Does the comprehensiveness of Decision-Making Process pay off?

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Abstract
Examining the relationship between comprehensive decision-making process and company performance produced contradictory results. Although some authors advocate a positive relationship between comprehensive decision-making process and company performance, others found a negative one. Accordingly, this relationship needs further examination in order to understand the real nature of this relationship. This research aims to investigate this relationship through including environmental dynamism as a contingency factor. To this end, a quantitative empirical study conducted on 335 European companies suggests a positive impact of comprehensive decision-making process on company performance regardless of environmental dynamism.

Mots clés : Comprehensiveness, Decision-making process, company performance, environmental dynamism.
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Abstract:
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Key-words: Comprehensiveness - Decision-making process - company performance - environmental dynamism

Introduction
The strategic management literature has highlighted two approaches of decision-making. The first is called rational approach, which considers decision-making as a highly rational and proactive behavior. It focuses on the formality and comprehensiveness of strategic planning activities such as the development of objectives, the assessment of opportunities and threats, the analysis of the internal competences of the company, the identification and assessment of alternatives, the implementation of the chosen strategy, and finally the results control (Ansoff, 1965). As for the second one, is called adaptive approach, it considers the decision-making process as not comprehensive and rather adaptive (Bahaee, 1992). This approach of research focuses on organizational learning, creativity and intuition (Mintzberg, 1994).

In fact, an important and long-standing question in strategy process research is to know whether comprehensive and synoptic approach enables firms to make better strategic decisions in various environmental contexts (Atuahene-Gima and Li, 2004). An exhaustive analysis of the literature showed that the results regarding the relationship between comprehensiveness of strategic-decision process and firm performance are inconclusive and often contradictory. Although some authors advocate a positive relationship in a dynamic environment and negative in a stable one (Priem et al., 1995; Goll and Rasheed, 1997), others
argue for the opposite view (Fredrickson, 1984; Fredrickson and Mitchell, 1984; Fredrickson and Iaquinto, 1989).

The comprehensiveness of decision-making process has both advocates and opponents. For advocates, such as, Sniezek (1992) who states that the comprehensiveness enables decision makers to develop greater knowledge of their environment and become more realistic in their assessment of the potential impact of environment on their organization. For others, considering several strategic alternatives enables to speed up the speed of decision-making (Judge and Miller, 1991). According to Eisenhardt (1989), decision makers in dynamic environments have an interest to accelerate their cognitive processing and continuous assessment of information that allows decision-making team to develop a "collective intuition" leading to good decisions. Indeed, in turbulent environments, decision makers have all interest to use more information, to consider more alternatives, and to seek greater amount of advices in order to make good decisions (Priem et al., 1995).

If some authors support the comprehensiveness, some others provide arguments in opposition to this characteristic of decision-making process. For them, comprehensive decision-making process does not favor a quick adaptation to environmental changes (Fredrickson and Mitchell, 1984). Others noted that the extensive and exhaustive analysis of environment is likely to slow down the rhythm of taking decisions (Eisenhardt, 1989) and impedes the information flow in real time (Atuahene-Gima and Li, 2004). Another important argument has employed against the comprehensiveness of decision-making is the bounded rationality of individuals. That means that the individuals' cognitive limits may be used to explain why organizations should not be comprehensive in making decisions, as well as to describe how individuals in organization have interest to learn rather than to focus on rationality (Cyert and March, 1963). Similarly, rational and comprehensive model of decision-making supposes that information can always be available, ignoring the costs of obtaining it (Braybrooke and Lindblom, 1970).

In this context, this research has for aim to reconsider and to better understand the nature of the relationship between comprehensiveness of decision-making process and company performance through integrating a contingency factor regularly used in the literature: environmental dynamism, and also through giving a particular attention to the measurement of company performance (financial measure and non financial measure). Therefore, two main questions will be examined in this research: (i) Does comprehensiveness of decision-making process improve company performance? (ii) Does environmental dynamism moderate the
relationship between comprehensiveness of decision-making process and company performance?

The paper is organized as follows: first of all we define and discuss the main concepts that appear in the research model and then formulate our research hypotheses. Secondly, we explain the adopted methodology, and finally, we present and discuss our main findings.

1. CONCEPTUAL FRAMEWORK

Examining the impact of comprehensiveness of decision-making process on company performance is one of the fundamental research issues that has received a great attention from researchers and practitioners as well. The base model of this research is represented in Figure 1. In this model, we are supposing that comprehensiveness of decision-making process has a positive relationship with company performance. Also, we suggest that environmental dynamism plays a moderating role in this relationship. The concepts included in the model are defined and discussed below.

![Figure 1: Research Model](image)

1.1. Key Concepts

1.1.1. The concept of comprehensiveness

The comprehensiveness is considered as an essential characteristic of synoptic and rational models of decision-making (Lyonski and Pecotich, 1992; Laquinto and Fredrickson, 1997). The advocates of synoptic models (Ansoff, 1965; Thompson and Strickland, 1981) argued that decision-making process must be exhaustive in a variety of decision activities (for example, determination of objectives, analyzing of environment, intensive research of
information, and evaluation of internal capabilities…). In fact, the comprehensiveness can be defined as the extent to which organizations attempt to be exhaustive or inclusive in making strategic decisions (Fredrickson, 1984). Similarly, Fredrickson and Mitchell (1984) described the comprehensive process of decision-making as a process that is "Exhaustive in the generation and the evaluation of alternatives" (p. 402). Furthermore, the comprehensiveness of decision-making is a concept that captures the extensiveness with which an organization’s top executives systematically gather and process information from external environment (Glick et al., 1993). According to Forbes (2007), companies that can gather greater quantity of information or analyze this information more extensively – through employing analytic techniques - are considered more comprehensive. Indeed, in the literature we could identify two kinds of comprehensiveness, analytical comprehensiveness and integrative comprehensiveness. Analytical comprehensiveness is a concept that particularly focuses on the systematic scanning of the environment (Miller, 1987). As for integrative comprehensiveness, it refers to the whole process of decision-making by encouraging the integration of various decisions and actions that compose the overall strategy (Fredrickson and Mitchell, 1984).

1.1.2. Company Performance

Studying the performance of companies has interested both economists, specialists in the theory of firms, analysts, consultants and practitioners. In fact, a company is successful if and only if it is effective and efficient. It is effective if it achieves all its objectives, it is efficient if it uses appropriate means to achieve its objectives. From the point of view of the theory of companies, the performance is information, often quantified, which indicates the degree of fulfillment of objectives, goals, plans or standards adopted by the company. Therefore, performance is often presented as a multidimensional concept (Venkatraman and Ramanujam, 1986). In particular, two types of performance criteria can be distinguished in the literature: firstly, financial or objective criteria such as return on assets (ROA), return on sales (ROS), and return on equity (ROE), and secondly, the non-financial criteria or subjective, such as: shareholder satisfaction, employee satisfaction and customer satisfaction (Venkatraman and Ramanujam, 1986; Ong and Teh, 2009).

It is generally recognized that it is difficult to choose the appropriate criteria for company performance (Venkatraman and Ramanujam, 1986), but some performance criteria may be more appropriate than others in particular with regard to the relationship between strategic planning and performance (Falshaw et al., 2006). Brock and Barry (2003) argue that the
choice of performance criteria is considered as one of the methodological causes of the contradictory results regarding the relationship between strategic planning and performance. The question related to the relevance of the exclusive use of traditional financial criteria at the expense of non-financial criteria is important in the research. For example, Falshaw et al. (2006) noted that the financial performance criteria may reflect only a part of the company performance. Chakravarthy (1986) will, in turn, contest the relevance of the traditional criteria (financial) used as objective measures. For all these reasons, the two criteria of company performance, financial and non-financial will be taken into consideration in this research.

1.1.3. Environmental dynamism

The environmental dynamism is always taken as a contingency factor in studying the relationship between decision-making process and company performance. In general, environmental dynamism refers to the rate of change and the level of instability within an environment (Li and Simerly, 1998). It could thus be defined with reference to technological change and instability or unpredictability of the environment (Tegarden et al., 2005). The intensity and the degree of competition is forcing firms to adopt a flexible planning approach (Moorman and Miner 1998) and to make strategic flexibility valuable for their success (Dreyer and Grønhaug, 2004). A number of theorists argued that the need for flexibility in all areas of organizational design is growing and that is due to the increasingly rapid pace of environmental change (Aaker and Mascarenhas, 1984). While flexibility is considered as an adaptive response to changing environment (Gupta and Goyal, 1989), it is important to note that a company may make strategic flexibility as a tool to re-define proactively market uncertainties and make it the cornerstone of its ability to compete.

1.2. Research hypotheses

1.2.1. Relation between the comprehensiveness of decision-making process and company performance

Several studies argued that the comprehensiveness of decision-making process has a relationship with company performance (Eisenhardt, 1989; Fredrickson and Iaquinto, 1989), as well as with the rapidity of taking decisions (Judge and Miller, 1991; Iaquinto and Fredrickson, 1997). For example, Judge and Miller (1991) examined the rapidity of strategic decision in 32 companies. They argued that when decision-makers considered several alternatives at once, their decisions have been taken more quickly, which was strongly associated with a better performance. Thus, Eisenhardt (1989) suggests that decision-makers...
that take better decisions in dynamic environments are those that use more information in real
time related to external environment and internal one as well. According to Capon et
al. (1994), more the degree of the comprehensiveness of decision-making process is higher,
more performance is better. Finally, two meta-analyses proposed by Boyd (1991) and Miller
& Cardinal (1994) showed that the comprehensiveness positively influences on the company
performance. Given the above considerations, we will propose the following hypothesis:

**H1:** The comprehensiveness of decision-making process positively affects company
performance.

**1.2.2. Environmental dynamism as moderating of the relationship between
comprehensiveness and company performance**

The dynamism of environment is considered by many authors as a key factor in examining
the relationship between comprehensiveness of decision-making and company performance
(Mueller *et al.*, 2007). Two groups of research can be distinguished in thee literature. The first
group defends the idea that the exhaustive process of decision-making enhances company
performance in dynamic environments, but decreases it in stable ones (Priem *et al.*, 1995;
Goll and Rasheed, 1997). Also, Judge and Miller (1991) noted that, in a dynamic
environment, comprehensive and exhaustive approach of decision-making leads to better and
quick decisions, which was associated with an improved performance. However, the second
group opposes to the first one and supports that the comprehensive process of decision-
making leads to a better performance in stable environments, and poor performance in an
unstable ones (Fredrickson, 1984; Fredrickson and Mitchell, 1984; Fredrickson and Iaquinto,
1989).

Furthermore, Mueller *et al.*, (2007) suggest that in a dynamic environment using
comprehensive process is difficult because it is not feasible to collect all information needed
to analyze the environment. For Glick *et al.*, (1993), the comprehensive process of decision-
making was related to a good performance in dynamic environments, but no relationship was
found in stable ones. However, Lysonski and Pecotich (1992) found that the comprehensiveness is positively linked to company performance in stable environments, but
no relationship was identified in unstable ones. Because the results are contradictory, we
suggest therefore the following hypothesis:

**H2:** The relationship between comprehensiveness of decision-making process and company
performance is not moderated by environmental dynamism.
2. METHODOLOGY

We divide the description of our research methodology into three parts: the sample and data collection; the measurement of the different concepts in the research model and finally the method of data analysis.

2.1. Sample and data collection

The theoretical population concerned is private and public sector companies in Europe. We include in our target population all companies whose email addresses are available. We succeed in collecting a total of 7250 email addresses from various sources: databases such as Kompass, Diane, and company websites. We create the questionnaire and upload it onto www.keysurvey.com, a website specialised in online data collection. The questionnaire was then sent by email using a computer program designed especially for sending emails automatically. The email consists of a letter explaining the purpose and the structure of the questionnaire and showing a link for potential respondents to click on if they agree to answer the survey questions. Approximately 22% of the 7250 emails sent are not delivered because of incorrect or changed addresses, anti-spam measures etc. In the end, 335 usable questionnaires are sent back, which represents a response rate of 6.58%. The responses were collected from 33 different European countries. The questionnaire administration and data collection process took place between January and July 2010. Tables 1 and 2 synthesize the profile of the respondents and the composition of the final sample according to the size of the companies that have responded to the survey.

Table 1: Profile of the respondents

<table>
<thead>
<tr>
<th>Profiles of respondents</th>
<th>Number of companies</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Company Head, CEO…</td>
<td>161</td>
<td>48%</td>
</tr>
<tr>
<td>Senior Management (Strategy, HR, Finance, Marketing, Production …)</td>
<td>174</td>
<td>52%</td>
</tr>
<tr>
<td>Total</td>
<td>335</td>
<td>100%</td>
</tr>
</tbody>
</table>

Table 2: Composition of the sample by company size

<table>
<thead>
<tr>
<th>Company size</th>
<th>Number of companies</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Small and Medium Enterprises (SME) (1 - 499 employees)</td>
<td>233</td>
<td>69.55%</td>
</tr>
<tr>
<td>Large Enterprises (more than 500 employees)</td>
<td>102</td>
<td>30.45%</td>
</tr>
<tr>
<td>Total</td>
<td>335</td>
<td>100%</td>
</tr>
</tbody>
</table>
2.2 Measurement of concepts

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 7-point scales with the exception of performance measurement, which are average scores. Finally, all the reliability coefficients (Cronbach’s alpha) obtained in this research are satisfactory.

2.2.1. Comprehensiveness

Comprehensiveness is measured using a four-item scale developed and validated by Segars et al., (1998). The scale was used in several prior studies, for example, Papke-Shields et al., (2002, 2006). As shown in Appendix 1, the scale contains four items measuring the comprehensiveness of decision-making process. The first reflects the comprehensiveness in collecting relevant information from environment. The second one is related to the evaluation of all possible actions before taking any strategic decision. The third item used to determine and select the best possible actions. And the fourth one is related to ensure that all possible alternatives have been evaluated before taking any decision.

2.2.2. Company Performance

To measure the company performance, we adopted two forms of measurement: financial measures and non-financial measures. As shown in Appendix 1, financial performance is measured using a three-item scale developed and validated by Ramanujam and Venkatraman (1987). The scale has been subsequently used in other several studies (Papke-Shields et al., 2006). Respondents answer questions evaluating and comparing their company sales growth and return on investment with those of direct competitors. As for non-financial performance, measurement of this construct was based on items derived from a number of previous studies (Shrivastava et al., 2006; Rudd et al., 2008). Respondents were invited to answer questions pertaining to shareholder and customer satisfactions of their company compared to those of direct competitors.

2.2.3. Environmental dynamism

Environmental dynamism (dynamism of environment) is measured using a three-item scale developed and validated by Baum and Wally (2003). As shown in Appendix 1, this scale distinguishes three characteristics of the dynamism of environment. The first characteristic related to the rate of evolution of products, services and practices in an increasingly dynamic
environment; the second one concerns the speed rate of products/services obsolescence in the industry. And the third characteristic is related to the rate of technological changes in environment.

2.3. Method of data analysis

Several methods were used to analyze the data: (1) SPSS software was used to compute the descriptive statistics (means and standard deviations) of variables included in the research, as well as the correlation matrix and some measures of psychometric quality of variables (Cronbach's alpha, KMO); (2) SmartPLS was used in addition to SPSS to compute reliability and validity indexes of variables (C.R. and AVE); (3) AMOS software was used to test the research hypotheses through structural equation modeling.

3. RESULTS

This section presents the psychometric quality of research variables and the results of hypotheses testing.

3.1. Psychometric quality of variables

The psychometric quality of the research variables can be measured via the following two properties: reliability and validity. The table 4 presents the different statistical indexes for the psychometric quality.

Table 4: Reliability and convergent validity of variables

<table>
<thead>
<tr>
<th>Variables</th>
<th>Items codes</th>
<th>Loadings</th>
<th>Alpha</th>
<th>C.R.</th>
<th>AVE</th>
<th>KMO</th>
</tr>
</thead>
<tbody>
<tr>
<td>Comprehensiveness</td>
<td>Compreh_1</td>
<td>0.73</td>
<td>0.859</td>
<td>0.91</td>
<td>0.719</td>
<td>0.804</td>
</tr>
<tr>
<td></td>
<td>Compreh_2</td>
<td>0.91</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Compreh_3</td>
<td>0.83</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Compreh_4</td>
<td>0.66</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Company Performance</td>
<td>Perf_1</td>
<td>0.76</td>
<td>0.792</td>
<td>0.824</td>
<td>0.572</td>
<td>0.773</td>
</tr>
<tr>
<td></td>
<td>Perf_2</td>
<td>0.76</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Perf_3</td>
<td>0.70</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Perf_3</td>
<td>0.61</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Environmental dynamism</td>
<td>Dyn_1</td>
<td>0.58</td>
<td>0.704</td>
<td>0.821</td>
<td>0.709</td>
<td>0.580</td>
</tr>
<tr>
<td></td>
<td>Dyn_2</td>
<td>0.69</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Dyn_3</td>
<td>0.56</td>
<td></td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>
3.1.1. Reliability

Table 4 presents the results of the scales’ reliability measured by means of Cronbach’s alpha and composite reliability (C.R.). As shown in this table, all indexes are above the recommended limit of 0.70 (Nunnally, 1978) for both Cronbach’s alpha and composite reliability: the Cronbach’s Alpha coefficients range from 0.704 (Environmental dynamism) to 0.859 (comprehensiveness) and those of composite reliability (C.R.) from 0.821 (Environmental dynamism) to 0.911 (comprehensiveness). Accordingly, the variables can be considered to be sufficiently reliable.

3.1.2. Validity

The two main types of validities (convergent validity and discriminant validity) will be examined.

Convergent validity tests whether a measurement is similar to other measurements it should theoretically be related to. It is assessed through an examination of two indexes, (1) the average variance extracted (AVE), which value equal to or above 0.50 is being considered satisfactory (Chin, 1998); and (2) Kaiser-Meyer-Olkin (KMO) which value higher than 0.50 is considered satisfactory (Lucian et al., 2008). As shown in Table 4, all the AVE and KMO indexes reach or exceed the threshold of 0.50, which suggests that the conditions for convergent validity are met.

Discriminant validity shows that a measurement is distinct and empirically different from other measurements. It is established when the average variance extracted (AVE) is greater than the square of the inter-construct correlation (Bagozzi et al., 1991). As shown in Table 5, all AVE are greater than the squares of the inter-construct correlations, which suggests that the conditions for discriminant validity are also met.

Table 5: Discriminant validity of the research variables

<table>
<thead>
<tr>
<th>Constructs</th>
<th>Comprehensiveness</th>
<th>Company Performance</th>
<th>Environmental Dynamism</th>
</tr>
</thead>
<tbody>
<tr>
<td>Comprehensiveness</td>
<td>0.719</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Company Performance</td>
<td>0.372</td>
<td>0.572</td>
<td></td>
</tr>
<tr>
<td>Environmental Dynamism</td>
<td>0.043</td>
<td>0.018</td>
<td>0.709</td>
</tr>
</tbody>
</table>

* The values in the diagonal represent the AVE and the other values are the inter-constructs correlations.

From above, we can conclude that all the variables shows that our measurements are good and we can now proceed to hypotheses testing.
3.2. Hypotheses testing

We used the Structural Equation Modeling (SEM) technique with AMOS to test the hypotheses formulated above. Several structural equation models have been run, the first one is a simple structural equation modeling that aims to test the first hypothesis (H1); the second one is a multi-group analysis that consists to test the second hypothesis (H2).

❖ Estimation of the main effect:

Regarding the effect of comprehensiveness of decision-making process on company performance, the estimation of the structural equation model produces the following statistics (Chi-2 = 26,319; P = 0.122; Khi-2/df = 1.385; RMSEA = 0.034; GFI = 0.982; CFI = 0.993), which suggested that our proposed model is well consistent with the data collected for this research. Regarding the structural relationship, we obtained the following statistics (β = 0.316, T = 4.719, P = 0.000)\(^1\) that would mean that comprehensiveness of decision-making process positively and significantly affects company performance. Therefore, H1 is accepted.

The detailed results are presented in Figure 2. The coefficients are standardised and the values in brackets correspond to the T of Student (T-value).

**Figure 2:** Relationship between comprehensiveness of decision-making process and company performance

❖ Estimation of the moderating effect:

To investigate the moderating effect of environmental dynamism, we dichotomized the sample through using the median (3.66). The dichotomization has resulted in two groups (190 and 145 companies). The group at low dynamism (190 companies) presents a level of

\(^1\) **B:** Regression coefficient / **T:** T of student / **P:** P-value.
dynamism between 1 and 3.66 while the group at high dynamism (145 companies) has a level of dynamism between 3.66 and 7. The modeling estimation regarding this effect produces the following statistics \( \text{Chi-2} = 38,502; \ P = 0.447; \ Khi-2/df = 1.013; \ \text{RMSEA} = 0.006; \ \text{GFI} = 0.973; \ \text{CFI} = 1.000 \). These indexes suggested that our proposed model is well consistent with the data. Again, the Multi-group analysis showed that the environmental dynamism doesn’t moderate the relationship between comprehensiveness of decision-making process and company performance. That means that whatever the degree of environmental dynamism (Low dynamism or High dynamism), comprehensiveness of decision-making process has always a positive and significant effect on company performance \( (\beta = 0.215, \ T = 2.444, \ P = 0.015) \) and \( (\beta = 0.446, \ T = 4.251, \ P = 0.000) \) for low dynamism and high dynamism, respectively (see figure 3). Therefore, the hypothesis \( (H2) \) is not supported.

**Figure 3:** Estimation of the structural equation model (Multigroupe Moderation Model – Dynamism of Environment)

We could therefore conclude that the comprehensiveness of decision-making has a positive impact on company performance regardless of the degree of environmental dynamism.

### 4. DISCUSSION AND PRACTICAL IMPLICATIONS

#### 4.1. Discussion

Examining the impact of the comprehensiveness of decision-making process on company performance is one of the fundamental issues of research on the decision-making process. Although, the theoretical affirmation of a positive relationship between comprehensiveness and company performance; several empirical studies provided inconclusive and contradictory results regarding the role of comprehensive process. Therefore, the question of whether comprehensiveness does improve company performance remains unresolved.
This research suggests a significant relationship between comprehensiveness of decision-making process and company performance. This result is in fact in conformity with several previous results (Boyd, 1991; Judge and Miller, 1991; Capon et al., 1994; Miller and Cardinal, 1994). The result illustrates accordingly the importance of the comprehensiveness as a tool of knowledge development (Sniezek, 1992) as well as a tool accelerating the speed of decision making through considering of multiple strategic alternatives (Judge and Miller, 1991).

Our research shows also that the relationship between the comprehensiveness of decision-making process company performance is not moderated by the dynamism of environment. This result is consistent with those of Lyonski and Pecotich (1992) who found the same result. This means that the comprehensiveness is beneficial in stable environments as well as in dynamic ones. To show the importance of the comprehensiveness in companies successful, Dean and Sharfman (1996) note the following: “executives who collect extensive information before making decisions will have more accurate perceptions...which has been shown to relate to firm performance...” (p.374). However, the results of this research disagree with some previous studies arguing an evident impact of the dynamism of environment on this relationship (Fredrickson and Iaquinto, 1989; Priem et al., 1995; Goll and Rasheed, 1997).

4.2. Practical implications

Miller et al., (1998) argue that comprehensive decision-making process may be considered as an effective strategic system of management in small and medium-sized companies. Accordingly, in order to survive and make good decisions companies must make their decision-making process more and more comprehensive. In fact, regardless of the dynamism of environment, at least three reasons could explain the positive impact of the comprehensiveness of decision-making process on company performance. First, a comprehensive process helps decision makers to effectively manage the complexity in decision-making 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 comprehensive process is likely to lead to better decisions and outcomes (Dean and Sharfman, 1996). Second, a comprehensive process may help decision makers to reduce some effects of cognitive biases. 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, it is likely that comprehensiveness of decision-making produced not only high quality decisions but also enhanced motivation and commitment of organizational members in strategy implementation (Nutt, 1998) thereby serving the underlying objectives of effective strategy and strong financial performance (Miller, 2008).

CONTRIBUTIONS

Our research has some important theoretical and methodological contributions.

Theoretically, this research could contribute to better understanding of the value and the importance of the comprehensiveness of decision-making process for companies and particularly its relationship with company performance. In this research, we have also tried to clarify the role of two a contingency factor (environmental dynamism) in the relationship between comprehensiveness of decision-making process and company performance. The confirmation of the positive impact of comprehensiveness on company performance and the lack of environmental dynamism moderation represent significant theoretical contributions.

At the methodological level, we adopted reliable measures for the four variables that set up the conceptual model. These measures have all been used and validated by prior studies. Also, while most previous empirical studies on the comprehensiveness where data were often North-American, our sample consists of European companies. This study is, to our knowledge, one of the few empirical studies that have explicitly modeled and empirically tested the comprehensiveness of decision-making process and their contribution in improving company performance in a European context. Also, this research proposes a new measurement of the concept of performance (financial and non-financial). In addition, this research has used a variety of research tools. For data analysis, two tools were mobilized. In one hand, the analysis of the internal consistency of the scales via SPSS 17.0 and SmartPLS and, on the other hand, the analysis of structural relationships between the different research concepts using structural equation modeling via AMOS 18.0 software. In this research, using structural equation modeling for testing the conceptual model is more valuable than regression method.

Future research perspectives and limitations

This study generates more questions for future research. First, it should also be noted that the model explains only 31.1% of the company performance; it would be interesting to identify other variables that may affect company performance. Second, although the comprehensiveness of decision-making process is beneficial for companies, some authors
argue that flexibility may make a comprehensive process more successful (Grant, 2003; Andersen, 2004; Andersen and Nielsen, 2009). For them, the better strategic process is a process that combines comprehensiveness with flexibility. Accordingly, it will be very interesting for testing that empirically.

Finally, this research represents some limits. Indeed, the fact that our research is only quantitative represents a major limit that should be addressed in future studies by conducting a qualitative research. This could usefully complement the findings of our research.
REFERENCES


Appendix 1: Measurement of variables

❖ COMPREHENSIVE OF DECISION-MAKING PROCESS:

**NB:** 1 = strongly disagree; 2 = disagree; 3 = rather disagree; 4 = neither disagree nor agree (neutral); 5 = rather agree; 6 = agree; 7 = strongly agree

Please indicate the extent to which you agree or disagree with the following statements:

a) We attempt to be exhaustive in gathering information relevant for strategic planning.

<table>
<thead>
<tr>
<th>Strongly disagree</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>strongly agree</th>
</tr>
</thead>
</table>

b) Before a decision is made, each possible course of action is thoroughly evaluated.

<table>
<thead>
<tr>
<th>Strongly disagree</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>strongly agree</th>
</tr>
</thead>
</table>

c) We attempt to determine optimal courses of action from identified alternatives.

<table>
<thead>
<tr>
<th>Strongly disagree</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>strongly agree</th>
</tr>
</thead>
</table>

d) We will delay decisions until we are sure that all alternatives have been evaluated.

<table>
<thead>
<tr>
<th>Strongly disagree</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>strongly agree</th>
</tr>
</thead>
</table>

❖ COMPANY PERFORMANCE:

**NB:** 1 = much worse; 2 = worse; 3 = rather worse; 4 = neither worse nor better; 5 = rather better; 6 = better; 7 = much better

Please indicate the extent to which the financial position of the organization is better or worse compared to close competitors.

<table>
<thead>
<tr>
<th>Much worse</th>
<th>much better</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Much worse</th>
<th>much better</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

❖ ENVIRONMENTAL DYNAMISM:

**NB:** 1 = strongly disagree; 2 = disagree; 3 = rather disagree; 4 = neither disagree nor agree; 5 = rather agree; 6 = agree; 7 = strongly agree

Please indicate the extent to which you agree or disagree with the following statements:

a) Our firm must frequently change its products and practices to keep up with competitors.

<table>
<thead>
<tr>
<th>Strongly disagree</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>strongly agree</th>
</tr>
</thead>
</table>

b) Products/services quickly become obsolete in our industry.

<table>
<thead>
<tr>
<th>Strongly disagree</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>strongly agree</th>
</tr>
</thead>
</table>

c) Technology changes more quickly in our industry than in the healthcare industry.

<table>
<thead>
<tr>
<th>Strongly disagree</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>strongly agree</th>
</tr>
</thead>
</table>

*******************************************************************************