

Does firm Size moderate the relationship between rational strategic planning and Performance?

1308

Abstract

Assessing the impact of rational strategic planning on firm performance has been central in strategic management research during the last three decades. This paper revisits this important issue by giving special attention to the operationalization of the concepts of rational strategic planning and performance, and including firm size as a contingency factor. A quantitative empirical study conducted on European, American and Asian firms reveals a positive association between strategic planning and performance regardless of firm size.

Keywords: Rational strategic planning, formalization, comprehensiveness, strategic control, performance, size.

INTRODUCTION

Researches on the relationship between rational strategic planning and company performance have been multiplied since the first empirical study carried out by Thune & House (1970) which led to the fact that planner companies have a better economic performance compared to non-planners. In fact, the issue of the relationship between rational strategic planning and company performance has been increasingly a subject of a great importance to researchers on strategic management over the last three decades. The obtained findings seem, to a certain extent, less conclusive and often contradictory (Glaister *et al.*, 2008). For instance, a meta-analysis of 18 studies has been conducted by Pearce *et al.* (1987) and shown that empirical evidences of the real impact of rational strategic planning on the performance were inconsistent and often contradictory and only a “very weak link” has been identified.

Considered as a rational and normative approach of the making-strategy (Hough & White, 2003), rational strategic planning has been strongly criticized by many authors due to its uncertain impact on company performance (Robinson & Pearce, 1983). Opponents of rational strategic planning believe that, in unstable and complex environments, the rational strategic planning may provides more complications rather than solutions. They state that rational strategic planning tends to restrict creativity and spontaneity, creating rigidity and encouraging excessive bureaucracy (Mintzberg, 1994). For some others, the value and the role of rational strategic planning are still unclear in a turbulent environment (Chaffee, 1985), and that the rational strategic planning may even weaken the adaptability of the firm to cope with potential changes taking place in its environment (Wally & Baum, 1994).

On the other hand, rational strategic planning has many defenders, such as Armstrong (1982), Robinson & Pearce (1988) and Ansoff (1991). For them, rational strategic planning is much more effective than a process based on chance when it comes to gather and analyze relevant information in order to create and maintain the alignment of the company with its internal and external environment (Grinyer *et al.*, 1986). Rational strategic planning can wisely play an important part in determining a favorable strategic direction for the company (Porter, 1996). It can significantly help companies to avoid costly errors and to survive in highly competitive environments (Aram & Cowan, 1990). Compared to learning by trial and error, rational strategic planning is likely to produce a better alignment and good financial performance for many companies (Ansoff, 1991). Adopting an rational strategic planning approach would allow, among

other things, to generate information, to ensure a thorough evaluation of various possible options, to oblige the firm to analysis and evaluate its environment, to stimulate creative thinking and new ideas, to increase motivation and staff commitment, to enhance internal communication and interactions, (Powell, 1992), to coordinate well the organizational activities (Grinyer *et al.*, 1986), to determine adequate alternative strategic actions (Andersen & Nielsen, 2009), to identify relevant opportunities and to imagine and conceive efficient responses (Hough & White, 2003), to anticipate potential change in order to create adequate strategic options that cope with such change (Kukalis, 1991).

Empirical studies focusing upon the real link between rational strategic planning and company performance bring further support to both detractors and advocates of rational strategic planning (Tapinos *et al.*, 2005). As for those who strongly criticize rational strategic planning, like Bresser & Bishop (1983) and Fredrickson (1984), they have demonstrated that rational strategic planning has been beneficial within stable environments but harmful in dynamic environments. Certain other studies have even reported that planner companies perform less successfully, with particular measures; than the non-planners (Whitehead & Gup, 1985). However; those who advocate rational strategic planning, among others, Miller & Friesen (1983) and Eisenhardt (1989), have found that rational strategic planning leads to greater performance in dynamic environments. Tapinos *et al.* (2005), therefore, have found a positive link between the practices of strategic planning and effectiveness. Moreover, some other authors have found out that there is important benefits (financial and non-financial) coming out of practicing rational strategic planning (Rhyne, 1986; Greenley, 1986). It would be useful to complete the presentation of these contrasting findings by mentioning certain works (studies) have found out, in turn, no strong relationship between rational strategic planning and firm performance (Robinson et Pearce, 1983; Greenley, 1986). Regarding to all these confusingly empirical findings (Pearce *et al.*, 1987), it firmly becomes, to a great extent, that the issue of the existing relationship between rational strategic planning and performance remains unresolved and controversial (Mintzberg, 1994).

So many reasons have been provided to explain the contradictory findings about the relationship between the rational strategic planning and performance. For instance, one first conceptual reason is the act of not taking into account any eventual or potential variables of contingency (Dean & Sharfman, 1996), such as firm size (Pearce *et al.*, 1987; Atuahene-Gima & Li, 2004), the instability of the environment (Atuahene-Gima & Li, 2004) or even the profitability of the

industry (Rhyne, 1986). Another given reason would be potential methodological gap, such as incomplete and unreliable operationalization for rational strategic planning as well as for performance (Powell, 1992; Brock & Barry, 2003; Falshaw *et al.*, 2006), heterogeneous and small-sized samples (Brock & Barry, 2003), and yet, some inadequate statistic procedures (Powell, 1992).

Hence, the present research aims to closely review the relationship between rational strategic planning and performance by introducing a contingency factor (Size of firm) and giving a particular interest to operationalization of notions of rational strategic planning and performance. Two major questions, of high importance theoretically and empirically, are to be treated therein: (i) Can rational strategic planning significantly enhance the performance of the firm? This issue is so important that previous researches, in a big part, had been carried out between 1980's and 1990's. Roles of normative strategic planning could have been changed; (ii) Can the relationship between rational strategic planning and performance be affected by firm size? This second issue is evenly of a great importance because the contingency factors were generally observed as possible explanation to the obtained contrasting findings in the previous works about the real impact of rational strategic planning on companies' performance. Moreover, managers have to know whether it is useful or not to resort to rational strategic planning in instable environments; for small-sized companies, and particularly whether the impact of rational strategic planning on performance is contingent.

The article is divided into four major sections: the first section introduces the different concepts of the research, a second one announces research hypotheses, a third section in which methodology of research is described and a forth section to be devoted to results of the research as well as its analysis.

1. CONCEPTUAL FRAMEWORK

The basic model of this research is shown in Figure 1. It helps to measure the direct influence of rational strategic planning process on the firm performance and to scrutinize whether this relationship is affected by the size of firm. The concepts included in the model are described in the next section of this article. They were selected on the basis of their theoretical interest and their mobilization in the previous works, which can help to put into perspective the results of this research with those of previous works.

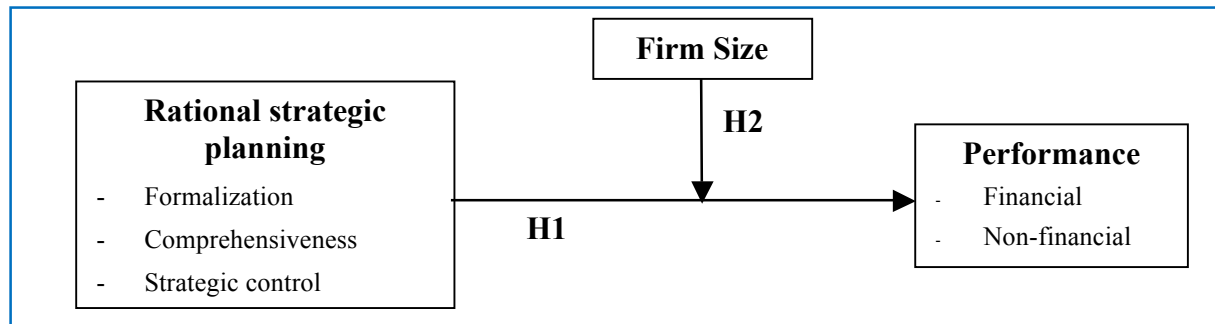


Figure 1: Theoretical model of the relationship between the rational strategic planning and performance

1.1. KEY CONCEPTS

1.1.1. Rational strategic planning as rational process to making-strategy

Making-strategy has received a particular attention of practitioners as researchers, particularly at the time when the environment has become increasingly competitive (Bettis & Hitt 1995). Two distinct modes of strategy making have drawn the attention of most researchers: the rational mode and adaptive mode (Grant, 2003). The rational mode which refers to the rational strategic planning (Miller, 1987) has, for long time, been the subject of special attention in strategic management research (Gibbons & O'Connor, 2005), in particular its relationship with performance and its role in strategic-decisions-making (Grant, 2003). On the contrary, the adaptive mode is a mode of strategy-making based on intuition, creativity and learning (Mintzberg, 1994)

Since it has been brought to light in the 1960's, rational strategic planning is known as a conventional, formal, systematic and rational approach of management in which strategy was made on the basis of exhaustive and systematic analyses of the competitive environment of the organization (Dean & Sharfman, 1993 ; Hough & White, 2003). Indeed, literature on strategic management offers to us a wide variety of definitions of rational strategic planning. For instance, Crittenden & Crittenden (2000) give it the following definition: "strategic planning attempts to systematize the processes that enable an organization to attain its goals and objectives. There are five general steps in the strategic planning process: goal/objective setting, situation analysis, alternative consideration, implementation and evaluation". In the light of this definition, rational strategic planning is, therefore, considered as a logical and continuous process involving a

number of sequential steps for the purpose of forming the strategy of the company such as: the definition of the mission and long-term objectives, analysis of the environment, generating and evaluating alternative strategies, the implementation and finally monitoring performance (Ansoff, 1965). This rational approach of strategic planning is founded on the idea that organizations are adapted to cope with changes in their environment by taking rational decisions (Chaffee, 1985). The conception of a strategic planning system creates a constant interest in academic research. Although there is no absolute consensus regarding the characteristics of strategic planning (Veliyath & Shortell, 1993), it is possible to identify different dimensions of rational strategic planning that are frequently cited in literature.

1.1.2. The different dimensions of rational strategic planning

Detecting a relationship between strategic planning and performance is very sensitive to the method used to conceptualize strategic planning (Miller & Cardinal, 1994). Freeman et al. (1991), point out that rational strategic planning is generally treated with a one-dimensional view. Thus, for example, the formal character of planning system was the most used dimension in the empirical literature to conceptualizing strategic planning (Matthews & Scott, 1995). However, as shown by Ghobadian et al., (2008), the degree of formalization does not fully conceptualize strategic planning. Therefore, in this research, we have picked out three dimensions for the conceptualization of strategic planning: formalization, comprehensiveness and strategic control. These three dimensions have appeared, with high frequency, in the literature as key features of rational strategic planning (Segars *et al.*, 1998; Papke-Shields *et al.*, 2006)

First, the term “formalization” refers to rational and synoptic approaches to making strategy (Miller, 1987). The formalization is considered as an indicator of the comprehensiveness and rationality of the strategic processes (Goll & Rasheed, 1997). Many definitions are given in the literature, most of them referring to the existing of formal rules, standard policies and procedures governing the decisions and the relationships in work (Fredrickson, 1986). Papke-Shields et al. (2006), for instance, define it as follows: “extent to which the planning process is structured, through written procedures, schedules and other documents, and the extent of documentation resulting from the planning process” (p.423)

Second, comprehensiveness is considered as a fundamental characteristic of the rational and formalized model of strategic planning (Lysonski & Pecotich, 1992). Comprehensiveness can be

defined as the measure in which an organization attempts to be exhaustive or inclusive in making and integrating strategic decisions (Fredrickson, 1984). Similarly, Fredrickson & Mitchell (1984:402) described the comprehensive process of decision-making as a process that is "exhaustive in generating and evaluating alternatives." In fact, research on rational processes of strategic decision making highlights two kinds of comprehensiveness that are: *analytic comprehensiveness* and *integrative comprehensiveness*. Analytic comprehensiveness is a concept that stresses particularly on the systematic monitoring of the environment, especially, external (Miller, 1987). As to the integrative comprehensiveness, it refers to the whole process of decision making by encouraging the integration of various decisions that make up the overall strategy (Fredrickson & Mitchell, 1984).

Third, strategic control has been identified as a subject that has gained great importance in the field of strategic management (Pete et al., 2009). The control is a process whose mission is to ensure that the development and implementation of the strategy are carried out effectively and efficiently (Kald et al. 2000; Tapinos et al., 2005). Control is also a tool by which managers are able to closely monitor the actual activities of the organization and to ensure the coherence between different objectives, resources and performance (Pete *et al.*, 2009). The control allow firm to evaluate results, monitor the behavior of partners and direct it towards achieving the goals and objectives of the firm (Ouchi, 1977). We can distinguish two types of control: control of results and control of behavior (Ouchi, 1977). In fact, the aim of a control system is to make sure that company strategies can achieve the objectives and goals of the company (Barringer & Bluedorn, 1999). Thus, Kraus et al., (2006) consider that the regular control allows a quick and profitable adaptation of plans and strategies in the case of a divergence between the current and predicted data, especially in turbulent environments. Control systems are often used to highlight the importance of various organizational objectives and align employee behavior with organizational objectives (Siders et al., 2001).

We can find also in literature another distinction made between two other forms of control: strategic control and financial control (Hitt et al., 1990). Strategic control and financial control are two major types of internal control used to support the implementation of the strategy (Liao, 2006). Financial control, also called performance control is founded on criteria such as net income, return on equity and margin rate (Hitt et al., 1990). However, strategic control is predicated upon long-term criteria strategically relevant for the purpose of assessing the

performance of the firm (Hoskisson & Hitt, 1988), like the criteria of customers' satisfaction, the registration of new brevets, the success of meetings for the development and introduction of new products, and realizing standards of quality control (Barringer & Bluedorn, 1999). For Chandler (1962), strategic control is vital for the company in order to ensure the achievement of its strategic objectives.

1.1.3. Performance

In the literature two types of measures of the firm performance to distinguish: First, financial measures or again objective measures, for example, return on assets (ROA), return on sales (ROS), et return on equity (ROE), etc. Second, non financial measures or again subjective measures, for example, shareholders' satisfaction, employees' satisfaction, customers' satisfaction, etc. (Hart, 1992; Venkatraman & Ramanujam, 1986; Ong & Teh, 2009). Of fact, Operationalization of performance refers to the selection of the appropriate measures when assessing company performance. An important question has arisen concerning the relevance of the exclusive use of traditional financial criteria (financial measures) with respect to other non-financial criteria. For instance, Falshaw *et al.* (2006) have noted that financial measures of performance can capture only one part of the company's profitability.

Performance is often presented as a multidimensional concept (Venkatraman & Ramanujam, 1986; Hart, 1992). Nevertheless, its measurement remains difficult (Venkatraman & Ramanujam, 1986). Nonetheless, the mode of performance operationalization is considered as one of the potential methodological causes of the contradictory results of empirical works on the relationship between comprehensiveness and performance (Powell, 1992; Brock & Barry, 2003). Consequently, it is generally recognized that it is quite difficult to choose appropriate measures for company performance (Hart, 1992). In particular, some performance measures may be more appropriate than others as regards to the link between strategic planning processes and performance (Falshaw *et al.*, 2006).

1.1.4. Size of the firm

The size of the company is considered by many authors as a contingency factor of high importance concerning the relationship between rational strategic planning and performance (Fredrickson & Mitchell, 1984; Matthews & Scott, 1995; Pearce *et al.*, 1987). Strategic planning

is often considered as significantly useful management tool for large companies, which has driven many authors to bring into question the fact of transferring this system to small and medium companies. Accordingly, the size of the enterprise is also considered as a determining factor in the adoption of an effective system of a rational strategic planning (Falshaw *et al.*, 2006; Ghobadian *et al.*, 2008). Thus, Miller *et al.*, (1998) state that large organizations, because of their complex structure, are expected to adopt a strategic process more comprehensive and more formal than the smaller companies.

In fact, if several authors consider that strategic planning is beneficial for large firms; many others noted that small businesses do not need of a rational strategic planning. For example, Mintzberg (1994) argues that smaller firms tend to abandon the rational strategic planning process because they operate in less complex environments and their internal operations are manageable by a single manager or a small group of managers without the need to engage in formal strategic planning process. Therefore, small businesses would do well to focus on intuition and the emergence rather than engaging in a formal strategic planning process, particularly in turbulent environments (Bhide, 1994). However, many authors have found that strategic planning has also been beneficial in small and medium firms (Matthews & Scott, 1995). In particular, a meta-analysis examining the effects of rational strategic planning on financial performance in small businesses conducted by Schwenk & Schrader (1993) showed that strategic planning is positively associated with financial performance.

1.2. RESEARCH HYPOTHESES

1.2.1. Relationship between rational strategic planning and performance

Numerous previous researches as having the purpose of reviewing the relationship between strategic planning and performance wise have provided support for all possible relationships. Three study groups can be distinguished in the literature: a first group found a positive relationship between strategic planning and performance (Hopkins & Hopkins, 1997), a second group found a negative relationship (Fredrickson & Mitchell, 1984) and finally, a third group found no significant relationship between strategic planning and performance (Robinson & Pearce, 1983; Fredrickson & Mitchell, 1984). This ambiguity of the results has led some authors to conclude that the impact of rational strategic planning on performance remains a problematic and unresolved subject (Mintzberg, 1994).

However, we should examine whether the contrasting results are not the result of conceptual errors (omission of any contingency factors such as firm size or dynamism of environment) or methodological (poor operationalization of concepts). Moreover, many researchers believe that rational strategic planning can improve performance indirectly, e.g. through increased organizational effectiveness (Rhyne, 1986) or because it allows the company to make better decisions (Dean & Sharfman, 1996). An important fact remains that the main meta-analysis conducted to date (Miller & Cardinal, 1994; Schwenk & Shrader, 1993) show a predominance of positive linkages between strategic planning and performance. Based on these results, we assume a positive association, hence the following hypothesis:

H1: Strategic planning rational positively affects firm performance.

1.2.2. The size of the firm as a moderator of the relationship between rational strategic planning and performance

Empirical studies examining the impact of firm size on the relationship between rational strategic planning and performance show mixed results (Glaister *et al.*, 2008). For example, based on a sample of small banks, Robinson & Pearce (1983) have found that company size is a critical contingency factor in the relationship between strategic planning and performance. Similarly, based on a sample of 112 banks, Hopkins & Hopkins (1997) found a negative relationship between size and intensity of strategic planning which, in turn; it negatively affects the financial performance of banks. However, a meta-analysis conducted by Miller & Cardinal (1994) based on 26 studies showed that firm size is not a significant moderator of the relationship. Based on these results, we propose the following hypothesis:

H2: The relationship between rational strategic planning and performance is not moderated by firm size.

2. METHODOLOGY

The description of the research methodology concerns three points: the population, the sample and the method of collection of the data; the operationalization of the various research concepts; the method of data analysis.

2.1. POPULATION, METHOD OF DATA COLLECTION, SAMPLE

The population was the whole of the private and public firms in the world. Indeed, the only used criterion to define the target population was the availability of the email address of the firm. No other criterion such as the sector of activity, the country, the size of the firm, etc. was considered. About 160000 email addresses were collected from various sources as Internet or data bases such as Kompass, Diane, etc. The data of this research were collected by means of an electronic survey send to target firms between January 2010 and July 2010. The administration of the survey was done via internet. An accompaniment letter explained the objective and the structure of the survey has been send with. So to administer the survey to target firms, we placed it on the site www.keysurvey.com. It is suitable to specify that about 22% of the 160000, almost 35200 emails, did not arrive to destination, for cause of inexact or changed addresses, anti spam measures, etc. Finally, 441 exploitable responses were obtained, a rate of response of about 0.003%.

2.2. CONCEPTS OPERATIONALIZATION

As shown in Appendix 1, the measurement scales used in this research have already been used by other researchers in previous studies. In addition, all scales are Likert scales 7-point scales with the exception of performance measurement are average scores. Finally, all reliability coefficients (Cronbach's alpha) obtained in this study is satisfactory and in almost all similar to those found in previous research (Segars *et al.*, 1998; Papke-Shields *et al.*, 2002; 2006).

2.2.1. Formalization

To measure the degree of formalization of rational strategic planning system, we used a scale consisting of three of the four items of the scale developed by Segars *et al.* (1998) and subsequently used in several studies (Papke-Shields *et al.*, 2002; 2006). As shown in Appendix 1, our scale holds the degree of structuring of the strategic planning process, the existence of written guidelines for structuring the system and, finally, the existence of formal documentation in the process of strategic planning.

2.2.2. Comprehensiveness

Comprehensiveness is measured using a scale of four items developed by Segars *et al.*, (1998). This scale of measurement was used in several prior studies (Papke-Shields *et al.*, 2002; 2006). As shown in Appendix 1, four aspects of comprehensiveness are represented on this dimension.

The first measure reflects the comprehensiveness in the collection of relevant information. The second measure is related to the evaluation of all possible actions before the strategic decision is taken. The third measure used to determine and select the best possible actions. The fourth measure is to ensure that all possible alternatives have been evaluated before any decision is taken.

2.2.3. Strategic control

Strategic control is measured by a scale of three items. Two of these items have been developed by Segars *et al.* (1998) and used in subsequent studies by Papke-Shields *et al.* (2002) and Papke-Shields *et al.* (2006). We have added a third item on the basis of a content analysis of the concept of strategic control in several works in literature. As shown in Appendix 1, our measurement scale of strategic control includes items to control the variations between planned actions and outcomes, whether the strategic planning system is integrated with financial routines, and finally, whether the written guides are well respected.

2.2.4. Performance

Given the difficulty of measuring business performance (Falshaw *et al.*, 2006), we chose to retain two types of complementary measures: financial measures and non-financial measures (Hart, 1992; Ong & Teh, 2009). As shown in Appendix 1, the financial performance is measured using a scale of three items developed and validated by Ramanujam & Venkatraman (1987). This scale was used in other several studies (Papke-Shields *et al.*, 2002; 2006). To measure financial performance, respondents were asked to evaluate and compare sales growth, earnings growth and return on investment of their companies versus their direct competitors. As for non-financial performance, it is measured by a scale we have built by inspiring from previous works (Shrivastava *et al.*, 2006; Rudd *et al.*, 2008). This scale for measuring non-financial performance correspond to evaluation by respondents of the satisfaction of shareholders, satisfaction of customers and satisfaction of employees of their firms versus their direct competitors.

2.2.5. Firm Size

There are several criteria in the literature to measure firm size: sales volume, number of full-time employees and net assets (Kukalis, 1991). The number of employees seems to be the single most popular measure of firm size (Smith *et al.*, 1986). Therefore, we have adopted in this research.

Specifically, and as shown in Appendix 1, we adopted the scale developed by Schaap (2006) which is based on the number of active employees in the company. To distinguish between large companies to small ones, a new dichotomous variable was created. Such variable takes the value 0 for smallest values of initial variable (e.g. lower than the median) and the value 1 for most high values of initial variable (e.g. higher than the median). This approach corresponds to the median technique frequently used for the dichotomization of continuous variables (Glaister *et al.*, 2008).

2.3. METHOD OF ANALYSIS

Several different methods are deployed to analyze the research data: (1) SPSS software is used to calculate descriptive statistics (mean, standard deviation) for variables included in the research, the matrix of correlations between these variables and some measures of psychometric quality of variables (Cronbach's alpha, KMO); (2) SmartPlant software is used in addition to SPSS software to calculate several indices of reliability and validity of variables (AVE and C.R.); (3) AMOS software was used to test the research hypotheses by using several structural equation models. In particular, models of multi-group structural equations are used to test the impact of the contingency factor.

3. RESULTS

This section presents the successively descriptive statistics, psychometric quality of variables, then the result of testing hypotheses.

3.1. DESCRIPTIVE STATISTICS

Table 1 presents the descriptive statistics (mean and standard deviation) and correlation coefficients of the variables included in the research, with the exception of the contingency variable (firm size). It is noted that the averages vary between 3.91 and 5.03 and standard deviations between 0.98 and 1.93. Because for a scale of 1 to 7, the median is 4, we can note that the averages are close to the median (central value) while generally being slightly higher. Moreover, the level of standard deviations shows that there is some variability in the distribution around the average. This means that the different variables have enables to capture phenomena with a clear central tendency (average, slightly higher than 4) and a real dispersion (standard deviations between 0.98 and 1.93 points). As for the examination of correlations, it shows that

they are all significant ($p < 0.01$). In addition, the items of each dimension are highly correlated (minimum correlation = 0.488). The correlation matrix also indicates that each dimension of rational strategic planning (formalization, comprehensiveness and strategic control) was significantly correlated with both the financial performance and the non-financial performance ($p < 0.01$). Finally, the three dimensions of rational strategic planning are also highly correlated (minimum correlation = 0.506), suggesting that they could form or reflect the same single factor, namely the Global System for rational strategic planning.

Table 1: Means, standard deviation and correlations

	Items / Variables	Mean	Standard deviation	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	Formal_1	4.46	1.64	1	.708**	.673**	.509**	.459**	.447**	.283**	.433**	.474**	.562**	.880**	.499**	.586**	.238**	.174**	.228**
2	Formal_2	4.04	1.93	.708**	1	.697**	.406**	.353**	.367**	.264**	.413**	.465**	.655**	.906**	.409**	.613**	.205**	.169**	.206**
3	Formal_3	4.76	1.83	.673**	.697**	1	.456**	.396**	.432**	.263**	.407**	.487**	.509**	.888**	.454**	.559**	.207**	.171**	.208**
4	Exhaust_1	4.76	1.45	.509**	.406**	.456**	1	.689**	.605**	.488**	.434**	.430**	.386**	.509**	.819**	.496**	.253**	.242**	.272**
5	Exhaust_2	4.70	1.50	.459**	.353**	.396**	.689**	1	.761**	.631**	.434**	.430**	.444**	.448**	.910**	.520**	.245**	.286**	.289**
6	Exhaust_3	5.03	1.37	.447**	.367**	.432**	.605**	.761**	1	.563**	.439**	.459**	.421**	.463**	.858**	.524**	.243**	.263**	.276**
7	Exhaust_4	4.45	1.55	.283**	.264**	.263**	.488**	.631**	.563**	1	.319**	.349**	.376**	.302**	.800**	.416**	.174**	.203**	.206**
8	Strat-Ctr_1	4.83	1.61	.433**	.413**	.407**	.434**	.434**	.439**	.319**	1	.590**	.538**	.467**	.478**	.841**	.199**	.234**	.236**
9	Strat-Ctr_2	4.92	1.64	.474**	.465**	.487**	.430**	.430**	.459**	.349**	.590**	1	.535**	.533**	.491**	.843**	.241**	.230**	.258**
10	Strat-Ctr_3	3.91	1.71	.562**	.655**	.509**	.386**	.444**	.421**	.376**	.538**	.535**	1	.647**	.480**	.831**	.232**	.228**	.252**
11	Formalization	4.42	1.60	.880**	.906**	.888**	.509**	.448**	.463**	.302**	.467**	.533**	.647**	1	.506**	.657**	.242**	.192**	.239**
12	Comprehensiveness	4.74	1.24	.499**	.409**	.454**	.819**	.910**	.858**	.800**	.478**	.491**	.480**	.506**	1	.576**	.269**	.293**	.307**
13	Strategic_Control	4.55	1.39	.586**	.613**	.559**	.496**	.520**	.524**	.416**	.841**	.843**	.831**	.657**	.576**	1	.268**	.275**	.297**
14	Fin_Performance	4.83	1.14	.238**	.205**	.207**	.253**	.245**	.243**	.174**	.199**	.241**	.232**	.242**	.269**	.268**	1	.665**	.923**
15	Non_Fin_Performance	5.03	1.01	.174**	.169**	.171**	.242**	.286**	.263**	.203**	.234**	.230**	.228**	.192**	.293**	.275**	.665**	1	.901**
16	Performance	4.93	0.98	.228**	.206**	.208**	.272**	.289**	.276**	.206**	.236**	.258**	.252**	.239**	.307**	.297**	.923**	.901**	1

** Correlation significant at 0.01.

N = 441, Correlation of Pearson.

Table 2 presents the results of descriptive statistics concerning firm size. There is a real variety in the size of the companies represented in the sample. Furthermore, dichotomization results in two groups with practically equal numbers (222 and 219 firms). The group of small companies (222 companies) provides staffing ranging between 1 to 249 employees while the group of medium and large companies (219 companies) has staff employees higher than 250. A test of mean differences confirms that the averages are statistically different between the two groups ($M1=2,57$; $M2=5,07$; $T= -36,62$; $p=0.00$).

Table 2: Descriptive statistics – Size of firm

Size	Frequency	Percentage	Cumulative Percentage
1 – 9	6	1.4	1.4
50 – 99	84	19.0	20.4
100 – 249	132	29.9	50.3
250 – 499	72	16.3	66.7
500 – 999	59	13.4	80.0
1000 et plus	88	20.0	100.0
Total	441	100.0	
Level of the size			
Small	222	50.3	50.3
Large	219	49.7	100.0
Total	441	100.0	

3.2. PSYCHOMETRIC QUALITY OF VARIABLES

The psychometric quality of variables is assessed through the following two properties: reliability and validity.

Table 3: Reliability and convergent validity of variables

Concepts	Items	Alpha	C.R.	AVE	KMO
Formalization	3	0.851	0.9209	0.7951	0.793
Comprehensiveness	4	0.861	0.9105	0.7188	0.801
Strategic Control	3	0.875	0.8765	0.7030	0.833
Size	1	-	-	-	-
Fin_Performance	3	0.887	0.9282	0.8118	0.717
Non_Fin_Performance	3	0.780	0.8727	0.6972	0.683
Fin + Non_Fin Performance	6	0.885	0.9094	0.6264	0.832

3.2.1. Reliability

Table 3 contains the results concerning the reliability assessed using Cronbach's coefficient alpha and composite reliability (C.R.). It is noted that all measures are greater than the recommended limits of 0.70. The alpha coefficients ranged from 0.780 (non financial performance) to 0.887 (financial performance) and those of composite reliability (C.R.) between 0.872 (non financial performance) and 0.928 (financial performance). The variables are considered as sufficiently reliable.

3.2.2. Validity

The two main forms of validity are examined: discriminant validity and convergent validity.

Convergent validity was assessed by the average variance extracted (AVE), values greater than or equal to 0.50 are considered satisfactory as well as by the measure of the Kaiser-Meyer-Olkin (KMO) for which values superior than 0.50 are considered satisfactory (Lucian *et al.*, 2008). As shown in Table 3, all measures of the AVE and the KMO met or exceeded the threshold of 0.50, suggesting that the conditions for convergent validity are satisfied by the variables used in this research.

Discriminant validity shows that a measure is empirically distinct and different from other measures. It is established when the average variance extracted (AVE) is greater than the square cross-correlations of constructs (Fornell & Larcker, 1981). As shown in Table 4, each of the AVE exceeds the squared correlations of each inter-constructs (see correlations, table 1), suggesting that the conditions for discriminant validity are met by the variables used in this research.

Table 4: Discriminant validity of variables

Constructs	Formalization	Comprehensiveness	Strategic control	Performance
Formalization	0.795			
Comprehensiveness	0.256	0.719		
Strategic control	0.059	0.332	0.703	
Performance	0.057	0.094	0.088	0.626
* -The values in the diagonal represent the AVE and the other values are the squares of the inter-constructs correlations.				

In summary, examination of descriptive statistics (frequencies, averages, standard deviations) and psychometric qualities (reliability, convergent validity, discriminant validity) of the variables of this research shows that we have good measures to proceed to testing hypotheses.

3.3. HYPOTHESES TESTING

Hypothesized relationships inspired from research model (Figure 1) were tested using structural equation models several estimated by using AMOS software. A first set of hypotheses examined the direct relationship between rational strategic planning and performance. A second set of hypotheses examined the impact of the contingency factor on the relationship between rational strategic planning and performance. The two research hypotheses are supported (none refused). Figure 2 shows the results test of the first hypothesis. Coefficients are not standardized and values in parentheses correspond to t-student. As can be seen, all coefficients are positive and

significant, consistent with the hypotheses. Table 5 presents the overall results of testing hypotheses.

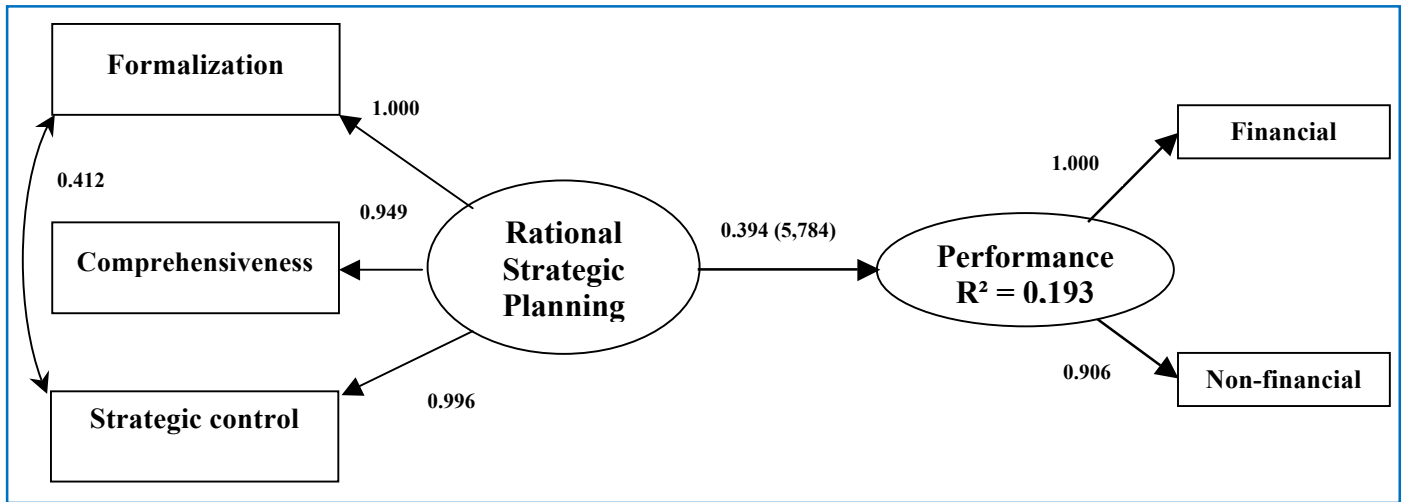


Figure 2: Relationship between rational strategic planning and performance

Concerning direct links, and as expected by H1, rational strategic planning significantly and positively affects performance ($\beta = 0.394$; $T = 5.784$; $p < 0.01$), therefore, H1 is accepted.

Tableau 5 : Hypotheses testing

Hypotheses	Path specified	Coef.	<i>T</i>	Chi-2	<i>df</i>	P	RMSEA	CFI
H1	Rational Strategic Planning - Performance	0.394	5.784	4.884	3	0.180	0.038	0.997
H2	Size – Rational Strategic Planning	0.382	6.103	16.570	12	0.166	0.029	0.994

The moderating role of contingency factor (dynamic of environment) in the relationship between comprehensiveness and performance has been tested through multi-group analysis. The constrained model postulating the similarity of factorial structures and structural coefficients between the two groups (small/large size) has a very good fit to empirical data concerning of rational strategic planning ($\text{Chi-2} = 16.570$; $df = 12$; $p = 0.166$). The difference between constrained and unconstrained models ($\text{Chi-2} = 2.569$; $df = 4$; $p = 0.632$) emerged as not statistically significant. Finally, the structural coefficients of the constrained model ($\beta = 0.382$; $T = 6.103$; $p < 0.01$) correspond to the posed hypothesis. Therefore, H2 is supported, which means that the firm size does not play the role of moderator on the relationship between rational strategic planning and performance.

In total, the two hypotheses of this research are supported. Rational strategic planning has a positive impact on financial and non financial performance and this positive impact is independent of the size of the company.

4. DISCUSSION

4.1. DIRECT LINK BETWEEN STRATEGIC PLANNING-PERFORMANCE

The results of this research suggest a significant relationship between the practices of rational strategic planning and firm performance. These results are consistent with several previous studies (Hopkins & Hopkins, 1997; Capon *et al.*, 1994). However, they contradict the argument of researchers who had concluded that rational strategic planning generally does not favor firm performance (Fredrickson & Mitchell, 1984; Bresser & Bishop, 1983; Whitehead & Gup, 1985). In this regard, it is often suggested that methodological differences between studies have been largely responsible for the contradictory results reported in the literature, and the debate about the value of strategic planning (Miller & Cardinal, 1994). That's the reason for which we wanted to give in this research a particular attention to the operationalization of concepts.

The results of our research suggest the usefulness of rational strategic planning as a process of gathering relevant information for creating and maintaining the alignment of the company with its internal and external environments (Miller & Cardinal, 1994). Rational strategic planning is thus a process allows effectively determining a favorable strategic direction for the company and facilitating the adaptation of the company to changes in its external environment (Kukalis, 1991).

4.2. MODERATING EFFECT OF FIRM SIZE

Our results show that the relationship between rational strategic planning and performance is not moderated by firm size. These results confirm the idea that rational strategic planning is not only beneficial for large firms (Miller *et al.*, 1998) but it can also be beneficial for small and medium enterprises (Schwenk & Schrader, 1993). Our results are consistent with those of Miller & Cardinal (1994) who found that strategic planning was affecting the performance by the same way both in large than in small and medium firms. However, our results contradict several previous studies that had found the opposite (Robinson & Pearce, 1983; Hopkins & Hopkins, 1997) or those that believed that not taking into account contingency factors was a major reason

for the contradictory results (Dean & Sharfman, 1996; Rhyne, 1986). In fact, our results suggest that it is useful for any company, small, medium or large, to adopt the rational strategic planning process in order to collect and analyze necessary information for creating and maintaining the alignment of organization with its internal and external environments (Miller & Cardinal, 1994 ; Armstrong, 1982). Therefore, our results support the idea that rational strategic planning has a positive impact on performance and it can also be profitably adopted by small and medium firms.

In total, it appears that firm size is not a moderator of the relationship between rational strategic planning and performance. Therefore, rational strategic planning would be become an indispensable tool for all firms, small, medium or large.

Regardless of the firm size, at least three reasons could explain the positive impact of rational strategic planning on performance. First, rational strategic planning process helps decision makers to effectively manage the complexity in strategic decision making: decision makers need to resolve a number of important issues related to opportunities (e.g., unexpected opportunity to access a foreign market) and to threats (e.g., the sudden introduction of new technology by a competitor). Facing such a situation, a strategic planning process is likely to lead to better decisions and outcomes (Dean & Sharfman, 1996). Second, a strategic planning process helps decision makers to reduce some effects of cognitive biases. Beyond the general difficulties inherent in understanding a complex situation, these biases are often the source of some problems; for example, decision makers might be seeking information in the wrong places, focusing on false information, thereby ignoring some important information (Ben-Shakher et al., 1998). Third, a strategic planning process is likely to strengthen the motivation and involvement of decision makers in the implementation of the strategy (Miller, 2008).

CONCLUSION

Examining the impact of strategic planning on firm performance is one of the fundamental elements of strategic management research (Ghobadian *et al.*, 2008). Although the theoretical affirmation of a positive relationship between the rational systems of strategic planning and financial performance has dominated the literature in this field, many empirical studies have provided mixed results regarding the value of rational strategic planning. Therefore, the question of whether rational strategic planning leads to improved performance remains unanswered, and

existing results remain contradictory and inconclusive (Falshaw *et al.*, 2006). This is partly attributed to methodological and theoretical shortcomings (Dean & Sharfman, 1996-- Brock & Barry, 2003). Our research attempts to provide new conceptual, methodological and empirical elements for better understanding the nature of the relationship between strategic planning and performance.

Conceptually, we tried to determine with precision the contours of rational strategic planning notion. On the basis of a broad analysis of the literature, we identified three main dimensions of rational strategic planning: formalization, comprehensiveness and strategic control. About the concept of firm performance, a literature analysis also allowed us to identify and integrate two forms of performance: financial form and non-financial form. We finally tried to clarify the role of possible contingency factors. Here too, analysis of the literature allowed us to detect and integrate a factor of increasing interest: the size of firm.

Methodologically, we adopted reliable measures for the three variables presenting rational strategic planning as well as performance. Also, our sample includes companies from all continents, in contrast to most previous empirical studies whose data were often exclusively North-American. In fact, our study is, to our knowledge, one of the first studies that have explicitly modeled and empirically tested in a global context the relationship between rational strategic planning and performance. By using the method of causal modeling, we examined this relationship as well as the moderating effect of firm size on the relationship. The results show a positive and significant association between rational strategic planning and financial and non-financial performance, which tends to confirm the arguments of prescriptive strategic management literature results of many previous studies. Moreover, despite the insistence of many writers on the role of contingency factors, we found that the size of firm does not affect this relationship.

This research could have important theoretical, methodological and practical implications. Theoretically, it could contribute to a better understanding of the relationship between rational strategic planning and performance, particularly through the formulation of rational strategic planning notion. The confirmation of the positive impact of rational strategic planning on the performance, the lack of firm size moderation could also be a theoretical contribution. Methodologically, our research has attempted several advances: it focused on an international

sample (European, North-American, Asian companies) whereas previous studies focused mainly on North-American companies; it proposes a new operationalization of the concept of rational strategic planning as well as the performance by the combination of all previously validated scales using in previous studies; it considers the psychometric qualities (reliability, convergent validity, discriminant validity) of variables, it mobilizes a rigorous procedure of hypotheses testing through structural equation models. In practice, it points out to leaders that the rational strategic planning improves financial and non-financial performance regardless of the firm size.

This research is obviously not without limits. For example, it is only quantitative. Qualitative case studies, even interviews with some decision makers might usefully complement quantitative data. Future research could address this limit.

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Appendix 1 : Variables operationalization

FORMALIZATION	ITEMS	REFERENCES
Formal_1	Our process of strategic planning is very structured.	Segars <i>et al.</i> , (1998) Papke-Shields <i>et al.</i> (2006)
Formal_2	Written guidelines exist to structure strategic planning in our firm.	Segars <i>et al.</i> , (1998) Papke-Shields <i>et al.</i> (2006)
Formal_3	The process and outputs of strategic planning are formally documented.	Segars <i>et al.</i> , (1998) Papke-Shields <i>et al.</i> (2006)
COMPREHENSIVENESS	ITEMS	REFERENCES
Compreh_1	Employees' behaviors are aligned with the strategic orientation of the firm.	Segars <i>et al.</i> , (1998) Papke-Shields <i>et al.</i> (2006)
Compreh_2	Before a decision is made, each possible course of action is thoroughly evaluated.	Segars <i>et al.</i> , (1998) Papke-Shields <i>et al.</i> (2006)
Compreh_3	We attempt to determine optimal courses of action from identified alternatives.	Segars <i>et al.</i> , (1998) Papke-Shields <i>et al.</i> (2006)
Compreh_4	We will delay decisions until we are sure that all alternatives have been evaluated.	Segars <i>et al.</i> , (1998) Papke-Shields <i>et al.</i> (2006)
STRATEGIC CONTROL	ITEMS	REFERENCES
Strat-Ctr_1	Control systems are utilized to monitor variances between planning actions and outcomes.	Segars <i>et al.</i> , (1998) Papke-Shields <i>et al.</i> (2006)
Strat-Ctr_2	Our strategic planning system is integrated with the firm's financial planning routine.	Segars <i>et al.</i> , (1998) Papke-Shields <i>et al.</i> (2006)
Strat-Ctr_3	Control systems are utilized to monitor if the written guidelines are respected.	(added item)
Performance	ITEMS	REFERENCES
Financial	<ul style="list-style-type: none"> - Sales growth. - Earnings growth. - Return on investment. 	Papke-Shields <i>et al.</i> (2006)
Non-financial	<ul style="list-style-type: none"> - Shareholders satisfaction - Customers satisfaction - Employees satisfaction 	Shrivastava <i>et al.</i> , (2006) Rudd <i>et al.</i> , (2008)
Size	Number of employees	REFERENCES
How many employees (full and part-time), including yourself, are employed in the company?	<ul style="list-style-type: none"> ▪ 1 – 9 [] ▪ 50 – 99 [] ▪ 100 – 249 [] ▪ 250 – 499 [] ▪ 500 – 999 [] ▪ 1000 or more [] 	Schaap (2006)