"Strategic Decision Criteria in an Emergent Company Confronted to Important Institutional Changes"

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Abstract

During these last years, Algeria, like some other developing countries is undergoing important institutional changes. The structural adjustment plan (1990s), and the association agreement signed with the European Union (2005) are some of political tools that guide these profound changes that have considerable impacts on the strategic behavior of local enterprises. Beyond these mutations at national level, important policy changes are observed at international level, like the recent reform of the European sugar policy that constitutes a considerable shifter on the behavior of enterprises operating in the Algerian sugar refining industry. The present research aims to measure the weight of the institutional criteria on the strategic decision of sugar refining companies in Algeria, by the application of the SWOT analysis. The ultimate purpose is to contribute to the analysis of interactions that exist between institutional changes induced by the globalization process and the strategic choices of local enterprises in an emergent economy.

Keywords: *Institutional change, Strategy, SWOT-AHP*

Introduction

The Mediterranean sugar refining industry faces important institutional changes like the recent reform of the European sugar policy. Algeria is one of the most exposed countries to the immediate outcomes of this reform, because of the association agreement that it signed with the EU, its first partner in the sugar sector.
The paper highlightens the prospects and challenges that faces the local sugar refining companies in this particular context, using the SWOT (Strengths, Weaknesses, Opportunities, Threats) analysis. Two other methodological tools complete the SWOT analysis: the Analytical Hierarchy process (AHP) that quantifies the SWOT results, and the results of interviews based on Delphi method.
Algerian sugar refining industry can best be defined as a duopoly as there are two large companies that dominate the quasi-totality of the national output: A State-owned Company and a private industrial conglomerate. The strategic choices of these two companies are quite different and they behave quite differently faced to institutional changes at national and at international levels.
This paper is organized in 5 sections: After an overall literature review (1) on the interactions between institutional changes and enterprise behavior, we describe our methodological approach (2) as well as the studied sector (3) and the realization of investigations (4) and finally analyze the main results and discussions (5) before concluding.

1 Literature review

We can distinguish in the strategic management two important research perspectives. The first perspective reflects a market power imperative, and views the firm as bundle of strategic activities aiming at adapting to industry environment (Rivard et al, 2006). It considers industry structure as the primary cause of strategy and performance. The works of M. Porter in the 1980s contribute largely to this perspective.

A generally-accepted premise of organization theory is that environmental dynamism drives the structures of enterprises to be more organic (Miles et al, 2000). According to these same authors, the unpredictability of dynamic environments can negate any benefit that would be derived through the adoption of mechanistic structure. So the firms must have the ability to rapidly respond to changing conditions by taking risks, by innovating, and by exhibiting proactive behaviors.

Enterprises adjust and adapt to environmental dynamism through a variety of strategic orientations. Strategy, therefore, is instrumental to the survival of the firm. Environmental uncertainly plays a central role in strategy formulation, for it affects not only the availability of resources to the firm and the value of its competences and capability, but also customer needs and requirements, as well as the competition (Jabnoun et al, 2003)

Every environment contains a certain degree of uncertainty or uncontrollable elements. However, the degree of environmental uncertainty is extremely variable (Anderson and Paine, 1975). Instability or turbulence concerns not only market and industry conditions but also more general technological, economic, social and political forces. The political forces concern the institutional framework of a society which serves, according to North, as constraints to regulate economic activities by providing the rules of the game (North, 1990).

The second perspective, the resource-based view, conceptualizes the enterprise as a bundle of resources and competences and considers that firm's unique resource should define the essence of its strategy.

This perspective has been the subject of extensive attention in the strategy literature in these lasts years and has become a popular explanation of performance heterogeneity at the firm level (Fahy, 2002).

Barney (1991) provides a precise and formalized description of this perspective originating from Penrose's work dating back from the 1950s. He notes that the resources' immobility is the necessary condition for sustained competitive advantage. This immobility depends on six important characteristics of the resource (Amit and Schoemaker, 1993): Complementarity, scarcity, low tradeability, durability, appropriability, limited substitutability, inimitability.

Arregle (2006) suggests that according to the resource based view, the strategic management can be decomposed in four dimensions: the identification of strategic resources (scarce resources), the protection of these resources against firm's competitors, the exploitation of these strategic resources and the creation of (new) resources.

Although, the premises on which these two perspectives are based differ, strategic management researchers have recognized the complementarity between the market driven perspective of strategy and the resource based view (Ireland et al, 1987). However, in some types of studies these two perspectives are described as competing views (Duhan et al, 2001).

The present study focuses on these two key aspects, the relative importance of the internal and external factors in the strategic decision process, and the relationship between institutional environment and the strategy of firms.

2 Methodology

Strategic management can be understood as the collection of decisions and actions taken by business managers, in accordance with all the levels of the hierarchy (Yuksel and Dagdeviren, 2007). Many approaches and techniques can be used to analyze the strategic management process. Among them, Strengths, Weaknesses, Opportunities and Threats (SWOT) analysis is an important supporting tool for decision making. It is commonly used as a means to analyze an organization's internal and external environments.
SWOT analysis summarizes the most important internal and external factors that may affect the organization's future (strategic factors).
After the identification of its strengths, weaknesses, opportunities and threats, the organization can build strategies upon its strength, eliminate its weaknesses, and exploit its opportunities or use them to counter the threats.
If used correctly, SWOT can provide a good basis for successful strategy formulation (Chang and Huang, 2006). However, SWOT analysis is not without weaknesses. One of the main limitations of this approach is that the importance of each factor in decision making can not be measured quantitatively (Shrestha et al, 2004).
In conventional SWOT analysis, the magnitude of factors is not quantified to determine the effect of each factor on the proposed plan or strategy (Masozera et al., 2006). So the result of SWOT analysis is too often only a superficial and imprecise listing or an incomplete qualitative examination of internal and external factors (Kurtilla et al., 2000).
This principal limitation can be overcome by using the AHP method, which assigns relative priority to each factor through pair-wise comparison.
SWOT provides the basic frame within which to perform an analysis of the decision situation and AHP assists in carrying out SWOT more analytically.
Masozera et al. (2006), suggest that the possible advantages of using AHP in SWOT analysis concern the quantitative examination of the SWOT factors and inclusion of preferences of the decision makers.
The SWOT-AHP research involves several stages. Following the approaches proposed by Kurtilla et al (2000) and Masozera et al (2006), we can explain the SWOT-AHP analysis that we adapted for this present research, in four steps:

Step 1: the identification of the SWOT factors relating to the strategy. It is often suggested to include less than 10 factors within each SWOT group so that the number of pair-wise comparison is manageable.

Step 2: pair-wise comparison is conducted separately for all factors and priority value for each factor is calculated by using the software Expert Choice 11.

Step 3: pair-wise comparison between the four factors witch have the highest priority value under each SWOT group. So, by using the same software, we can calculate the priority value of each SWOT group in the strategic decision.

Step 4: the overall priority of each factor is calculated by the multiplication of the priority value of the factor by the priority value of its group. The overall priority scores of all factors across SWOT groups sum to one and each score indicates the relative importance of each factor in strategic decision.

As the number of sugar refining enterprises in Algeria is highly limited, there is a considerable subjectivity risk in the classification of the SWOT factors. To overcome this risk present at the first step of our analysis, we used the Delphi method.

It is also important to underline that the responses obtained from the pair-wise comparison can present some inconsistencies. The advantage of the AHP method is the verification of this risk with the Inconsistency Ratio (IR).
According to Delvecchio (2006), between the methods adopting the concept of Multiple-Attribute Decision Making, the AHP is the only one which gives the possibility of this verification.
Mendoza and Macoun (2000) suggest that when the number of the compared factors is lower than 9 elements, the inconsistency ratio must be lower than 10%.

3 Description of the studied sector:

The Algerian sugar sector is limited, during these last years, to an industry specialized in refining imported raw sugar and in marketing refined sugar (imported and produced locally). We can summarize the organization of this sector in the following figure.

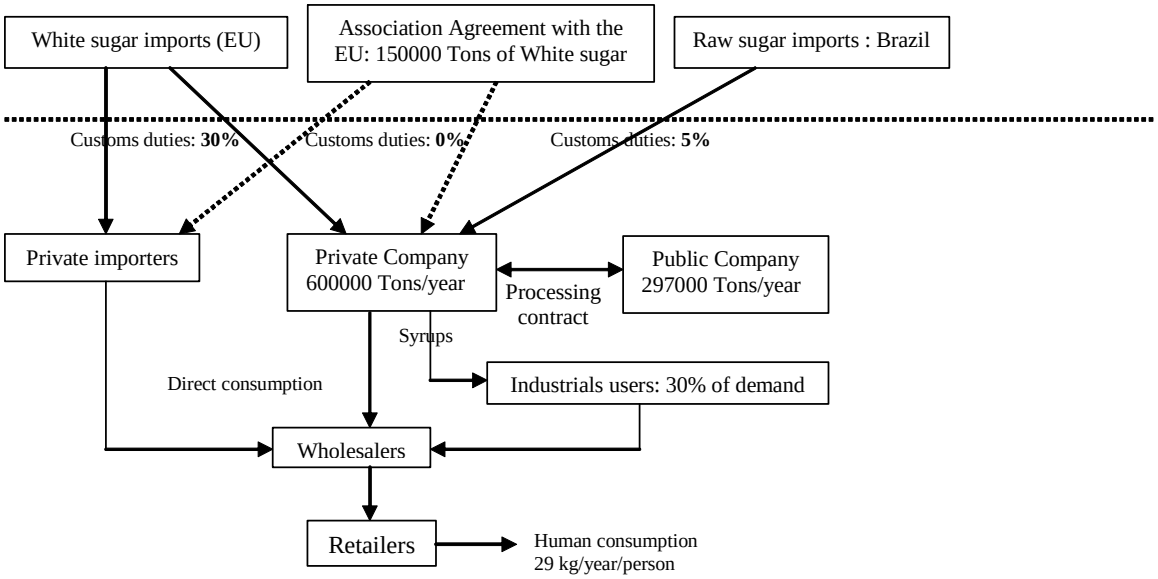

Figure 1. Organization of the Algerian sugar sector

We observe in the figure 1 that the sugar activity of the two Algerian sugar refining companies is limited to the transformation of the raw sugar imported generally from Brazil. This dependency is the consequence of the cessation of the beet production since 1983. This cessation was induced by the difficulties that faced the local beet producers as well as by the absence of agricultural subsidies. The public intervention during this period was limited to the financing of the State-owned company (that was in situation of monopoly) and the subsidies for sugar consumption.
Subsequently, this policy induced an increase in the overall sugar consumption while increasing the dependency of the State-owned company on State financing.

In the 1990s, the application of the structural adjustment plan led the government to decrease gradually the public intervention in the sugar sector as well as in other sectors. This change brought on two major consequences. First of all, the disengagement of the State from the ma-

nagement of the State-owned companies drove these firms to a full crisis. Indeed, the sugar refining company thus had to deal with important difficulties, specially financing problems du to these policy changes. This crisis limited considerably the development of this company and discouraged any action that could be undertaken to improve its competitiveness.

The second consequence of the application of the structural adjustment plan is the liberalization of many sectors to facilitate the arrival of private operators. This liberalization encouraged the creation of many private enterprises, one of them operating in the sugar sector. This company displayed an important development and a continuous improvement of its competitiveness during these last years. In our days, it has dominant positions in several business sectors, and particularly in sugar refining where it holds approximately 60% of the market share.
Concerning the sugar consumption, in spite of the gradual cut-off in public subsidies, the sugar consumption continues to have a considerable weight in Algeria. It should be recognized that, contrary to the European consumer, the sugar remains an important bulk product for the Algerian consumer.

4 Survey design and data collection

The construction of the SWOT analysis involved panel of 12 experts chosen in accordance with the requirements and principles of the Delphi method. The implication of these experts has the advantage of guaranteeing certain objectivity at the level of results.
The 12 selected experts occupy different positions (at the Ministry of Agriculture, Ministry of Research, executive-managers in the two studied companies). They possess legal and administrative knowledge about the sugar sector, and at the same time have a good vision about the two sugar companies.

Table 1. Composition of the expert's panel of the Delphi investigation (1st and 2nd round)

Number of consulted experts	Number of returned questionnaires for the 1st round	Number of returned questionnaires for the 1st round
12 Experts	12 (100%)	12 (100%)

The identified internal and external factors have been proposed to the selected experts in the form of closed-ended questions. In the first round, Delphi experts had to classify the internal and external factors in the SWOT groups. Some experts have just classified the proposed factors in the SWOT groups while others have added some suggestions which then were taken into consideration.
The second round of the Delphi method allowed the same experts to review their judgments about the first round. They were informed about the collective judgment. A Likert scale, with five levels, has been used to measure the degree of agreement between experts.
The expert could maintain his first judgment even if it was a different judgment from that of the group. He could also change this judgment. In the two cases the expert had to justify his choice.
The statistical processing of the collected answers has been achieved through the calculation of the average, standard gap and coefficient of variation.
Final list of the main strengths, weaknesses, opportunities and strengths is determined for each enterprise after these two Delphi rounds.
In order to prioritize the selection criteria and to distinguish in general the more important criteria from the less important ones, further investigation was conducted by using the AHP approach. AHP is also able to solicitate consistent subjective expert judgment via the consistency

test.
In our research, the top of hierarchy (objective) concerns the strategies of the two sugar companies. The second level (criteria) is composed by the four SWOT groups. The third level concerns the sub-criteria that compose the SWOT groups.
The relative importance of the criteria and sub-criteria was rated by the nine –point scale proposed by Saaty (1980), which indicated that the level of relative importance from equal, moderate, strong , to extreme level by 1, 3, 5, 7, 9 respectively. The intermediate values between two adjacent arguments are represented by 2, 4, 6 and 8.
The SWOT factors classified with the Delphi method are used to develop a questionnaire for pair-wise comparison. This questionnaire included a rating scale to evaluate the relative weight of each factor. The respondents were asked to evaluate if both factors were equally important in the strategic decision or if one was more important than the other. Because of the problem of the centralization of the strategic decisions in the two companies, we have limited, in our research, the number of respondents to the executive-managers, responsible for the strategy of each company.
During the evaluation, the respondent would first decide which of the two factors was more important, and then assigned a weight ranging from one to nine indicating the relative magnitude of its importance (Shrestha et al, 2004). The data obtained from the pair-wise comparisons are used to estimate the value for each factor within each SWOT group. We used the software Expert Choice 11 to analyze this data.
Estimation of overall factor priority is the last step. The same respondent (responsible for the strategy in each enterprise) is asked to make pair-wise comparison between the four important factors obtained in the first round of AHP method.
The data obtained are analyzed by using the same software (Expert Choice 11). The weight of each of the fourth factor corresponds to the weight of its group. The estimation of the overall weight of each factor can be obtained by the multiplication of the local weight of each factor by the weight of the group.

5 Results and discussion

We present in this section some important results from our investigation in the Algerian sugar sector in general and the sugar refining companies in particular. We have obtained for each company a qualitative (the association of the SWOT analysis and the Delphi method) and quantified classification (using the AHP method). We must precise that in the first step of our investigation (qualitative step) we have eliminated some internal and external factors considered by experts as non relevant.

5.1 The case of the State-owned company

The two rounds of the Delphi method in the case of the State-owned company are given in the following classification in the SWOT groups:

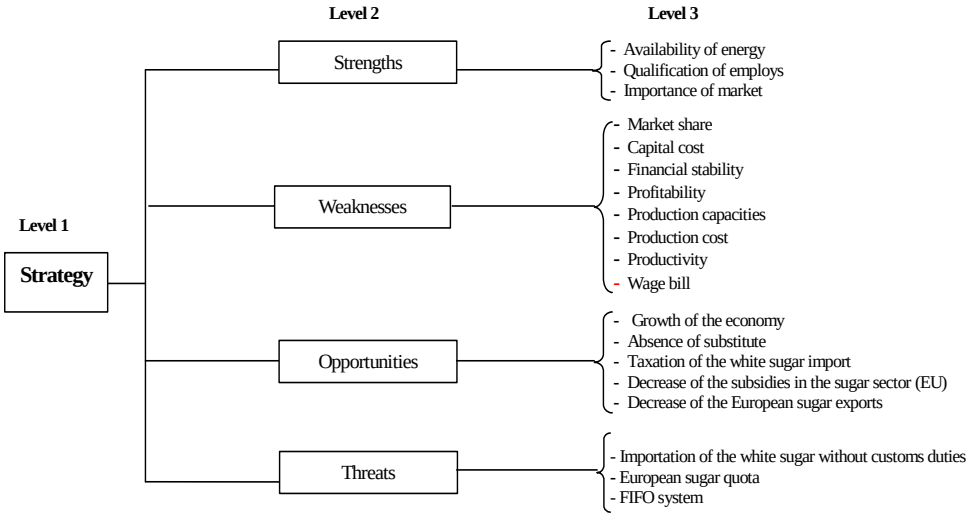

Figure 2. The final classification of the strategic factors in the SWOT groups obtained after the two Delphi rounds

The classification of the SWOT factors in the case of the State-owned sugar refining company shows that this one has to face to many weaknesses; the most important weakness concerning its financial difficulties. This weakness drives largely from the company's management pattern, designed by public interventions. In fact, there is a great dependency on public financing. A fact that discourages any action to improve the profitability of the company, hence its competitiveness.

In order to quantify the classification obtained by the association between the SWOT analysis and the Delphi method, we established a new questionnaire with the Analytical Hierarchy Process (AHP) method. This questionnaire is proposed to the executive-manager, responsible for the strategy in the company. The analysis of the data obtained by using the Expert Choice software has given the following results:

Table 2. Local priorities of the SWOT factors in the State-owned company

Strengths		IR=0
Importance of market	0,615	
Availability of energy	0,308	
Qualification of the employees	0,077	
Weaknesses	IR=0,08	
Financial stability	0,403	
Profitability	0,189	
Production cost	0,162	
Capital cost	0,087	
Production capacities	0,07	
Wage bill	0,037	
Productivity	0,026	
Market share	0,025	
Opportunities	IR=0,06	
Taxation of the white sugar imports	0,575	
The decrease of the European sugar exports	0,169	
The decrease of the European sugar subsidies	0,156	
Absence of any substitute	0,063	
Growth of the economy	0,037	
Threats		IR=0
The import of white sugar without customs duties (EU)	0,615	
FIFO system	0,308	
The European sugar quota	0,077	
Total	1 (100%)	

We observe in the table 2 the small number of strengths in the State-owned company while the number of its weaknesses is rather high. In fact, its low profitability (18,9% in the strategic decision) induced by higher costs of production (16,2%), results in a lack of competitiveness. To improve the profitability as well as the competitiveness, the production capacities (7%) must be renewed. However, the financial difficulties (61,5%) coupled with the high capital costs (8,7%) render the investments impossible to be realized.

In spite of these internals difficulties, the State-owned company continues to operate in the Algerian sugar sector due to the important national demand for sugar. On the other hand, the taxation of the refined sugar imports (57,5% of the total weight of the opportunities) plays in favor of the State-owned company as it protects this company from international competition. The suppression of this protection would be an important threat (61,5% of the total of threats) and could lead the State-owned company to cease completely its productive activity.

Concerning the European sugar reform, especially the decrease of the sugar exports of the U.E., it doesn't constitute an important opportunity (16,9%) for this company as it has no means that could let it profit from this change in international markets.

In order to calculate an overall weight for each SWOT factor, the results obtained from the first round of the AHP method are used to make new questionnaire. The same respondent (executive-manager, responsible for the strategy in the enterprise) is asked to make pair-wise comparison between the forth important factors obtained in the first round AHP. The data analysis using the Expert Choice 11 software gave the following results:

Table 3. Overall priorities of the SWOT factors in the State-owned company

Strengths		0,187	
Market importance	0,11377		
Availability of energy	0,05698		
Qualification of employs	0,01424		
Weaknesses		0,293	
Financial stability	0,11807		
Profitability	0,05537		
Production cost			0,04746
Capital cost			0,02549
Production capacities	0,02051		
Wage bill			0,01084
Productivity			0,00761
Market share	0,00732		
Opportunities		0,415	
Taxation of white sugar imports	0,23862		
Decrease of the European sugar exports	0,07013		
Decrease of the European sugar subsidies	0,06474		
Absence of any substitute	0,02614		
Growth of the economy	0,01535		
Threats		0,107	
Imports of white sugar without customs	0,06580		
duties (EU)	0,03295		
FIFO system	0,00823		
European sugar quota			
Total		**1 (100%)**	1
IR =0,03	(100%)		

We can observe in the table 3 that the opportunities take an important place in the strategic decision process (41,5%). Like it was underlined, because of its lack of competitiveness, the taxation of white sugar imports (23,86% in the overall classification) stands out as the principle factor that ensures the continuity of the activity of the State-owned company. The second important group is composed of the weaknesses of the State-owned company (29,3% of the overall weight of the SWOT groups). This company is confronted to a large number of weaknesses that hinders the company to improve its competitiveness. The most important weakness of this company is its financial instability (11,8%).

The second observation which can made from the table 3 is that the weight of the internal factors (47,7%) is less important than the weight of the external ones (52,2%). This result confirms the dependency of this company on the factors of its environment. The institutional factors take an important part in the total weight of these "environment" factors (48,05% out of 52,2%). Hence, it is evidence, once more, that the dependency of this company on the State intervention continues.

5.2 The case of the private company

The two rounds of the Delphi method concerning the private company have given the following classification in the SWOT groups:

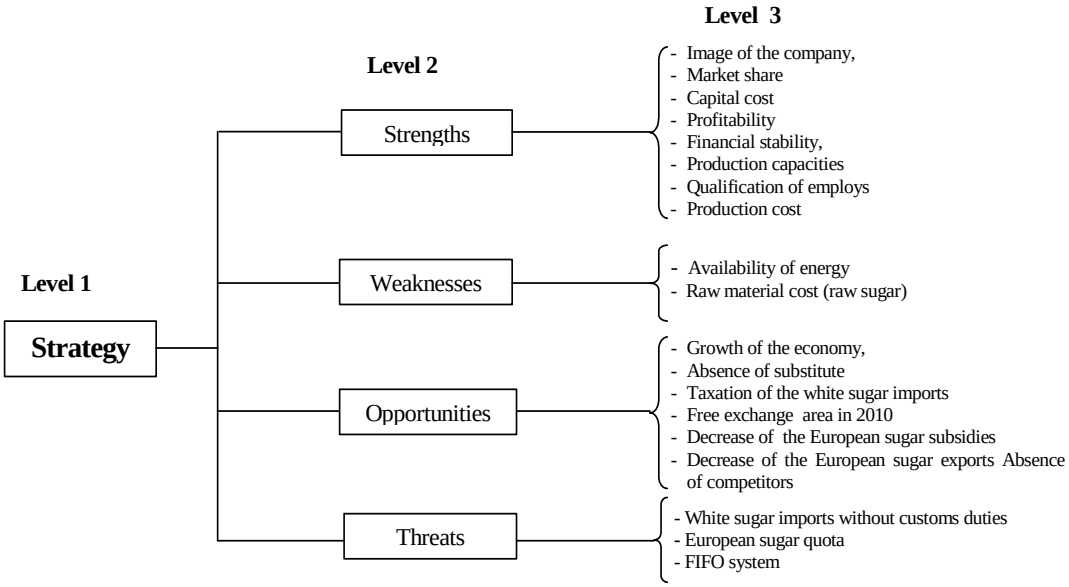

Figure 3. the final classification of the strategic factors in the SWOT groups obtained after the tow Delphi round

If we compare this classification with the one that is obtained in the case of the State-owned company, we can observe that the factors contained in the SWOT groups are not the same. This heterogeneity can be explained by the important difference observed in the competitiveness of these two companies.

Contrary to the State-owned company, the private company has a great number of strengths (cf. figure3). This result testifies the competitiveness of the last one.

As in the case of the State-owned company, we have used the AHP method for the quantification of this classification. The results of the first round AHP are summarized in the table 4:.

Table 4*: local priorities of the SWOT factors in the case of the private company*

Strengths		IR =0,09
Production cost		0,233
Profitability		0,215
Financial stability		0,183
Market share		0,123
Capital cost		0,123
Production capacities		0,085
Qualification of employs		0,042
Image of the company		0,039
Weaknesses		*IR =0*
Raw material cost (raw sugar)		0,750
Availability of energy		0,250
Opportunities		*IR =0,08*
Taxation of the white sugar imports		0,292
Absence of competitors		0,289
Free exchange area on 2010		0,167
Decrease of the European sugar exports		0,107
Decrease of the European sugar subsidies		0,072
Absence of substitute		0,049
The growth of the economy		0,024
Threats		*IR=0*
Importation of white sugar without customs duties		0,667
(EU)		0,222
European sugar quota		0,111
FIFO system		
Total	1(100%)	

The table 4 shows that the most important strength in the private company is its production cost (23,3%) which have a good impact on its profitability (21,5%). This situation is induced by some other factors as the lower cost of energy, the high production capacities, and the company's market share.

The second observation that we can make from the table 4 concerns the opportunities. Like in the first case study, the taxation of the white sugar imports constitutes the principal opportunity for the private company (29,2% in the total weight of the opportunities). This institutional factor ensures to this company a good protection condition to develop its sugar activities. This company can achieve its development as to reach the sufficient size to be competitive on an international scale. This protection is so important to the private company that its suppression would constitute the most important threat for it (66,7% in the total weight of the threats).

Concerning the weaknesses of this company, we can note in the table 4 that we have two main weaknesses are identified: the cost of raw sugar (75%) and the availability of energy (25%). The availability of energy is induced by the dependency of the private sugar refining company on an external supply. The frequent electric cuts observed in this supply network induce important losses of productivity.

A significant observation that can be made from the table 4, concerns the image of the private company. It has a much less importance in comparison with the importance of other factors. This result can be attributed to the fact that the sugar constitutes an important bulk product for a large mass consumption in Algeria where the image and the reputation has a small effect on the consumer choices. However, it is important to underline that this company gives more importance to its global image. It intervenes frequently on the prices to build an image of a socially responsible company.

The results of this first round AHP are used in the second one to make an overall classification of the SWOT factors. The analysis of the data obtained using the Expert Choice Software has given the following results:

Table 5. *Overall priorities of the SWOT factors in the private company*

Strengths	**0,167**		
Production cost			0,0389
Profitability			0,0359
Financial stability			0,0305
Market share			0,0205
Capital cost			0,0142
Production capacities			0,0205
Qualification of the employees			0,0070
The image of the company			0,0065
Weaknesses	**0,167**		
Raw material cost (raw sugar)			0,125
Availability of energy			0,041
Opportunities	**0,333**		
Taxation of the white sugar imports			0,0972
Absence of competitors			0,0962
Free exchange area in 2010			0,0556
Decrease in the European sugar exports			0,0178
Decrease in the European sugar subsidies			0,0120
Absence of substitute			0,0163
Growth of the economy			0,0080
Threats	**0,333**		
Importations of white sugar without customs duties			0,111389
(EU)			0,073926
European sugar quota			0,036963
FIFO system			
Total	**1 (100%)**	1 (100%)	
IR=0			

The table 5 shows an equal value between the two groups of internal factors and those of external factors. This result can be explained by the fact that the elements compared in the second round AHP are much reliable. For example the product cost (the most import strength) is highly dependent on the cost of the imported raw sugar. The same remark can be made concerning the taxation on the white sugar imports and the suppression of this protection in the case of the ratification of the association agreement with the European Union.

Concerning the overall classification, we can observe that the raw sugar cost is the most important factor in the strategy of the private company. This result can be attributed to the particularity of this product (raw sugar) concerning the instability of its prices on the world sugar market. This characteristic constitutes an important risk for the private company and conducts the executive-manager of the private company to think about the possibility of investing in the sugar beet production.

Like in the case of the State-owned company, the weight of the external factors (66,6%) is more important than the internal factors (33,4%). However, in the case concerning the private company, the difference is more significant. Because of its important competitiveness, the development of the private company depends on its "environment" factors. The weight of the institutional factors (40,5% of the total weight) is less important than in the case of the State-owned company. However, in spite of this difference, the institutional factors are important for the development of this company as well.

Conclusion

In the management literature the studies concerning the interaction between the strategies of enterprises and the institutional changes are not frequent. Some authors attribute the lack of this type of studies to the absence of major institutional changes. Today, in the Mediterranean Basin, important institutional changes like the multiplication of the association agreements, the reform of the European sugar policy constitute opportunities to study this interaction. One of the most exposed countries to these changes is Algeria. It is the reason which encouraged the choice of this country in our research. On the other hand, the presence of two types of companies with different capital structures (State-owned and private), and different management patterns offer an interesting case to study.

Surveys carried out in these two companies and the analysis of the obtained data have given very interesting results. The most important one is that, in spite of the fact that the internal analysis remains a significant element in the strategic decision (as recommended in the resource based view approach); in some sectors, the external analysis can take a dominant place. It is the example of the sugar sector in which the policies of protections usually applied in several countries have created an important dependency of the sugar refining companies that take the environment, especially the institutional environment, as a major element in the determination of their strategies.

The Algerian State-owned company faces a great threat linked to the suppression of the protection at the national borders. It is unable to challenge the international competition because of the financial difficulties that it endures as well as because of its lack of competitiveness. This latter will continue to be dependent on government regulations for a long time to come; a situation that discourages any action that could be undertaken to improve its competitiveness. This lack of competitiveness inhibits the State-owned Company from profiting from the decrease of the European sugar exports or the formation of the Euro-Mediterranean Free Exchange area. On the contrary, the private conglomerate stays to be highly competitive, and the analysis reveals that the reform of the European sugar policy constitutes an opportunity for this latter, as well as the Euro- Mediterranean Free Exchange Area. Hence, these findings need to be considered in light of the limitations of this study. The important one is that this research was confined to a single industry and needs replication in other global contexts.

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