluate the organizations’ management behavior, aiming in reaching the organizations’ objectives.

As declared by Pinheiro (1996), efficiency, efficacy and effectiveness are the three approaches in the scientific management, which try to explain or represent the organizational performance. The primary organizational performance approach is efficiency that can be understood as the adequate use of the organization’s available resources. In this sense, an efficient manager is the one that is capable of minimizing the cost of the available resources to reach his/her goals (Pinheiro, 1996). Efficacy, on the other hand, emphasizes the achievement of results. Effective management is the one that seeks to fulfill the established objectives in order to reach the desired results. The effectiveness is another criterion with regards to organizations’ performance. This approach takes into consideration the organization’s capacity in answering the clients’ needs and demands. In this perspective, the organization’s structure should take into consideration the active participation of its clientele when defining its objectives and evaluating results.

The organizational performance can also be understood as a group of results that the organization will be active participation of its clientele when defining its objectives and evaluating results. In this perspective, the organization’s structure should take into consideration the clients’ needs and demands. In this perspective, the organization’s structure should take into consideration the active participation of its clientele when defining its objectives and evaluating results.

The organizational performance evaluating processes encounters strong challenges due to the scarce of human resources, as well as the lack of qualified workers, as pointed out by Ricci (2010).

Pinheiro (1996) stresses that the impact that the environmental factors (internal and external) have over the small and medium enterprises, represents a great challenge to these originations’ performance. These factors,
related to productivity, innovating capacity and the companies’ competitive level, can influence, to a greater or lesser degree, the performance of small businesses. According to the author, the difficulties that small businesses encounter are apparently trivial, for they are ordinary and daily. But, to overcome them, in a better performance perspective, it is essential for a competitive position in the market where it operates.

The performance measuring systems (PMS) are tools used to help an organization to reach the results that were planned by the strategy’s execution. Queiroz (2006) points out that, nowadays, organizations adopt the PMS to help them in several purposes and not only to control their results. One aspect related to the PMS is the implementation and the validation of the organizational strategies.

There are several systems of performance measurement. According to Ricci (2010), the studies about performance measuring models, take into consideration the formulation, characteristics, focus, scope, assumptions, stages and critical success factors. The performance indicators are important to the organizations, to the extent that it contributes to the success of the organizational plan and control, by means of establishing measurable goals and presenting results by the use of indicators, providing an instrument for a critical analysis of the organization’s performance (Ricci, 2010).

Pinheiro (1996) also declares that several authors have used subjective measures to evaluate companies’ performance, especially those of small size, due to the notorious difficulty in obtaining sufficient and accurate data about them, with regards to their financial and operational activities.

**MATERIALS AND METHODS**

This research’s methodology is orientated on the reproduction of the investigated model proposed by Santos, Alves and Almeida (2007), of a research performed in small and medium enterprises in the center-west of Minas Gerais state. To identify and analyze the strategy formation process, a descriptive research was performed, using the quantitative approach. The data collection instrument that was used was a structured questionnaire with forty-one items and was applied by means of a survey.

The sample was of a non-probabilistic type, which took into consideration a population of 614 small and medium enterprises in the Ouro Preto City Hall’s taxpayers’ records. A total of 109 questionnaires were collected from the total that had been distributed to the businesses based in the city of Ouro Preto and in its districts of Cachoeira do Campo and Amarantina.

For the predictor variables that make up the block of strategy formations, a Likert scale of 5 points was used. To measure the general performance, a request was made to the respondent to give a grade of 0 to 10 for the business’s performance during the last three years (Q33) and another two items related to the performance block using the Likert scale. The statistic techniques that were used calculated a global measurement for the general performance, recognizing that it would work as an indicator for multiple and discriminant regression analyzes. The calculus considered the simple arithmetic average of the Q33, Q34 and Q 35 answers (described in Table 1), that are the dependent variables of the performance block. The formula was: Performance = \((Q33/2+Q34+Q35)/3\).

To investigate the degree of each one of the 32 items in the strategic formation that have influence on the perceived general performance’s variable, a multiple linear regression model was used, as well as a variance analysis (ANOVA). To identify the variables with a greater discrimination power over the respondents’ groups with a performance below average and with the performance above average based on the perceived overall performance indicator, a discriminant analysis was carried out using the stepwise method.

The independent variables (X) listed and applied to describe the strategy’s formation process in small and medium enterprises, corresponds to the four analyses’ dimensions, namely: 1) analysis and comprehension of the external and internal environment; 2) elaboration and conception of ideas and decisions; 3) strategy’s implementation and control; 4) strategies’ interrelationship with the internal and external structures.

Initially, a descriptive analysis was performed with the objective of characterizing the respondents and the businesses’ sample, and to achieve that, a frequency of distributions was used for the qualitative variables (Qa1 and Qa6). For the multivariate analysis a multiple linear regression technique was used, that took into consideration the strategy formation process’ variables in the study and in the performance. The final model will be the one that presents the adjustment of these independent variables at the significant level of 5%. A discriminate analysis technique was also applied to determine the indicators that differentiate the groups of businesses with higher and lower averages.

Contingency tables were used to associate the business’ performance (below or above average) with the following variables: number of employees and length of time the business operates. Fisher’s chi-square test was adopted to test the association’s statistical significance between these variables. The research’s data were treated in the 17.0 Statistic Package version for Social Sciences (SPSS). In all the statistic measurements that were used the significance level of p<0.01 and p<0.05 were considered, representing confidence percentages of 99.0% and 95.0%, respectively.
In the Humanity Historical and Cultural Patrimony City – Ouro Preto-MG – the small and medium enterprises’ profile:

The Ouro Preto municipality is in the central region of Minas Gerais state, or in the metallurgic macro region and mountain region of Minas Gerais. The municipality’s territory is about 1,274 square kilometers, having 10 districts other than the headquarters, that are: Amarantina, Antônio Pereira, Cachoeira do Campo, Engenheiro Correia, Glaura (Casa Branca), Lavras Novas, Miguel Burnier, Rodrigo Silva, Santa Rita de Ouro Preto, Santo Antônio do Leite, Santo Antônio do Salto and São Bartolomeu.

According to the Statistic and Geography Brazilian Institute’s (Instituto Brasileiro de Geografia e Estatística) census, carried out in 2010, the population of Ouro Preto’s municipality is of 69,598 inhabitants (IBGE/2010). The Municipalities’ Annual Data Directory, published in 2011 and produced by SEBRAE-MG’s Business Intelligence Unit, informs that the municipality has 2,128 small and medium enterprises, with an occupation of 5,404 formal jobs (SEBRAE/DIEESE, 2011).

The Ouro Preto’s Municipality’s Diagnosis performed by the SEBRAE in 1996 (SEBRAE, 1996), jointly with the Ouro Preto’s City Hall, the Commercial and Industrial Association and the Ouro Preto’s Development Agency, had as its objective to find out the municipality’s social and economic characteristics, indicating the vocation, opportunities, deficiencies and threats. This study presented conclusions and strategic recommendations for each economic sector that was researched.

With regards to the agribusiness, the study showed that a big part of the territorial extension is occupied by only a few owners, having soils with little suitability for agricultural exploration, and with a majority of the producers with a traditional profile – most of them small farms. The industrial sector was characterized as being the most expressive in the municipality’s economy. The mineral extraction activities are performed by large companies, national and foreign, with their decisions being made in other places. The commercial and service sectors, on the other hand, are divided in two groups of companies: those that are directed to serving the local population and those that offer service to tourists in a specific and preferential way.

The first group is formed by small and medium enterprises, family run and traditional, being that most of them work to meet the local inhabitants’ necessities. This group suffers with the big competition of the companies that are located in the state’s capital city as also from the larger companies. According to the diagnostic that was made at the time, the development of this group in the sector was not be significant, with the exception of the services linked to the educational activities. The second group, on the other hand, presented strong comparative advantages, since the city is known in Brazil and abroad as a tourist destination and that its image with the tourists is positive and tends to get stronger. The SEBRAE’s study, however, detected a low level of professionalization, the seasonality characteristics, the presence of mass events with non-desirable effects, the existence of a part of the population against the development of tourism, the lack of infrastructure and the excessive disconnection between the sectors, institutions and local leaders were the main barriers for the sector’s development.

Results:

This research is integrated by a sample of 109 firms, consisting in terms of size, of 44 organizations with 1 to 5 employees (40.7%), 25 organizations with 10 to 19 employees (23.1%), 20 organizations with 6 to 9 employees (18.5%) and 12 without employees (11.1%). It is possible to observe, according to the data’s distribution, that 29.6% of the sample is composed of small businesses that have between 10 to 49 employees. The predominant business sector was of the retail business, represented by 61 businesses (58.7%), followed by the businesses that offer services, with 31 (29.8%) and of the industrial products, with 12 (11.6%). As to the time of market performance, 38.5% of the participating businesses shown in the research, are more experienced, with 11 or more years functioning; the rest of the sample was divided by businesses with less experience (up to 5 years working in the market), with 41.3% and with medium experience (with 6 to 10 years working), with 20.2%. As for the respondent’s position in the business, it was possible to verify that 28.4% are business partners and those that are the only owners, represents 24.8%. According to information given by the respondents, 22% are employees and 14.7% are managers.

Descriptive Analysis: Strategic Formation and Performance Perception Process:

In this section, the data corresponding to the questionnaire block were analyzed, being part of those that deal with the strategic formation process. This part of the questionnaire was represented by a scale of answers that had the objective of evaluating the degree of agreement of the research’s participants with relation to the 32 questions that are related to the strategic formation process. In order to synthesize the information, it was decided to establish the sample’s position by using positioning measurements in order to describe the central tendency and the dispersion, with the objective of identifying the data’s variations. The adopted positioning measurements were the medium and the media, which are indicated for the interval type scales.

The interquartile interval (P25 and P75) and the standard deviation were used as dispersion measurements, because it represents well the data’s disposition in an order of magnitude and shows itself adequate for the
intervallic scales (Malhotra, 2001). According to the data’s descriptive analysis, the respondents explicated significantly that the idea of strategy started from evaluating the business’s abilities and its internal competencies (strong and weak points), with a medium of 3.74 represented by the question (Q20), and that the same question was divided into goals, action plans and budgets, with a medium of 3.68, represented by the question (Q21), being that creativity and intuition were essential for the strategy’s formation, with an average of 3.64, represented by the question (Q7), and analysis were made with criterion, carefulness and detailed about the external environment, which orientated the decision of adopting a strategy, average of 3.64, represented by the question (Q11), being all of these dimensions used to set up the variables’ block about the strategic formation process. Finally, it was possible to notice that the knowledge about the market that was already accumulated in the business was more important for the decision of adopting a strategy than researches and formal analysis, with an average of 3.61, represented by the question (Q15), and that the adopted strategy had the objective of exploiting the opportunities perceived in the environment in which the business worked, average of 3.59, represented by the question (Q17), indicating the appearance of the strategic formation.

With regards to the performance perception, the respondents gave more importance to the following questions: performance during the last three years (8.14), the business’ general performance with relation to the personnel expectation (3.48), the overall performance with relation to the competitors (3.47) (TAB. 1).

Table 1: The Sample’s Distribution according to the performance’s perception.

<table>
<thead>
<tr>
<th>Performance Perception</th>
<th>N</th>
<th>Average</th>
<th>P25</th>
<th>P50</th>
<th>Median</th>
<th>P75</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q33In a scale of 0 to 10, give a grade for your business’ performance during the last three years.</td>
<td>101</td>
<td>8.14</td>
<td>7.00</td>
<td>8.00</td>
<td>9.00</td>
<td></td>
</tr>
<tr>
<td>Q34How was your business’ performance with relation to your expectations?</td>
<td>101</td>
<td>3.48</td>
<td>3.00</td>
<td>3.00</td>
<td>4.00</td>
<td></td>
</tr>
<tr>
<td>Q35How do you evaluate your business’s general performance with those of your competitors?</td>
<td>101</td>
<td>3.47</td>
<td>3.00</td>
<td>3.00</td>
<td>4.00</td>
<td></td>
</tr>
</tbody>
</table>

Source: Data from the research/2012

The Multiple Linear Regression Analysis: the different perspective of strategy formation and performance:

The multiple linear regression analysis, used in the research, had as its objective to examine the relation between the predictor variables that were more significant in the strategy formation process and that were considered in this study, and that also had influenced the businesses performance of those that were part of this research. A global measurement for perceived general performance was calculated starting from a simple mathematic average of the questions Q33, Q34 and Q35, that worked as an indicator. Following, each strategic formation process was examined with relation to a dependent variable (performance) in order to decide which of them would be selected to be part of the final regression equation. The selected variables for the multiple regression analysis were based on the simple linear regression technique with the p-value < 0.05.

Considering the significance level, according to the simple regression analysis, the questions: Q4 (strategy was thoroughly discussed, according to the research’s results before being adopted); Q8 (when making decisions, the groups and individuals’ powers had more weight than the objective information); Q26 (the strategy implementation’s accompanying and evaluating agenda was fulfilled); Q27 (strategy represented changes in relation to the strategies that were prevailing up to then in the business); and Q32 (strategy represented an innovation change with relation to what the market was practicing up to then), have influenced significantly, in average, the performance variable.

In the analysis that was concluded at that moment, it was admitted that there were 5 covariates that have influence on the dependent performance variable. In this case, the interest is to find out which model is the most parsimonious, that is, with the smallest number of independent variables that allows the interpretation of which strategy formation process’ characteristics are associated to the business’ performance perception by their managers and that also adjusts well with the data. To select the best model, in this case, one would have a large number of combinations until the best model would be found. It was proposed the use of a maximal model, being that this model uses all the independent and significant variables for the Performance variable.

It was possible to notice that three covariates are relevant in order to explain, as a group, the dependent variable (performance) that, in this case are: Q4: strategy was thoroughly discussed before it was adopted; Q27: strategy represented changes with relation to the strategies that were used in the business then; Q32: strategy represented an innovating change with relation to what the market was practicing up to then.

The explanation power of the regression equation was only moderate, as it can be verified by the adjusted regression coefficients’ values (R2) of 22% for the dependent Performance variable, which means that 22% of the performance variable’s variance can be explained by the predictor’s (independent variables) found in the regression model. The greater the value of R, greater is the explanation power of the regression equation and, therefore, better is the dependent variable’s prevision. On the other hand, the adjusted determination coefficient, (R2 adjusted) is interpreted in the same way as the R and becomes smaller since it has fewer observations by..
each independent variable (HAIR et al, 2009). Thereby, the value of the moderate explanation power given by the adjusted determination coefficient (R2 adjusted) finds support in the size of the sample, where it was possible to verify 88 complete cases (questionnaires completely answered). The VIF values that were found, suggests that the multi-collinearity impact found among the independent variables was not big, since the values that were found are not distant from 1. A multiple linear regression model was run, excluding the covariates in which a p-value showed a value superior to 5% in the maximal model. As a result, the best model is represented in the Table 2.

<table>
<thead>
<tr>
<th>Strategic Formation Predictors</th>
<th>Performance Dependent Variable β PADRONIZED</th>
<th>VIF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Question 4</td>
<td>.189*</td>
<td>1.012</td>
</tr>
<tr>
<td>Question 27</td>
<td>-.296**</td>
<td>1.010</td>
</tr>
<tr>
<td>Question 32</td>
<td>.241**</td>
<td>1.020</td>
</tr>
<tr>
<td>R</td>
<td>.174</td>
<td></td>
</tr>
<tr>
<td>R' adjusted</td>
<td>.147</td>
<td></td>
</tr>
<tr>
<td>F</td>
<td>6.341**</td>
<td></td>
</tr>
</tbody>
</table>

Source: Data from the research/2012. The values that were put in the table correspond to the coefficients Standardized Beta calculated in the significant levels p < .05* e p < .01**. The initials VIF (Variance Inflation factor) is about the multi-collinearity indicator among the independent variables, where the high values above 1 indicate the presence of this situation (Hair, 2009). The value of F indicates the intensity and significance of the association between the variables that were involved in the regression.

As observed in the TABLE 2, the change with relation to the existing strategy in the business, represented by the question Q27, and the innovating change with relation to the market, represented by question Q32, were the strategy formation predictors that had a better relationship with performance, however, the strategy that was thoroughly discussed and presented by the question Q4, was the less significant. The explanation power of the regression equation was weak, as it is possible to verify by the adjusted regression coefficients values (R2) of 0.147 for performance. The VIF values that were found suggest that the multi-collinearity’s impact among the independent variables was minimal, since the values that were found are not far from 1. This is an important data, for it is possible to verify the adequacy of Meirelles original scale and suggests the relevance of using this model in a quantitative type study on a more representative sample. The negative statistic relationship that was observed suggests the possibility of the existence of a group of researched respondents that perceive that the better performance of the business is associated to the maintenance of the current strategies. On the other hand, the strategy’s relation with the context, represented by question 32, seems to be a strategy formation process’s variable that presents a greater correlation with the business’ performance.

**Discriminant Analysis: the different perspectives in the strategy formation and performance:**

The discriminant analysis that was used in this research, had as its objective to examine the strategy formation’s predictor variables that were considered in this study, which had over the participant businesses two performance groups, that were considered to be lower or above average. The parameter that was used here to classify the two groups was the overall perceived performance. After the performance variable’s global average was calculated, considering a group of 101 respondents from the sample, each one of the businesses was classified in the following manner: Performance below average – The perceived business’ global performance was lower or equal to the global average; Performance above the average – Performance above average – The perceived business’ global performance is higher than the global average. The ANOVA technique was applied in order to identify the differences of the groups’ averages above and under the average, with relation to the performance variable. In a comparative analysis between the businesses’ groups and the performance above and with the performance below the average, it was detected a significant difference, for the test presented a level of trust in the order of 99% (value-p < 0.001**).

The results of the discriminant analysis, by means of the stepwise estimation, shows that 3 independent variables (Q20, Q27 and Q32) discriminate the dependent variable (performance – above or below the average). It is important to point out that two of these variables (Q27 and Q32) are the same that composed the multiple linear regression model and that presented themselves as the main dependent predictor variables (performance). The Table 3 presents Wilk’s Lambda’s statistics and the significance level of each selected variable in the chosen model. It is important to consider that the Wilk’s Lambda’s statistic indicates ability in each variable, and analyzes separately to discriminate groups. The smallest Wilk’s Lambda values are those that present a discriminant function.

It was verified a canonical correlation of 0.466. It is possible to interpret this correlation by raising it to the square. Thus, 22% of the dependent variable variance (performance) can be explained by this model in which it includes three independent variables. In other words, the questions: (27) strategy represented changes with relation to the business’s current strategies, (32) strategy represents an innovating change with relation to what the market was practicing up to then, (20) the business’ evaluation of its abilities and competencies (strong and
weak points) orientated the choice of strategy and can explain in 22%, the differences between the classified respondent groups with performance above or below the average. Although the research’s variance percentage can be considered as a lower power, but as it is a research in social sciences, it is possible to say that the collected data and the discriminant factors that were obtained, are important elements to understand the association between the strategy formation and the performance perception, above or below average, by the small and medium enterprises’ managers.

Table 3: Results of the stepwise discriminant analysis.

<table>
<thead>
<tr>
<th>Step</th>
<th>The Variable’s Entrance</th>
<th>Wilks’ Lambda</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Q27 Strategy represented changes in relation to the current strategies in the businesses.</td>
<td>.879</td>
<td>.003**</td>
</tr>
<tr>
<td>2</td>
<td>Q32 Strategy represents an innovating change with relation to what the market was practicing up to that moment.</td>
<td>.831</td>
<td>.002**</td>
</tr>
<tr>
<td>3</td>
<td>Q20 The business’ evaluation of their abilities and competencies (Strong and weak points) orientated the choice of strategy.</td>
<td>.783</td>
<td>.001**</td>
</tr>
</tbody>
</table>

Source: Data from the research/2012. The significant results were identified with asterisks, according to the level of significance, namely: p-value < 0.01** (99.0% of level of trust) and p-value < 0.05 * (95% of level of trust).

The canonical correlation coefficients that were found, including the three selected variables by the stepwise procedure, indicate that the discriminant functions have a high degree of significance, in spite of the low prevision power. The coefficients’ standardized canonical discriminant functions. This table shows that the variables Q20 – “The business’ internal abilities and competencies (strong and weak points) orientated the strategy choice.” – and Question 32 – “Strategy represents an innovating change with relation to what the market was practicing up to then.” –, are the ones that have the smallest contribution and, also, similar to each other in the discriminant function 1 (0.531 and 0.545, respectively). Following, the Q27 variable is shown – “Strategy represented changes with relation to the strategies that were currently being used in the business”, with a larger contribution and, also, negative, indicating a discriminant in the contrary sense (inverted – greater Q27, performance below average; performance above average) than those of the other variables.

This data confirms the analysis that was obtained with the multiple linear regression technique where it is possible to infer that the strategy’s maintenance is a factor that is associated to the best performance of the businesses that were researched. Starting from the discriminant functions, the discriminant scores for each observation that was made was calculated, which would allow, in this manner, to classify if an observed value in the independent variables was originated from a business with a performance above or lower than the average. To reach this result, a general formula of the discriminant function was used, which coefficients are described in the Table 4.

Table 4: Fisher’s linear discriminant function.

<table>
<thead>
<tr>
<th>Variables</th>
<th>Performance</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Below average</td>
</tr>
<tr>
<td>Q 20 The evaluation of the business’ internal abilities and competencies (strong and weak points) orientated the choice of strategy.</td>
<td>3.554</td>
</tr>
<tr>
<td>Q 27 Strategy represented changes in relation to the business’s current strategies.</td>
<td>3.753</td>
</tr>
<tr>
<td>Q 32 Strategy represents an innovating change with relation to what the market was practicing up to then.</td>
<td>3.984</td>
</tr>
<tr>
<td>Constant</td>
<td>-24.341</td>
</tr>
</tbody>
</table>

Source: Data from the research/2012.

It is possible to verify that the percentage of the group’s elements with performance below average, correctly classified after the discriminant analysis was applied, is of 70.4%, while the accuracy percentage for the group with performance above average is of 63.4%. Thus, in average, 67.4% of the elements were correctly classified after the discriminant analysis was applied.

According to Hair et al. (2009), the researcher should calculate the reason of success (percentage correctly classified) of each group and evaluate if the discriminant analysis offers adequate levels of predictive accuracy both in the overall level as in each group’s level. It is in this sense that the Q of Press is applied to investigate if the classification percentage is suitable when compared with an odds model (random). This measurement compares the number of correctly classified with the size of the total sample and the number of groups. The value that was found for the Q of Press statistics was equal to 11.46. Since this value exceeds the critical value of 6.63 at a significant level of 1%, it is possible to conclude that the clients’ discrimination in the both groups was significantly better than in a distribution in a chances model (random). Although the percentage of elements that were correctly classified, after the technique was applied (67.4%), it may seem low but, when applied in practical cases of the discriminant analysis technique in social sciences, it is common to find this kind of values.
Also, a contingency table was used to associate the business’ performance (lower than the average and above the average) with the following variables: number of employees in the business and length of time the business operates. The Fisher’s chi-square test was adopted to test the statistical significance of the association between these variables. To analyze the association between the overall performance and the number of employees in the company, it is observed that these variables are independent of each other, in other words, they are not related, since p-value was greater than 0.05. Therefore the amount of employees in the company has not shown itself as a significant factor in determining the company’s performance.

As far as the intersection between overall performance and the time that the company operates, it is observed that these variables are independent of each other, in other words, they are not related, since p-value was greater than 0.05. Therefore, the time that the company operates in the market has not shown as a significant statistical factor for determining the company’s performance.

**Comparative Analysis of the Model Applied in the Center West Mining:**

In this section, the results that were obtained from the statistical treatment applied to the sample in the center-west of Minas Gerais and the sample in the city of Ouro Preto, were briefly analyzed. In the research undertaken by Santos, Alves and Almeida (2007) the multiple linear regression analysis was applied in the two scenarios with the objective of examining the relationship between the predictive variables of more significant in the strategy formation process that were considered in the study and that had influence in the businesses’ performance that took part in the survey. The best model found by Santos, Alves and Almeida (2007) presented the following independent variables, that showed themselves to be more significant when related to overall performance perceived: the strategy, once conceived, was split into goals, action plans, budgets (Q21), the strategy represented an innovating change with relation to what the market was practicing up to then (Q32) and at least, initially, the idea of the strategy was received with distrust by some of those who participated in the decision of adopting it, (Q28).

When compared with the data that was obtained in the survey that was conducted in Ouro Preto, and with the data that were obtained in the center-west of Minas Gerais, it is possible to observe that the question 32, (strategy represents an innovating change with relation to what the market was practicing up to then), shows itself significant for both the scenarios. It is clear, in this manner, that the idea of strategy as a change and as an innovation is associated to the performance perception by the small enterprises’ managers, both in Ouro Preto as in the center-west region of Minas Gerais. The other two variables that showed themselves to be significant when related to performance in the central-western region, revealed two aspects, namely: strategy associated with the formal and rational aspects, as, for example, the implementation of goals and plans, and, on the other hand, emphasizing the negative direction of the regression coefficient of the question 28, being possible to say that the resistances resulting from the prospects of changes do not constitute a characteristic associated with performance.

As for the Ouro Preto municipality, it was found that the question 27 with negative direction of regression coefficient, allows us to say that the strategy does not represented changes in relation to the strategies that were until then prevailing in the company (Q27), in other words, strategy when associated to performance is perceived as being a pattern. In relation to question 04, (strategy was exhaustively discussed before being adopted) also reveals a characteristic related to process’ intentionality, formality and rationality when developing a strategy.

The discriminant analysis about the sample that was collected in the center-west of Minas Gerais, revealed that the same performance predictor variables that emerged from the multiple linear regression analysis, were the same that showed the greatest discriminatory power of the dependent variable (above or below average). It is also possible to observe that the characteristics related to the aspects of intentionality, formality and rationality that stand out in the strategy formation processes when associated with the small and medium enterprises’ managers’ perception. These characteristics are present in the survey conducted by Santos, Alves and Almeida (2007) in the center-west of Minas Gerais, as well as in the survey conducted in the municipality of Ouro Preto.

**Conclusion:**

This study had as its objective to analyze the strategy formation processes associated to the small and medium enterprises’ manager’s performance perception in the Ouro Preto’s municipality, as well as to identify which characteristics of the strategy’s formation processes are associated with performance above and below average. For this, the Santos, Alves and Almeida’s (2007) model was reapplied.

By the multiple linear regression analysis technique, it was possible to verify that the predictive variables that are more correlated with perceived overall performance, indicate that the strategic formation processes’ characteristics that were observed in the participating businesses, are related to the aspects of intentionality and pattern. It is not possible to say with accuracy to what extent these strategies are more deliberate or less emergent, however, as pointed out by Mintzberg, Ahlstrand and Lampel (2000), little or no strategy is purely deliberate, as only few are totally emergent.
On the other hand, as a contribution to the field of strategy studies, the research seems to indicate that the comprehension of the elements that are related to the context (external and internal environment) has influence over the performance perception in the businesses. This aspect is presented in consonance with the researches about strategies formations in small and medium enterprises, where it is possible to point out the environment impact over the organizations’ performance.

To verify to which extent the strategy formation processes have influence in the businesses’ performance perception, above or below average, a discriminant statistical analysis’ model was used. The variables that emerged from the application of this technique indicate that the characteristics that best discriminate the performance perception above or below average, are related the strategic aspects while being a pattern, revealing formal aspects of intentionality and analysis of available resources.

It is possible to conclude that the small and medium enterprises that were surveyed in the municipality of Ouro Preto revealed that strategies are related to the idea of intention, verified by the variable that emerged in the multiple linear regression analysis: “strategy was exhaustively discussed before being adopted” presents a negative direction, indicating that the businesses have not changed the adopted strategies. Finally, the results that were obtained not only met the research’s objective, as also can contribute to the field of studies and can also constitute pertinent and relevant indicators for future researches in the strategy field.

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REFERENCES


