The Moderating Effect of Environment on the Relationship between Strategic Management and Global Performance: Case of Tunisian SMEs Involved in the Upgrading Program

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ABSTRACT

The evolution of the concept of strategic management and its modernity in developing countries, and the rapidity and diversity of changes lead to focus more on the concept of strategic management and testing its importance on companies that evolve in these countries, precisely its relationship with global performance. Based on this observation, this research focuses on the reality of strategic management in Tunisian SMEs. It suggests that the environment has an effect not only on the choice of the adoption of strategic management, but also on the contribution of strategic management to global performance. In this perspective, this research aims to investigate the reality of strategic management in Tunisian SMEs, by testing the moderating effect of environment on the relationship between strategic management and global performance. To achieve this aim, this research performs an empirical investigation into a representative sample of 276 Tunisian SMEs involved in the upgrading program. The results indicate a central effect of the environment in both his relationship with strategic management, as in his relationship with global performance. On the one hand, the environment is directly and positively related to the adoption of strategic management. The more the environment is complex, uncertain, dynamic or turbulent, the strongly the degree of adoption of strategic management. On the other hand, the environment seems to act as a moderator on the relationship between strategic management and global performance. Accordingly, this research concludes that the more the environment is complex, uncertain, dynamic, or turbulent, the more strategic management improves global performance. These results are not surprising since they confirm advanced results in the literature that consider any strategic process must be determined by its external context. They join the contingency theory that suggests that for best performance, management practices must be adapted to the environment.

INTRODUCTION

The performance of the company has never stop to raise questions and start debates to the academic and professional world. Today, the debate is more open and follows previous research, however with much more pressing new challenges. Globalization, technological revolution in the field of information, new economic, social and environmental requirements make speeches increasingly directed towards strategic management. In this perspective, strategic management determines the success of a business, being intimately linked to firm performance. This importance of strategic management led researchers to ask about the effect of strategic management on global performance. The results of this research were a bit mixed. Some research has shown a negative relationship, others have found a positive relationship, and still others found no relationship. The reasons for this discrepancy are diverse: small sample sizes, ignorance of the role of leadership in strategic management, use of inappropriate or non-robust statistical tests, use of non-homogeneous data, inappropriate measure of performance, and inattention paid to the size of the company and the nature of its environment (Bracker et al., 1988; Schwenk and Shrader, 1993; Shrader et al., 1989; Kargar, 1996). This lack of consensus has led some researchers to explain the conflicting results in the underestimation of contingency parameters in the study of the relationship between strategic management and performance. Therefore, the necessity of taking account of moderator's parameters such as the environment seems essential for a better understanding of the

This importance on strategic management challenges any company specifically Tunisian companies which are confronted in past few years face a high level of competitiveness. Indeed, since the accession of Tunisia to the World Trade Organization and the signing of the free trade agreement with the European Union in 1995, the challenge of international competition and survival of the company is more stated. Thus, Tunisian companies operate in a context of profound and radical changes that require them to break with the culture of protectionism and move towards market culture. This change is radical in so far as at the time of protectionism, the concept of strategic management has no meaning at least the majority of Tunisian SMEs, whereas today it is the guarantor of its competitiveness. Based on this observation, and in line with previous researches, this research aims to study the impact of the environment on the choice of the adoption of strategic management and its influence on the contribution of strategic management at the global performance. It attempts to answer the following question: "Does the environment influence the adoption of strategic management and affect the contribution of strategic management to global performance?" The central hypothesis of this research refers to the environment that occurs not only in the choice of adoption of strategic management, but also in the contribution of strategic management at the global performance. Our main motivation is summed up in our desire to know, explain and measure the impact of strategic management on the global performance taking into consideration the effect of the environment, and this in the context of Tunisian SMEs. The moderator effect of environment may help researchers delve deeper into the relation between strategic management and global performance. The specific aims of the research are multiple:

1. Analyze whether the Tunisian SMEs adopt strategic management
2. Draw a portrait of Tunisian SMEs that adopt strategic management and those that do not
3. Identify the effect of the environment on the adoption of strategic management by Tunisian SMEs
4. Evaluate the effect of the environment on the contribution of strategic management in the performance of Tunisian SMEs

Frameworks For Understanding Relationship Between Strategic Management and Global Performance:

The following section intends to highlight some of the salient and prevalent issues of strategic management. In particular, it presents the definition of strategic management, which is followed by a discussion on the relationship between strategic management and firm performance. In addition, it examines how the environment plays a moderating effect on the relationship between strategic management and global performance.

Strategic Management:

Since its introduction in the 50s, the concept of strategic management played a vital role in companies. It is essential to describe development and survival of businesses through this concept. Introducing a definition of strategic management is not straightforward since researchers do not agree on a universally accepted definition due to the interchangeability of related concepts such as strategy, strategic management, business policy, strategic decisions, strategic processes, and many other concepts more or less close to the first of this series (Mintzberg et al., 1998). According to Koenig (1996), this interchangeability may cause negative consequences to the extent that it becomes a generator of misunderstandings and conflicting results, which translates into reproducibility and generalization. Many books and researches consider the strategic management as a field of research representing multiple realities. Contrary to this general sense, experts provide considerable details, considering the strategic management as a field of application that integrates specific dimensions.

Different authors have viewed strategic management differently. Some viewed it as decision-making; while others considered it as the set of activities related to the formulation and implementation of strategies to achieve organizational goals. The early definition of strategic management was provided by the American business historian, Ansoff (1984) who defined it as: develop strategies, organize skills of the company and organize the implementation of these strategies and skills. In the context of construction, Sharpin (1985) defines strategic management as the formulation and implementation of plans and the carrying out of activities relating to the matters which are of vital, pervasive or continuing importance to the total organization. In the other hand, according to Glueck and Jauch (1984) strategic management means a stream of decisions and actions which lead to the development of an effective strategy or strategies to help achieve business goals.

Different contributions highlight significant dimensions of strategic management (Hunger and Wheelen, 2003; Ansoff, 1972; Hussey, 1984). They show that the latter is concerned with the design, preparation and conduct of collective action by developing strategies to guide the development of the company. The first dimension appears directly, since the term strategy is embedded in the concept of strategic management. Indeed, the strategies can be imposed by the environment, which may condition the management. The management then determines the success of the implementation of strategic choices. The two concepts are inseparable, and the strategy appears both as the result of strategic management and the object of conduct. Strategic management is therefore a matter of formulation as implementation strategies. It is a process by which strategists formulate,
implement and monitor corporate strategies (Coulter, 2002; Hill and Jones, 2001). It includes formulation, implementation, evaluation and control (Hunger and Wheelen, 2003). It also can be defined as the art and science of formulating, implementing, and evaluating cross-functional decisions that enable an organization to achieve its objectives (Epstein and Roy, 2007). Thus, strategic management is a process that helps business strategies to better target the efforts of members of the company towards the achievement of organizational goals.

In the same line, Avenier (1988) provides a fundamental contribution to strategic management by defining it as a process that aims to ensure a tight coupling between strategies and operations through the decentralized of strategic thinking, by the involvement of people who will be responsible for implementing the developed strategies. Several definitions support this tendency to place the members of the company at the heart of strategy formulation. Illustratively, “The strategy is a decentralized organizational exercise that involves all employees (or at least the middle and upper management) of the organization and not just the general direction” (Dobers, 1997, p.38). Chakravarty (1997) assume that the analysis is too often affair consultants, planners and other experts. The business strategy should be developed by the employees themselves.

This new vision indicates that the strategic management represents a bridge between the formulation and implementation of the strategy, rather than treating them separately, and this through the integration of members of the company in strategic thinking. It allows direct the evolution of the company through the two inseparable phases which are formulation and implementation. Strategic management is different compared to strategic planning by the inseparability phases of strategy formulation and implementation.

In contrast with strategic planning, the articulation between formulation and implementation of the strategy and this through the integration of operational in strategic thinking. In strategic planning, the result of strategic thinking is an action plan designed by planners who will then “sell” it to the operational managers responsible for its implementation. In strategic management, these are decisions for action that are developed by those who have to implement them. They are therefore less likely to generate resistance to their application and be misinterpreted as frequently happens in the case of decisions taken in the context of strategic planning.

In conclusion, according to Avenier (1988), it is possible to define strategic management as a decentralized strategy process, marking the link between strategy formulation and implementation through the participation of different hierarchical levels in strategic thinking. This definition captures two main elements that go to the heart of strategic management:

- a / Fixing strategies both internally (on the resources and core competencies of the company) and externally (relating to transactions between the company and its environment)
- b / Integration of individuals of non-equivalent hierarchical status in the formulation of strategies

**Relationship Between Strategic Management and Firm Performance:**

The company performance is often a topic studied in management science. According to Goodman and Pennings (1977), it is an essential element in the analysis of organizations and it is not possible to have a theory of organizations that did not include this concept. Strategy specialists share the same opinion considering the performance as an essential element of the Charter of strategic management (Carroll and Vogel, 1987; Hambrick, 2004; Chakravarty and Doz, 1992). In this perspective, research on the question of the relationship between strategic management and performance, is seeking to identify the success factors or causes of failures. In general, all these studies had as a goal to find the right style of management that contribute to the performance of the company. Most contributions argued that the causes of firm’s failure, especially SMEs, are a direct result of the lack of strategic direction. They are more concerned with short-term goals and short-term results rather than long-term goals or long-term results. Very often, activities are daily, which leads to deal with everyday problems and ignore the environment, eclipsing any strategic thinking. However, through the work of famous scientists like Alfred Chandler, Igor Ansoff, Peter Drucker, Michael Porter and Henry Mintzberg, the concept of strategic management has become central in the organization and management in achieving a better performance. It should facilitate the company’s growth and enable it to increase its performance and competitiveness (O’Regan and Ghobadian, 2005; Porter, 1996).

In the case of SMEs, the intensification of competition in almost all industries leads SMEs towards strategic management in order to occupy a better competitive position (Larsen et al., 1998). At this level, several researches have shown that companies using thoughtful strategies have better results than those who did not (Berman et al., 1999; Kargar, 1996; Brinckmann et al., 2010). The essence of strategy development means for a company to provide strategic direction to the company in order that it can achieve its vision and mission. The adoption of a clear strategic growth path then allows companies to ensure consistency, compatibility and strategic continuity changes incurred by the company.
**Moderating Effect of The Environment:**

The literature indicates that the environment is one of the major contingencies faced by a firm in theories of organizations (Tosi and Slocum, 1984). A lot of research has studied the environmental influences on organizational strategies, structures, processes and outcomes. The results of this research showed that the decision to adopt or not to adopt strategic management is a conscious choice that results from the environment and its impact on performance (Child, 1972; Rumelt, 1974; Klassen and Angell, 1998).

Since the 50s, many researchers have focused on the effects of the environment on the organization and firm performance (Burns and Stalker, 1961; Woodward, 1965; Blau 1970; Mintzberg, 1987). In recent years, there have been a number of empirical studies that have focused on the effects of the environment on firm performance. For instance, a study by Berman et al., (1999) on strategy and environment as determinants of performance in the Japanese machine tool industry indicated that profitability and growth of performance were influenced significantly by the environment. Besides that, only environmental variables were related with firm growth of firm performance. In this vein, O’Cass and Julian (2003) found that environmental characteristics have significant impact on overall export marketing performance.

The relationship between the environment and the performance can be explained in strategic thinking by two models: the deterministic model and the proactive model (Saia and Metais, 2001). The deterministic model emphasizes the importance of environmental constraints in shaping organizational forms as well as management systems. It assumes that the environment imposes on companies that are in a posture of submission. The proactive model assumes that organizations do not simply respond to the demands of the environment but can also shape it, mold it in order to derive new benefits; they can develop a proactive behavior aimed to act on their environment.

Many studies show several ways of characterizing organizational environments (Lenz and Engledow, 1986; Smirich and Stubbart, 1985, Bracker and Pearson, 1986; Luthans and Stewart, 1977). The dominant approach in organizational sciences focuses on the basic dimensions of the environment. Following Aldrich (1979), and Beard and Dess (1981), Gueguen (2001) argued that an organization’s environment can be described in terms of the 4 underlying dimensions of complexity, dynamism, uncertainty, and turbulence.

Given the significant differences in the properties of the environment from industry to industry and firm to firm, it seems natural to suggest that: 1. The decision to adopt or not to adopt the strategic management is a conscious choice that results from environment. 2. The relationship between strategic management and firm performance may also vary from one environment to another. Therefore, the well established role of environment leads us to the following hypotheses.

- **H1**: The adoption of strategic management depends on the environment
  - H1.1: The more the environment is complex, the more likely strategic management is to be adopted
  - H1.2: The more the environment is dynamic, the more likely strategic management is to be adopted
  - H1.3: The more the environment is uncertain, the more likely strategic management is to be adopted
  - H1.4: The more the environment is turbulent, the more likely strategic management is to be adopted

- **H2**: Environment influences the contribution of strategic management to the global performance
  - H2.1: The more the environment is complex, the more likely is strategic management to have a positive effect on the global performance
  - H2.2: The more the environment is dynamic, the more likely is strategic management to have a positive effect on the global performance
  - H2.3: The more the environment is uncertain, the more likely is strategic management to have a positive effect on the global performance
  - H2.4: More the environment is turbulent, the more likely is strategic management to have a positive effect on the global performance

**Conceptual Model:**

In order to apprehend the reality of adoption by companies of strategic management, precisely why do some firms adopt strategic management while other firms don't do it, a theoretical model is proposed and focuses on three variables: strategic management, environment and global performance. From the literature review, this model aims to test two relations (see Figure 1). The first relationship seeks to verify that the choice of the adoption of strategic management is influenced by the environment. The second relationship aims to examine the existence of a causal link between the achievement of the global performance and strategic management, taking into consideration the environment.
Methodological Framework:
In order to test the proposed model and hypotheses, it is important to pay attention to the choice of the population, sample, data collection, measures of the concepts used, and methods of hypotheses test.

Sample of Research:
To test the research hypotheses, a quantitative data collection was conducted among a representative sample of 276 SMEs involved in the upgrading program. The sample is stratified by industry (see Table 1). The choice of this population is motivated by four reasons. First, Tunisian companies involved in the upgrading program (PMN) should correspond to the required profile for the program which requires any company wishing to participate and to formulate strategies. Second, these companies belong to different sectors where the states of the environments are different, allowing to understand various aspects of such environments. Third, the population covered by our research is easily identifiable because of the originality of the concept of strategy in at least the majority of Tunisian companies, and the lack of research examining the practices of Tunisian companies in the formulation of strategy. Fourth, the study of the strategic process, and the factors influencing its evaluation, is a particularly sensitive issue for businesses.

Table 1: Research sample

<table>
<thead>
<tr>
<th></th>
<th>AFI</th>
<th>VI</th>
<th>MI</th>
<th>TCI</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Population (SME)</td>
<td>300</td>
<td>329</td>
<td>326</td>
<td>1143</td>
<td>2098</td>
</tr>
<tr>
<td>Percentage ni / N</td>
<td>14,30%</td>
<td>15,68%</td>
<td>15,53%</td>
<td>54,48%</td>
<td>100%</td>
</tr>
<tr>
<td>Sample (n / N = 13,16 %)</td>
<td>40</td>
<td>43</td>
<td>43</td>
<td>150</td>
<td>276</td>
</tr>
<tr>
<td>Percentage ni / n</td>
<td>14,49%</td>
<td>15,60%</td>
<td>15,60%</td>
<td>54,35%</td>
<td>100%</td>
</tr>
</tbody>
</table>

The abbreviations in the table are as follows:
AFI : Agro-Food Industry
VI : Varied Industry
MI : Mechanical Industry
TCI : Textile and Clothing Industry

Data collection:
The conceptual model and the hypotheses developed to test the relations were empirically tested in a survey research; a pre-test questionnaire was performed to validate its content. Following the suggestions and
comments received from participants, some changes and adjustments were made. The final questionnaire was addressed to Directors of SMEs.

**Measurement of Variables:**
For each variable, we use Likert scales of items ranging from 1 = strongly disagree to 5 = strongly agree.

**Measurement of Strategic Management:**
With reference to the definition of strategic management that was adopted in this research, two key variables were used that constituted its essence: the existence of strategies, and strategic thinking shared between individuals of non-equivalent hierarchical status. Participation is defined as the usually sense of taking part, the work of making together, act together, to cooperate in an action requiring multiple actors. In this sense, strategic management is measured through three dimensions according to Calori and Atamer (1989): Information, Consultation and Initiation. Information means that the decision is made by the leader. Subordinates are informed of the reasons, after taking decision by the leader. Consultation means that the decision is taken by the leader after consulting one or more subordinate. Initiation means that the decision is the result of a consensus between leader and one or more subordinate.

**Measurement of Environment:**
Environment is measured through four dimensions according to Gueguen (2001): complexity, uncertainty; dynamism and turbulence. Complexity means multiplicity and heterogeneity of environmental factors. Uncertainty means a lack of information from the environment, a lack of knowledge about the outcome of a decision, and the ability to give a probability of occurrence of events for a given factor. Dynamism means extent of change, power change and speed of change. Turbulence means the speed of change in the speed corresponding to the sequence of changes, the unpredictability of the change relating to the impossibility of predicting changes, renewal of the corresponding change in the probability of a single change, and the significance of the change relating to the importance of the impact of change.

**Measurement of Global Performance:**
Global performance in this study is schematized by the balanced scorecard (Kaplan et Norton, 1996). As a model of strategic performance management, the characteristic of the balanced scorecard and its derivatives are a mixture of financial and non-financial measures. In its simplest form, the balanced scorecard breaks performance monitoring into four interconnected perspectives: Financial, Customer Satisfaction, Internal Process, and Learning and Growth. Financial perspective covers the financial objectives of an organization and allows managers to track financial success and shareholder value. Customer perspective covers the customer objectives such as customer satisfaction market. Internal process perspective covers internal operational goals and outlines the key processes necessary to deliver the customer objectives. Learning and Growth perspective covers the intangible drivers of future success such as human capital, organizational capital and information, capital including skills, training, leadership, organizational culture, system and databases.

**Hypothesis Test:**
To test the research hypotheses, a structural equation model is used to analyze the causal relationships between strategic management, environment and global performance. The application of this model requires a two-step process: validation of models for measuring and testing the structural model (Anderson and Gerbing, 1988; Kline, 2005).

**Test Method of Direct Links:**
The first hypothesis H1 considering the choice of adoption of strategic management is influenced by the environment. It focuses on a direct causal link between the environment (independent variable) and strategic management (dependent variable).

To test the direct effect of environment on strategic management, two rules must be respected (Kline, 2005). First, the significance of the postulated links. It has traditionally been studied in relation to the normal probability distribution. Each unstandardized regression coefficient is divided by its standard deviation, giving the value T from which it is possible to calculate a level of likelihood associated. The threshold most commonly accepted social science is 5%, which corresponds to an absolute minimum value of T 1.96. Second, once a causal link is deemed significant, it is essential to consider the value of the regression coefficient in a first time to see if its sign corresponds to the direction assumed for the effect. Then, in a second time, it is also interesting to look at the magnitude of the regression coefficient to see the strength of causal links.
Test Method of indirect links:
The second hypothesis H2 envisages a moderating effect of the environment on the relationship between strategic management and global performance. It covers an indirect causal link between strategic management (independent variable), the global performance (dependent variable) and the environment (moderating variable).

To test the moderating effect of the environment, the process of Ping (1995) is the best known and recommended approach for its simplicity and robustness (Cortina et al., 2001; Moulder and Algina, 2002). It is to perform hierarchical regressions incorporating new variables created by multiplying the scores of the independent variables and scores of moderating variables (Cohen and Freund, 2005; El Akremi, 2005).

Preliminary Analysis:
Before discussing the results of the preparatory work of the database, it is essential to conduct a cluster analysis to classify the firms in our sample according to the degree of adoption of strategic management. The second step discusses the results of the validation phase of our measuring instruments. It consists to present the results of the analysis in two stages (exploratory and confirmatory), performed in SPSS 18.0 and AMOS 8.0 software. The first is exploratory without a priori specification of the relationship between latent variables and their indicators, in order to test a predetermined structure. These analyses will test the psychometric properties of the scales related variables in our research model.

Cluster Analysis:
To measure the degree of adoption of strategic management by the companies surveyed, a hierarchical cluster analysis was conducted by using the method “Two-Step Cluster” SPSS 18.0. The likelihood distance and the optimization criterion BIC (Bayesian Information Criterion) were used as criteria groupings. The results identified two classes which characteristics are shown in Table 2. Class 1 named “strong adoption of strategic management” is the largest (170 companies) representing 61.6 % of the sample. The other one named the “low adoption of strategic management” class 2 is smaller (106 companies) which represents 38.4% of the sample. These two classes are distinguished by 10 criteria in order of importance (see Table 2).

<table>
<thead>
<tr>
<th>Criteria in order of importance</th>
<th>Class 1 (n= 170)</th>
<th>Class 2 (n= 106)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Existence of financial strategy</td>
<td>100%</td>
<td>77.4%</td>
</tr>
<tr>
<td>2. Participation of middle managers</td>
<td>100%</td>
<td>65.5%</td>
</tr>
<tr>
<td>3. Participation of senior managers</td>
<td>91.2%</td>
<td>100%</td>
</tr>
<tr>
<td>4. Form of participation of senior managers: Consultation/Initiation</td>
<td>88.2%</td>
<td>84%</td>
</tr>
<tr>
<td>5. Form of participation of middle managers: Consultation</td>
<td>73.6%</td>
<td>12.8%</td>
</tr>
<tr>
<td>6. Existence of personnel strategy</td>
<td>100%</td>
<td>36.8%</td>
</tr>
<tr>
<td>7. Existence of commercial strategy</td>
<td>100%</td>
<td>36.8%</td>
</tr>
<tr>
<td>8. Form of participation of middle managers: Information</td>
<td>26.4%</td>
<td>87.2%</td>
</tr>
<tr>
<td>9. Existence of production strategy</td>
<td>100%</td>
<td>22.6%</td>
</tr>
<tr>
<td>10. Existence of supply strategy</td>
<td>91.2%</td>
<td>64.3%</td>
</tr>
</tbody>
</table>

In Class 1, all companies have strategies (financial, personnel, sales, and production) and only 31.2 % of companies have supply strategy, 31.2% of companies refer to senior managers, and all companies refer to middle managers for formulation of these strategies. These companies are therefore appealing to middle managers as senior managers. The participation of senior managers for 18.2% of companies focuses on both the consultation and initiation. While the participation of middle managers is limited to consultation for 73.6 % of companies and to information for 26.4 % of companies. Per consequent, companies are open for the integration of middle managers in strategy formulation. These are associated with strategic choices, being consulted. Their role is not limited to providing their superiors the information needed to strategy formulation.

In Class 2, companies have strategies in different proportions (77.4 % for the financial strategy, 61.3 % for the supply strategy, 36.8 % for personnel strategy, 36.8 % for commercial strategy, and 22.6 % for the production strategy). This shows the lack of strategies for most of these companies. 15.3 % of companies refer to middle managers and all companies refer to senior managers for strategy formulation. Therefore these companies refer more to senior managers than middle managers. Senior managers' participation of 84% of companies is focused on both the consultation and initiation. However, the participation of middle managers on the consultation is 12.8% of the companies, and on the information is 87.2% of companies. In these companies, the strategy is primarily for senior managers with a low willingness to involve middle managers. Indeed, senior managers participate by being consulted and having a opinion in strategic choices. While middle managers primarily play as a source of information and they are less consulted in the formulation of strategies.
Test And Reliability of The Measurement Model:
Validation of measuring instruments includes studying the dimensionality of scales and the mobilized internal consistency, convergent and discriminated validity.

A / Exploratory Factor Analysis:
Examination of the dimensionality of the scales is performed by an exploratory factor analysis (EFA) carried out with SPSS 18.0 software. It is performed on the sample of research (276 SMEs). The reliability of the scales, which is to study their internal consistency, was assessed by Cronbach’s alpha coefficient and Jöreskog’s Rho. Table 3 summarizes the results obtained following the procedures to purify our scales. Only three scales measuring Environmental complexity, Environmental dynamism, and Environmental turbulence proved to be sufficiently homogeneous to match our initial expectations. However, two items have been eliminated from the measurement scale of the uncertainty of the environment.

Table 3: Reliability test of environment

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Dimensions</th>
<th>Number of items</th>
<th>Cronbach's Alpha</th>
<th>Jöreskog's Rho</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENVTURB</td>
<td>Environmental turbulence</td>
<td>b</td>
<td>0.909</td>
<td>0.905</td>
</tr>
<tr>
<td>ENVTDYN</td>
<td>Environmental dynamism</td>
<td>b; (4)</td>
<td>0.880 ; 0.901</td>
<td>0.911</td>
</tr>
<tr>
<td>ENVTCOMP</td>
<td>Environmental complexity</td>
<td>b</td>
<td>0.901</td>
<td>0.914</td>
</tr>
</tbody>
</table>

B / Confirmatory Factor Analysis:
Thus, examination of the dimensionality of the scales is also done by a confirmatory factor analysis (CFA) which has been dealt with through AMOS 8.0 software. It covers only the 170 SMEs in class 1 "strong adoption of strategic management". The criteria for convergent and discriminant validity are applied to mobilized scales. The results show that for each construct, all absolute index, incremental and parsimony meet the standards of good fit and show an acceptable fit of the model (see Table 4).

Table 4: Confirmatory factor analysis test

<table>
<thead>
<tr>
<th>Symbol</th>
<th>( \chi^2/df )</th>
<th>GFI</th>
<th>AGFI</th>
<th>RMR</th>
<th>RMSEA</th>
<th>NFI</th>
<th>CFI</th>
<th>RMSEA</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENVTURB</td>
<td>2.52</td>
<td>0.98</td>
<td>0.95</td>
<td>0.050</td>
<td>0.074</td>
<td>0.96</td>
<td>0.98</td>
<td>0.619</td>
</tr>
<tr>
<td>ENVTDYN</td>
<td>2.51</td>
<td>0.95</td>
<td>0.90</td>
<td>0.048</td>
<td>0.064</td>
<td>0.89</td>
<td>0.92</td>
<td>0.726</td>
</tr>
<tr>
<td>ENVTURB</td>
<td>2.26</td>
<td>0.97</td>
<td>0.96</td>
<td>0.041</td>
<td>0.030</td>
<td>0.97</td>
<td>0.98</td>
<td>0.644</td>
</tr>
<tr>
<td>Thresholds (Roussel et al., 2002)</td>
<td>( &lt;2 )</td>
<td>( &lt;0.9 )</td>
<td>( &gt;0.8 )</td>
<td>( \rightarrow 0 )</td>
<td>( &lt;0.08 )</td>
<td>( &gt;0.9 )</td>
<td>( &gt;0.9 )</td>
<td>( &gt;0.5 )</td>
</tr>
</tbody>
</table>

C / Discriminant validity:
The study of discriminant validity is the last stage of testing validity and reliability of measurement instruments. The result of comparison between the two models is summarized in Table 5. The difference test of chi-square is significant. Indeed, the difference between the two values is NMIC 931.741 for a difference of degree of freedom of 91. This difference is significant according to the test of Chi-square. Also, it was noticed that the fit of the model (Mu) is significantly better than the model (Mc). It can be concluded that the discriminant validity of the different latent variables included in the overall model is established.

Table 5: Difference test of \( \chi^2 \)-square for discriminant validity

<table>
<thead>
<tr>
<th>Unconstrained model (Mu)</th>
<th>( \chi^2 =2197.508 )</th>
<th>( df =1339 )</th>
<th>RMSEA =0.048</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constrained model (Mc)</td>
<td>( \chi^2 =3129.249 )</td>
<td>( df =1430 )</td>
<td>RMSEA =0.065</td>
</tr>
<tr>
<td>Comparison Mc-Mu</td>
<td>( \Delta \chi^2 =931.741 )</td>
<td>( \Delta df =91 )</td>
<td>( P &lt;0.001 )</td>
</tr>
</tbody>
</table>

The internal construct validity (convergent and discriminant) and reliability have been established, it is possible to approach the test of the research model (Roussel et al., 2002).

Results:
After having validated measurement instruments, the research hypotheses are confronted with the survey data.

Adjustment of The Structural Model:
Analysis of adjustment indices presented in Table 6 shows that the structural model fits the empirical data perfectly. In addition, analysis of modification indices and the residue matrix indicates no changes can substantially improve the adjustment. In addition, the model explains a significant part of the variance of most endogenous variables (see Table 6). This part even reaches 80% for the uncertainty dimension, and above 70%
for the remaining variables in the model. These results allow accepting the model in its initial specification and turning to the interpretation of the estimated parameters to check its consistency with the hypotheses of the research. It starts with validating assumptions for direct causal links before considering later assumptions about indirect causal links or moderating effects.

<table>
<thead>
<tr>
<th>Table 6: Adjustment of the structural model</th>
</tr>
</thead>
<tbody>
<tr>
<td>Part of variance explained</td>
</tr>
<tr>
<td>ENVTCOMP 71%</td>
</tr>
<tr>
<td><strong>Adjustment indices</strong></td>
</tr>
<tr>
<td>$\chi^2$</td>
</tr>
<tr>
<td>223.986</td>
</tr>
<tr>
<td><strong>Thresholds</strong></td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>

Testing of Direct Effect of The Environment on The Adoption of Strategic Management (H1):

The results of causality analysis show that H1 is confirmed as the four sub-hypotheses are all confirmed (see Table 7). Indeed, turbulence and complexity have a significant direct effect (5%), positive and strong on the adoption of strategic management. Similarly, uncertainty and dynamism have a direct positive significant effect (5%), but less strong on the adoption of strategic management.

<table>
<thead>
<tr>
<th>Table 7: Testing the direct effect of the environment on the strategic management</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standardized regression coefficient</td>
</tr>
<tr>
<td>-----------------------------------------------</td>
</tr>
<tr>
<td>SM $\leftarrow$ ENVTCOMP</td>
</tr>
<tr>
<td>SM $\leftarrow$ ENVTDYNA</td>
</tr>
<tr>
<td>SM $\leftarrow$ ENVTUNCT</td>
</tr>
<tr>
<td>SM $\leftarrow$ ENVTTURB</td>
</tr>
</tbody>
</table>

As shown in Table 7, the direct effect of the environmental turbulence (ENVTTURB) on strategic management (SM) is very high with structural effect value of 0.998. The standardized structural coefficient of ENVTTURB on SM is associated with a low standard error (0.069) and a non-zero critical ratio (14.524), which indicates that the environmental turbulence has a strong positive effect on strategic management (H1.4 is confirmed). In addition, the direct effect of the complexity of the environment (ENVTCOMP) on strategic management (SM) is very high with a structural effect value of 0.974. The standardized structural coefficient of ENVTCOMP on SM is associated with a low standard error (0.071) and a non-zero critical ratio (13.677), which indicates that the complexity of the environment has a strong positive effect on strategic management (H1.1 is confirmed).

The direct effect of the environmental uncertainty exhibits a positive structural effect on strategic management (structural effect value of 0.938), with a low standard error (0.122) and significant critical ratio (7.677). The environmental uncertainty has so a strong positive effect on strategic management (H1.3 is confirmed). In addition, the direct effect of environmental dynamism on strategic management is also quite high and significant (structural effect value of 0.880) with low standard error (0.135) and non-zero critical ratio (6.503). The environmental dynamism has so a strong positive effect on strategic management (H1.2 is confirmed).

Testing of Moderating Effect of The Environment on The Relationship Between Strategic Management And Global Performance (H2):

Following the application of the approach Ping (1995), testing the moderating effects of the four dimensions of the environment on the relationship between strategic management and global performance are summarized in Table 8. The test results show moderating effect of different dimensions of the environment in the relationship between strategic management and global performance. The moderating effect of turbulence is stronger than the other dimensions. Indeed, strategic management has a positive effect on the global performance ($\gamma = 0.187$, Student’s t-test = 2.582). Turbulence also has a direct effect on the global performance ($\gamma = 0.334$, Student’s t-test = 3.628). The product (strategic management x turbulence) has a strong positive effect on the global performance ($\gamma = 0.570$, Student’s t-test = 7.202). The test results also show moderating effect of complexity, dynamism, and uncertainty in the relationship between strategic management and global performance are also checked. Indeed, the direct effects of dynamism, uncertainty and turbulence of the environment on the global performance are checked ($\gamma = 0.189$, Student’s t-test = 2.428), ($\gamma = 0.239$, Student’s t-test = 2.974), ($\gamma = 0.149$, Student’s t-test = 2.146). Interactions between successively dynamism, uncertainty and
turbulence of the environment with strategic management, are also checked ($\gamma = 0.129$, Student’s $t$-test = 2.287), ($\gamma = 0.104$, Student’s $t$-test = 2.317), ($\gamma = 0.241$, Student’s $t$-test = 2.667). The coefficient of determination for the global performance is equal to 59.71%. It is considered very well. That’s when all the sub-hypotheses H2.1, H2.2, H2.3, and H2.4 are all confirmed, and therefore H2 is confirmed.

### Table 8: Moderator effect of the environment

<table>
<thead>
<tr>
<th>Dependent variable</th>
<th>Independent and moderating variables, and interaction effects</th>
<th>Regression coefficients</th>
<th>Student's $t$-test</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>GLOBPERF ($R^2 = .59,71%$)</td>
<td>SM</td>
<td>0.187</td>
<td>2.582</td>
<td>S</td>
</tr>
<tr>
<td></td>
<td>ENVTCOMP</td>
<td>0.149</td>
<td>2.146</td>
<td>S</td>
</tr>
<tr>
<td></td>
<td>SM x ENVTCOMP</td>
<td>0.241</td>
<td>2.667</td>
<td>S</td>
</tr>
<tr>
<td></td>
<td>ENVTURB</td>
<td>0.239</td>
<td>2.974</td>
<td>S</td>
</tr>
<tr>
<td></td>
<td>SM x ENVTDYNA</td>
<td>0.104</td>
<td>2.517</td>
<td>S</td>
</tr>
<tr>
<td></td>
<td>ENVTDYNA</td>
<td>0.189</td>
<td>2.528</td>
<td>S</td>
</tr>
<tr>
<td></td>
<td>SM x ENVTTURB</td>
<td>0.129</td>
<td>2.287</td>
<td>S</td>
</tr>
<tr>
<td></td>
<td>ENVUNCT</td>
<td>0.334</td>
<td>3.628</td>
<td>S</td>
</tr>
<tr>
<td></td>
<td>SM x ENVUNCT</td>
<td>0.570</td>
<td>7.202</td>
<td>S</td>
</tr>
</tbody>
</table>

### Discussion and Implications:

This research has adopted an explanatory framework for the adoption of strategic management and its contribution to the global performance and found considerable empirical support for that perspective. It was found support for both hypotheses, thus lending support to the basic premise of the paper that environment is a moderator of the relationship between strategic management and global performance.

On the one hand, the results of the analysis of the structural model strongly support the effect of the environment on the adoption of strategic management. These results are not surprising insofar as they confirm all the results developed in the previous work, considering the strategic business processes as determined by its external environment (Dean and Sharfman, 1996; Papadakis et al., 1998; Burgelman, 1991; Hart and Banbury, 1994). As an illustration, Papadakis et al. (1998) estimate that the company has more interest in adopting strategic management if it was in a stable environment. Strategic management can cope with different problems of adaptability for activities located in areas of uncertainty or turbulence. In the same vein, Barringer and Bluedorn (1999), based on empirical results demonstrate the influence of the environment on the process of formulating a strategic decision. They believe that the outcome of the strategic planning single leader or a process of 'top-down' is a futile exercise in a stable environment, while the strategic planning process rather than the result of a "bottom-up" is reveals best suited in turbulent environments. These few reviewed research certifies that the environment leads firms to opt for the adoption of strategic management.

On the other hand, the results support the effect of strategic management on global performance that is moderated by the environment. These results suggest that the ability of strategic management to explain the global performance will depend on levels of complexity, dynamism, uncertainty and even greater environmental turbulence. More the environment is complex, dynamic, and uncertain or even it is turbulent, more strategic management will have a significant positive effect on global performance. In other words, the global performance can only be achieved by the interactive effect of strategic management and the environment. In fact, the environment variable will change the relationship between strategic management and global performance. In fact, the environment variable will change the relationship between strategic management and global performance. It is complex, dynamic, uncertain or turbulent environment determines the contribution of strategic management has global performance. Therefore, the choice of adoption of strategic management based on a particular state of the environment is a necessity for the company: its global performance level will vary significantly. It is more crucial when the environment is turbulent. Based on these elements, it is possible to argue that strategic management is a prerequisite for achieving better global performance, and that this occurs only when certain preconditions are met, including the alignment of strategic management at the environment in which the company and especially the turbulent environment. This result is consistent with our theoretical development. More the environment is complex, dynamic, uncertain or turbulent, the more necessary, even essential, to adopt strategic management. Indeed, the strategic management which refers to the participation of organizational actors of different hierarchical levels in the formulation of corporate strategy facilitates, in space and time, the formulation and implementation of successful strategies (Koenig, 1996). This could be explained by three main reasons. First, the high degree of creativity and realism formulated strategies (Mintzberg, 1994; Calori and Atamer 1989). Second, the involvement of operational actors in the strategy formulation increases the degree of motivation (Avenier, 1988; Calori and Atamer, 1989; Mintzberg, 1994). Third, by high degrees of learning and development of skills in strategic thinking (Koenig, 1996; Ren and Guo, 2011). Following these findings, it seems that the choice of adoption of strategic management does not occur outside the environmental context and influences the achievement of the global performance. The interaction between strategic management and the environment represents a key factor to produce the global performance. Therefore,
companies wishing to adopt strategic management should not overshadow the importance of the environment. However, the moderating effect of the environment on the relationship between strategic management and global performance provides strong support for the contingency theory that suggests that for best performance, management practices must be adapted to the organizational context. Organizations that operate under the same contingency factors should substantially adopt the same practices. Therefore, there is no practice that is good or bad in all contexts, but instead there are many appropriate practices as there are specific contexts.

Conclusion:
Our study sought to shed light on the strategic management practices of SMEs in testing its impact on the global performance, while taking into account the moderating effect of the environment. The findings show that the adoption of strategic management is influenced directly and strongly by the four dimensions of the environment: complexity, uncertainty, dynamism and turbulence. Each of these dimensions will lead companies to opt for the adoption of strategic management. It appears that the more the environment is complex, uncertain, dynamic or turbulent, the greater the degree of adoption of strategic management is strong. It appears also that the contribution of strategic management to the global performance depends on the environment. More the environment is complex, uncertain, dynamic or turbulent, more strategic management has a positive effect on global performance. Therefore, our research contributes to address the lack of research presented at this level and to enrich and deepen our understanding of the problem studied, it has some limitations. The first limitation concerns the nature of the measures used to understand the variables in the conceptual model. In fact, subjective measures were used by which the respondent who is the director evaluates the behavior of its business and reported it in the questionnaire. There may be a gap between what is said and reality, linked to the risk of bias affecting the desirability responses provided by the participants in our survey. That is why it would be desirable to re-test our research model using objective measures and subsequently capture the variation between results from subjective measures and those from objective measures. The second limitation concerns the external validity of this research. Indeed, although the sample was carefully taken to be representative of the population, it is not possible to generalize the findings of this research on all Tunisian companies involved in the upgrading program, and this because of the absence of the three sectors of the final sample (LFI, CHI, and MCCGI). Therefore, these findings can be generalized only to the four sectors surveyed (AFI, VI, MI, and TCI). It would therefore be very useful to repeat this research, by integrating the three areas that are lacking.

These limitations represent opportunities to advance in our efforts to understand the relationship between strategic management and global performance. On the whole, our results are informative and encouraging that will stimulate further research at the interface of strategic management and global performance. The first avenue for future research that may be proposed regarding improving the explanation of the adoption of strategic management. In fact, our conceptual model integrates a single explanatory factor that is the environment. To improve the explanation of this behavior, it would be interesting to enrich our validated model by incorporating other causal variables such as the leader skills of the entrepreneur and the organizational structure, which, according to several researchers, to determine the behavior and development of companies. The second avenue for future research concerns the external validity of this research. Indeed, it should, in the context of further work to re-test our model in different contexts, to check whether our results are generalizable or not. Thus, the use as research field of international companies operating in Tunisia or public agencies, would conclude on the generalizability of our results. The third promising avenue of research relates to the methodology. It is to study the explanatory framework of strategic management using a comparative approach between firms that adopt strategic management and those that do not adopt. This approach would deepen the understanding of the adoption of the practice of strategic management, and to identify other explanatory factors. The fourth line of research concerns the participatory approach in the strategy formulation. Indeed, the validated model does not specify the process or the process adopted by companies for the participation of hierarchical levels in the formulation of corporate strategy. Issues such as the skills of participants, number of participants, the selection of participants, conditions of participation, ... are required. Thus our research will stimulate reflection on all these points, followed by empirical investigations to measure their impact on the practice of strategic management, and therefore improve our understanding of the contribution of strategic management to the global performance.

REFERENCES


