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## **Effects of corporate economic intelligence on the international competitiveness of Tunisian firms**

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### **Abstract**

The purpose of our paper is to analyze rigorously one of the significant factors of the international competitiveness of the firms that relating to the corporate economic intelligence. The originality of this research lies in the assimilation of the shares relating to the identification and the exploitation of the opportunities, and thus, the entrepreneurial orientation, as an integral part of the corporate economic intelligence able to stimulate the international competitiveness of the Tunisians firms. The results of our analysis applied to a sample of 120 Tunisian firms show the positive and significant effects of the various devices of the corporate economic intelligence relating to the collection, the diffusion of information and the entrepreneurial orientation on the international competitiveness. In addition, our results show that the effects of the devices relating to the analysis and the processing as well as the protection of the information on the international competitiveness are done indirectly via their effects on the entrepreneurial orientation.

**Keywords:** Corporate economic intelligence, entrepreneurial orientation, competitiveness, Tunisia.

## **1. Introduction**

The historical developments in the economic level that marked the world have long been the source of strategic trends of firms, countries and even territories in economic policies. In this regard, the concept of information developed from the two world wars, in the context of military operations, and resumed during the Cold War in the conduct of security policy was an essential importance for the development of political power. In fact, the military intelligence contributes effectively in the revival of the value of the available information and it is considered as a confidential knowledge which is not accessible to all and also the result of a dated and updated research. In addition, the use of intelligence during this period was prompted by the desire to better forecast the actions of opponents. Later, the intelligence cycle has had many benefits including the informational level, particularly with the rise of competition among large Western countries. These benefits can be apprehended on three levels: 1) Thanks to the iterative process, it can correct the dysfunction following a positive feedback in informational material. 2) It allows the differentiation between the simple information gathering and strategic decisions. 3) It is able to optimize the information system thanks to its recurring nature. In fact, information devices have been mobilized since the Cold War to a successful geopolitical strategy. The latter is understood as the study of the relationship between the conduct of political power, reach internationally, and geographical context in which it is applied.

However, the accented mutation of capitalism and the competitive pressures arising from the end of the Cold War with the collapse of communism followed by a confrontation of power interests at the international level and the emergence of a new form qualified economic war succeeded by the information war (or Info-war), have all contributed to the emergence of economic intelligence as a new world parameter. Indeed, intelligence alone is necessary but insufficient. The expression of informational needs, the collection, the analysis, the treatment and the dissemination of information must be combined with a true doctrine of global security and strategic decisions. In this respect, economic intelligence is the result of a displacement of the center of gravity of the history of geopolitics to geo-economics.

In addition, geo-economics is treated as a new application field of geopolitics and the objective of the geo-economic strategy for a state, territory or company is to conquer new markets or to maintain a strong position in a privileged global economy. In this regard, geo-economics and geopolitics complement: States, firms and territories must have a geopolitical vision to develop a geo-economic strategy.

For its side, the report of Martre (1994) defines economic intelligence (EI) as a set of research, treatment and dissemination of useful information for economic actors. Moreover, Eriquet, Delbecq, and Gerard Pardini (2008) focused on the fundamental actions that define EI and , assuming that at the operational level, EI includes actions of standby (acquire relevant strategic information ), security ( not to know its secrets) and influence (spread information or standards of behavior and interpretation which promote its strategy). To this end, we believe that the definition can be refined by taking into account the legal character, which serves to remove any act of espionage, the introduction of other specificities assumed strongly connected with the concept of economic intelligence and the distinction of the studied scale. Indeed, the concept of economic intelligence should be surrounded by distinguishing between three levels: Company, state and territory which respectively refer to entrepreneurial, national and territorial economic intelligence.

In addition, the corporate economic intelligence (CEI) cannot make sense until it not integrates concepts related to the identification and the exploitation of opportunities and hence this concept must emphasize the role of entrepreneurial orientation in determining economic performance. Based on these ideas, we understand the concept of corporate economic intelligence as: *The set of interactive devices of collecting, treatment, analyzing, sharing and protection of valuable information, obtained legally and materialized, by an entrepreneurial orientation of the company.*

This research has the objective to identify the impact of the implementation of the devices of the CEI on the competitiveness of Tunisian firms. In other words, we will try through this research to confirm the following central assumption:

*A.1: The international competitiveness of firms is positively and significantly influenced by its corporate economic intelligence devices.*

To do this, we will try in what follows to apprehend the different devices of CEI and its effect on the international competitiveness. Then, we will present our research methodology. Finally, the third part will be devoted to the analysis and the discussion of the empirical results.

## **2. Devices of the corporate economic intelligence and the international competitiveness**

The literature on the economic intelligence unanimously highlighted the role of the actions related to the collection, the treatment and the analysis, the dissemination, the protection of the information and the entrepreneurial orientation.

In fact, these actions have been previously partly integrated in the definition of intelligence and strategic intelligence (Revelli, 1998): In this respect, intelligence can be defined as the amount of information processed, verified and synthesized for a small group of individuals. It follows from this definition that the information does not mean the simple collection of information, but rather a value to one or more information.

In addition, information is an activity that transforms facts presented in the form of raw data into more or less elaborated data, with a complex process from its observation to its communication. To this end, the information cycle is an iterative process composed by four main steps: Expression of needs, collection, treatment and analysis, and the dissemination; and thus, the information cycle is an integral part of EI in complementarity with the protection and the strategic decisions (Masson 2001).

### ***2.1 Collection of information***

The first device of the CEI is the collection of information whose objective is to find the most relevant information inside and outside the company. In this regard, Harbulot and Baumard (1997) argue that: "The offensive and the defensive management of open information are born from the confrontation of power interests that marks the main stages of the globalization of the trade." Thus, given the current environment characterized by the multiplicity of information sources whether formal or informal, this step's objective is to avoid excessive accumulation of

useless information that can hide those with high added value. In fact, the collection phase can be categorized into 3 basic steps : 1 ) Conduct a research plan which contains the information needs, the urgent need, the means and the sources of information and the groups of experts , 2) Identify the relevant information whether formal or informal and the grassroots action and 3) determine the sensors of information. Based on these ideas, we will try in what follows to confirm the following axial assumption:

*A.1.1: The collection of relevant information affects positively and significantly the international competitiveness of firms.*

## **2.2 Treatment and analysis of information**

The second device of the CEI is based on the actions of the treatment and the analysis of information with the main objective to make sense of the collected information. In this regard, Knauf (2010) argues that: "Economic intelligence is a strategic function, whose purpose is the control of information, and which aim to the competitiveness and the security of the economics and the firms in the context of a public policy of international competitiveness ensuring the industrial development and the preservation of the national strategic interests." Indeed, the collected information rarely satisfies it immediately. For this purpose, before being analyzed, the information should be treated i.e. sorted and classified for use. This task often falls to specialists in documentary information or cell of IE or BI. These specialists are responsible for the identification of documents and areas of doubt reflecting the expectations expressed by the experts. In other words, the gates of treatment is seeking to better respond to questions posed by the operational and also to highlight the choices made by other economic actors (competitors, suppliers, subcontractors, research). In addition, the treatment phase allows assigning a rating of information sources by highlighting those that were most fertile. This vocation in turn allows making a crossing of internal information held with those detected externally. As regards the analysis of the information, it requires both the mobilization of internal skills and the management of external expertise. In this regard, the valuation and the capitalization of internal skills, the use of the relational networks and its structure with the exterior, and the choice of the most appropriate interlocutors are all essential to give guidance on the knowledge to capitalize. Hence, the axial next assumption is:

**A.1.2.a:** *The international competitiveness of firms heavily depends on the analysis and the treatment of relevant collected information.*

### **2.3 Dissemination and sharing of information**

The third device of the CEI is related to the dissemination and the sharing of information collected, processed and analyzed between the different stakeholders of a given entity. In this regard, it is the central question about the process of codification of knowledge. Contrary to the tacit knowledge that is not expressible outside the action of one who holds, codified knowledge is a major challenge of innovation and business competitiveness. Indeed, the codification of knowledge is treated as a process of conversation of knowledge into a message that can be manipulated as information.

The strategic importance of codification can be assessed through a variety of configurations such as a communication and an easier transfer of knowledge especially in cases of cooperation and a greater ability to recombine existing knowledge and thus, a greater ability to innovate, easier storage of knowledge which allows to better respond to phenomena of turnover and strengthen the innovative capacity; more open to the activities of certification of quality; patenting and technology transfer; and harmonization knowledge especially for multinational firms. Following these ideas, we will try to validate the axial following assumption:

**A.1.3:** *The dissemination and the sharing of information previously collected and later analyzed and processed are likely to boost the international competitiveness of firms.*

### **2.4 Protection of information assets**

The fourth mechanism of the CEI references to the need to protect the information assets of the firm. Indeed, the current environment in perpetual motion is characterized by a number of risks and external threats more pronounced than before. In this respect, two main categories of threats may arise and jeopardize the information system of a given firm: accidental threats and institutional threats.

The first type of threat is one that occurs suddenly and involuntarily and affects the proper functioning of the information system of the organization and generally takes the form of natural disasters and errors due to a lack of attention or skill (involuntary removal data, entry

errors). In contrast, institutional threats reflect a voluntary process to gain illicit strategic information (espionage, data theft, blackmail, physical fraud, and technical faults).

Given this situation, it is necessary and essential, the establishment of an overall security strategy by the firm. The latter, includes not only technical but also protection procedures and potentially emotional dimension and defensive attitude to risk. Indeed, we consider that this attitude takes the form of a policy against intelligence whose objective is to minimize the risk of attack which makes the need to adopt certain rules for the holders of information including: 1 ) Decoupling between the transmitted information to that strategic type and which need to be protected , 2) Identifying information circuits to be able to benefit and avoid delivering strategic information; 3) Adopt behavior mistrust versus the economic actors 4) Inform and educate on the need to preserve high-value information and the behavior and attitudes to make.

In other words, the issue is not related to how to protect themselves but rather to consider the preservation of information assets is an inseparable part of the competitiveness of the firm. Hence, the following additional assumption:

*A.1.4.a: The protection of information assets affects significantly and positively the international competitiveness of the firms.*

## **2.5 Entrepreneurial orientation**

The concept of entrepreneurial orientation (EO) and its dimensions were mainly founded and developed by Covin and Slevin (1988, 1989, and 1991), Lumpkin and Dess (1996) and Zahra (1993). To this end, Lumpkin and Dess (1996) have contributed more rigorously in the precision of the concept by clarifying its dimensions and its relationship with business performance. These authors apprehend EO in terms of processes, practices and activities, which provide the firm the opportunity to make new entries through the creation of new products /services; the conquest of new promising markets the creation of a new business. In addition, this concept has been likened to a basic reference for many attempts to model the organizational entrepreneurship (Covin, Slevin, 1991; Zahra, 1993; Lumpkin, Dess, 1996; Ireland et al, 2009). In this paper, we use three main dimensions widely highlighted by the literature and best suited to our research context. These dimensions are innovation, risk-taking and pro-activity.

Regarding the importance of innovation, Schumpeter (1934) is a basic reference for the analysis of the concept of innovation. In this context, innovation is seen as a core activity of the business organization including subsequently additional concepts related to creative destruction and entrepreneur-innovator (Schumpeter 1942).

Later, other research were inspired by Schumpeterian vision assimilating innovation to the heart of entrepreneurship (Jennings & Young, 1990; Zahra, 1993) and developing the concept of corporate entrepreneurship through the potential and the ability of the firm to innovate. From their side, Lumpkin and Dess (2001) apprehend the innovation in terms of creativity and experimentation. Based on this idea, the innovation arises as a key factor to support entrepreneurship and entrepreneurial business. The ability to innovate or the propensity to innovate demonstrates the tendency of an organization to engage and support new ideas, novelty, experimentation and creative processes that may result in new products, services or processes (Lumpkin and Dess, 1996).

To Wiklund (1999), an innovative strategic posture is strongly connected with the development of the organization, as it increases its potential and its ability to integrate alternatives of change and mutation. Moreover, Lumpkin and Dess (2005) postulate that the development and the adoption of innovations can generate a competitive advantage and a source of performance.

There are several indicators to quantify the innovative capacity of an organization: financial allocations targeted to innovation, the R & D staff, the number of new products and services, and the frequency of the changing of the product and services lines (Covin & Slevin, 1989; Miller & Friesen, 1982). Miller and Friesen (1982) identify two models of strategic moments that detect the presence of innovation in the entrepreneurial process: The first is related to entrepreneurial innovation model and thus, whether the innovation is central to the strategic direction of the organization. This case concerns the organizations that innovate intensively and in a formal way. The second model is a part of the conservative design of innovation, and therefore whether the innovation is perceived as a natural state of business.



On the second dimension of entrepreneurial orientation, the definition of entrepreneurship was strongly associated with risk taking. The taking risk has been a decisive factor (McClelland, 1960) despite its inability to distinguish between contractor and not contractor. Therefore, this dimension of EO reflects the extent to which the company is willing to take risks and engage in projects with significant risk.

By analogy to the other two aforementioned dimensions, pro-activity has attracted less attention of the researchers. In fact, two fundamental characteristics were attributed to pro-activity: The dynamic behavior on the one hand, and on the other hand, the pursuit of the business opportunities (Knight, 1997; Lumpkin & Dess, 2001; Stevenson & Jarillo, 1990). In this respect, the company is required to act pro-actively to strengthen its competitive position in the national and international scene compared to its competitors (Porter, 1980) as well as economic gains to survive (Lieberman & Montgomery, 1988). In other words, pro-activity is evident in the behavior of the organization in the market, the search for opportunities, the influence on the environment and the trigger changes. Based on these ideas, we will try in the following to validate the axial following assumption:

*A.1.5: The international competitiveness of firms is highly dependent on their entrepreneurial orientation.*

### **3. Methodology of research**

We will try at the end of this research to analyze the impact of the corporate economic intelligence on the competitive position of Tunisian firms. To do this, we focus on a sample of 120 Tunisian firms operating on different manufacturing sectors, to avoid selection bias, and adopting an offshore regime. In addition, we approximate the competitiveness of firms by its market shares of export. Our primary step is to analyze on the one hand, the validity of the model relative to the scales of measurement, and on the other hand, the validity of our conceptual model relating the above assumptions. To carry out this exploratory analysis, we base ourselves on econometric software SPSS consolidated by software STATA concerning the econometric study.

Based on the theoretical framework previously analyzed and the central assumptions derived, we have chosen five main items of CEI, namely: Collection of information, analysis and

treatment information, dissemination and sharing of information, the protection of information and entrepreneurial orientation.

To this end, we opted to the scales of Likert to measure each item of CEI. These scales are measured by values ranging from 0 to 4 according to the number of shares of each of the items selected. A value of 0 reflects the total lack of action required, 1 in the presence of one of the actions, 2 if there are two actions required, 3 in case of the implementation of three actions of the item in question and 4 in the presence of four shares of each items of CEI . It should be noted that the Likert scale is differentiated according to the item in question. In this respect, this scale is four points for each item of the collection, the treatment and the analysis, and the entrepreneurial orientation and three points for both items of the dissemination and the sharing, and the protection of information. Based on the above ideas, our conceptual model can be represented as follows:

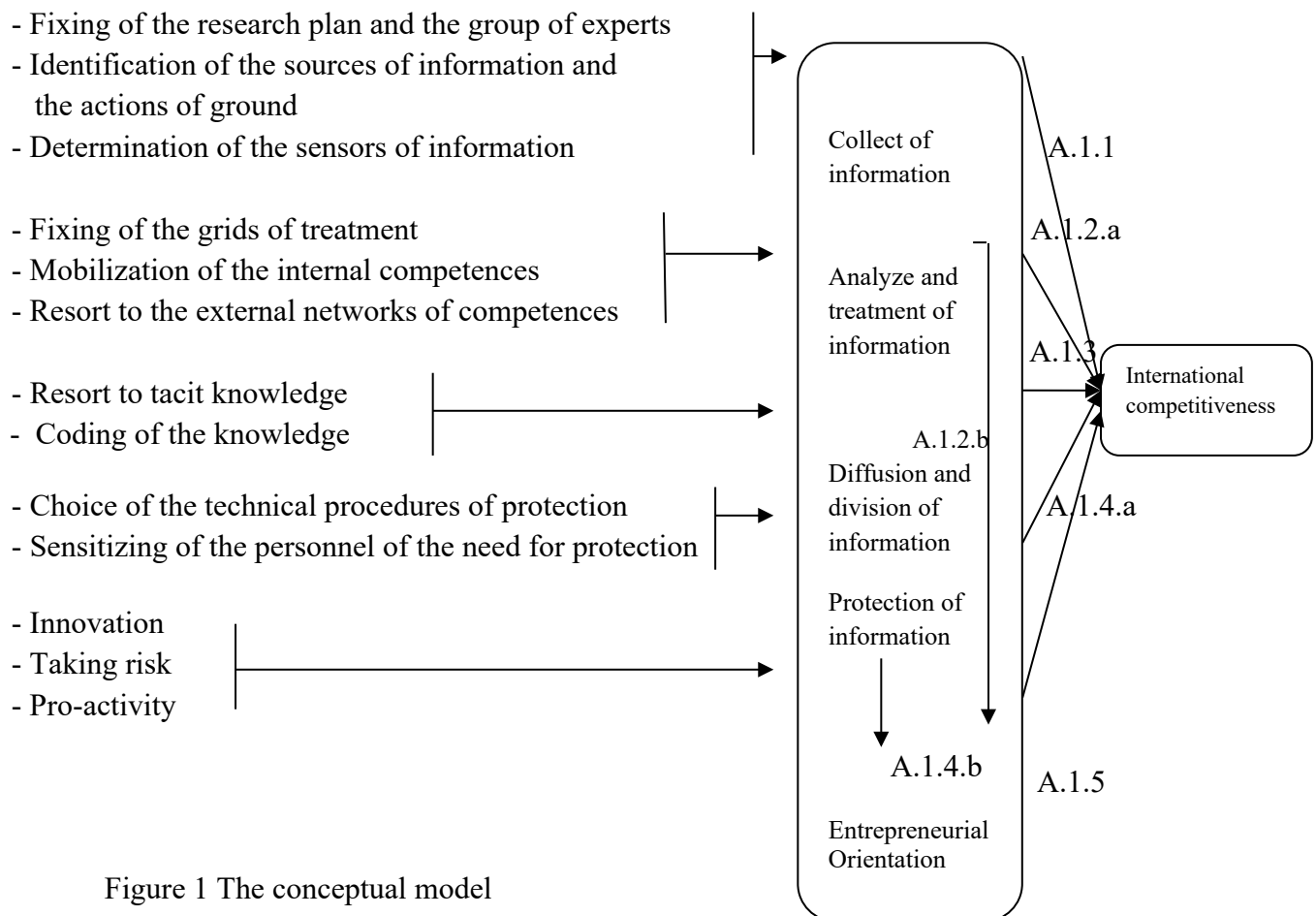


Figure 1 The conceptual model

In addition, we recommend that the effects of both, economic intelligence related to the analysis and the treatment of information and the protection of information on the international competitiveness of Tunisian firms can go through the intermediation of the variable of the entrepreneurial orientation. Thus, we add the following two axial assumptions:

*A.1.2.b: The analysis and the treatment of information have significant and positive indirect effects on the international competitiveness through the entrepreneurial orientation;*

*A.1.4.b: The protection of information exerts significant and positive indirect effects on the international competitiveness through the entrepreneurial orientation.*

#### **4. Empirical results**

Based on our structural model discussed above, we selected five items of the CEI which are defined by specific actions and thus, each one is approximated by a scale which is also specific. In fact, we try throughout our empirical analysis to identify the factors of the CEI likely to influence the competitiveness of the Tunisian firms. To this end, we chose to characterize the axes of the principal component analysis (PCA) and if it is possible to reduce the number of items to get a better reading of the PCA.

In addition, we rely on the index of Kaiser Mayer Olkin (KMO) to see how far all items of each composite factor is a coherent whole, and therefore one of the most relevant measures for this variable. In addition, we used the Bartlett test of sphericity to see the relevance of the PCA concerning the results. Finally, we also rely on Cronbach index to test the reliability of the various items of a variable and therefore reduce the random error.

The results in Table 1 show that based on the correlation matrix after the PCA, the items are mainly very close and correspond to a very high coefficient of correlation in the case of the collection of information and the analysis and the treatment of information.

Referring to the index of KMO and Bartlett's test, our scale meets the conditions of the use of the factor analysis with equal values at 0.71 and 45.6 respectively. In addition, using the criterion of commonality, our results show that all items are represented by a loading greater than 0.2 which reflects the acceptance of the selected items. In this regard, the PCA has returned two

sets of indicators: A first incorporating items related to the collection, the analysis and the treatment, and the diffusion of information and a second made by items relating to the protection of information and the entrepreneurial orientation.

Table 1 Factorial and exploratory analyze of the factors of the corporate economic intelligence (With oblimin rotation)

Items	Specific actions	Fact.1	Fact.2	Quality of the representation
Collect of information	<ul style="list-style-type: none"> <li>- Fixing of a research plan and the group of experts;</li> <li>- Identification of the sources of information and the actions of ground;</li> <li>- Determination of the sensors of information.</li> </ul>		0.65	0.47
Analyze and treatment of information	<ul style="list-style-type: none"> <li>- Fixing of the grids of treatment;</li> <li>- Mobilization of the internal competences;</li> <li>- Resort to the external networks of competences.</li> </ul>		0.46	0.29
Diffusion and division of information	<ul style="list-style-type: none"> <li>- Resort to tacit knowledge;</li> <li>- Coding of knowledge.</li> </ul>		0.42	0.25
Protection of information	<ul style="list-style-type: none"> <li>- Choice of the technical procedures;</li> <li>- Sensitizing of the personnel of the need for protection.</li> </ul>	0.68		0.59
Entrepreneurial orientation	<ul style="list-style-type: none"> <li>- Innovation;</li> <li>- Taking risk;</li> <li>- Pro-activity.</li> </ul>	0.66		0.44
Eigen values		1.98	1.38	
Explained Variance (in %)		34.24	21.73	
$\lambda$ of Cronbach		0.64		
KMO		0.71		
Bartlett (p-value)		45.6 (0.000)		

All items are well represented on its respective axes and store loading (saturation) together above 0.3 reflecting a clear factor structure. In terms of internal consistency, the five items are consistent with a Cronbach's alpha of 0.64.

From the 120 firms in our sample, 60 firms have confirmed its partial or total application of various devices of the CEI then the other 60 firms reported only the choice of entrepreneurial orientation as the only mechanism of economic intelligence. Given this situation, we opted to diagnose empirically the role of all actions relating to the CEI compared with the implementation of the single EO in determining the international competitiveness of Tunisian firms.

To better appreciate this idea, we are based on the comparison tests of means and variances between the two groups of firms: Firms that have implemented all of the CEI devices and those applied only EO. Our results show that we cannot reject the hypothesis that the market share of the average export of the firms that have opted only for EO is less than that of all firms applying CEI devices.

Table 2 Tests of comparison of means and variances of the export market between the groups of Tunisian firms.

Groups of firms	Number of observations	Difference in averages (T-statistics)	F
Choice of the totality of the CEI devices	60	-7.406 * (- 9.653)	0.148
Choice of only the EO	60		
Test of comparison of variances: ratio = 1	Ha: ratio < 1 $Pr(F < F) = 0.000$ 1.000	Ha: ratio! = 1 $2*Pr(F < F) = 0.000$	Ha: ratio > 1 $Pr(F > F) =$

In addition, the test results of the test of comparison of variances allowed us to conclude that the variance of the market share of export of the firms that have opted for all devices of the CEI is higher than firms limited to the EO. Thus, based on these results, the latter group of firms is more homogeneous while the first group is more competitive.

To better understand the role played by the different actions related to the CEI in determining the international competitiveness of the Tunisian firms, we will conduct in the following empirical study an analysis of the hierarchical regression. To do this, we integrate to traditional actions of the economic intelligence, the entrepreneurial orientation as an additional variable to test its relevance in predicting international competitiveness.

Table 3 Results of the hierarchical regression for the prediction of the international competitiveness

	R	Béta(t)	R	$\Delta R^2$	F
<b>First stage: traditional actions of the economic intelligence</b>					
Collect of information	0.40	0.318 (2.14) **	0.7754		555.74
Analyze and treatment of information	0.58	0.178 (2.06)			***
Diffusion and division of information	0.18	0.28 (2.76) **			
Protection of information	0.42	0.156(1.97)			
<b>Second stage: the addition of the variable entrepreneurial orientation</b>					
Collect of information	0.408	0.231(1.88) *	0.794	0.019	665.98
Analyze and treatment of information	0.538	0.228(2.66)			***
Diffusion and division of information	0.325	0.143(5.64) **			
Protection of information	0.379	0.659(3.31)			
Entrepreneurial Orientation	0.514	0.443(5.87) ***			

Threshold of significance: \*\*\* ( $p < 0.01$ ) \*\* ( $p < 0.05$ ), \* ( $p < 0.1$ ), R: correlation; Beta (t): standardized regression coefficient (Student's test of significance of Beta) r: multiple correlation;  $\Delta R^2$ : change in  $R^2$  after adding a variable, F: Fisher's test of overall significance.

As we focus on traditional measures of the economic intelligence, our results are show, despite large variations, a multiple correlation coefficient (r) with an average of about 0.4. These results reflect correct predictions the competitive factors in accordance with the international literature on economic intelligence.

Our empirical results indicate that with the exception of the variables of the analysis and the treatment of information and the protection of information assets, all other devices of the CEI

significantly affect the international competitiveness of the firms which confirm our assumption A. 1.1, A.1.3 and A.1.5 pre- exposed but with reversal of the assumptions A.1.2.a and A.1.4.a.

In addition, by integrating the variable of the entrepreneurial orientation, multiple correlation coefficients recorded an improvement and stood at an average of 0.43. In other words, these results reflect the relevance of our conceptual model of the factors of CEI and allow to partially validate our assumptions previously made, explaining in turn, by the fact that all variables, except for the step of the analysis and the treatment of information, have positive and significant effects on the international competitiveness of the Tunisian firms. These results are consolidated by a correlation coefficient which explains 79 % of the variation of the market share of export incorporating all the factors of CEI. Therefore, the results of our exploratory econometric analysis show that entrepreneurial orientation alone is insufficient to enhance the competitive position of firms, thus it can be combined with the other factors of CEI more particularly, the analysis and the treatment, and the protection of high value information.

This leads us to question of the existence of a mediating effect of the entrepreneurial orientation between the analysis and the treatment of information, and the protection of information assets on the one hand, and the international competitiveness on the other hand. To this end, to diagnostic possible mediating variable of the entrepreneurial orientation, we will try first to identify the nature of the correlation between the latter and the analysis and the protection of information systems. Then, to reinforce this result, we will conduct an econometric study.

Table 4 Validation of the relation between analyzes and treatment of information – entrepreneurial orientation

Statistical significance	Practical significance
Correlation :0.69 (t=14.87) (p<0.001) After bootstrap: 0.58	R <sup>2</sup> = 0.56 After bootstrap: 0.47

Table 5 Validation of the relation between protections of information – entrepreneurial orientation

Statistical significance	Practical significance
Correlation :0.58 (t = 12.58) (p < 0.001) After bootstrap: 0.49	R <sup>2</sup> = 0.51 After bootstrap: 0.42

The results presented in Tables 4 and 5 indicate that our conceptual model fits in a very satisfactory manner. It appears from these results that a possible mediation is significant at the threshold of 0.01, with an expected sign and it reflects very satisfactory practical meaning.

In addition, a bootstrap procedure reinforces these results. The validation of the assumptions suggests the existence of the mediating role of the entrepreneurial orientation in the articulations between the analysis and the treatment of information- international competitiveness and the protection of information - international competitiveness.

Moreover, we conducted a further study for correlations between the analysis and the treatment of information and the protection of information assets on the one hand, and the dependent variable of the international competitiveness of the other hand and also an empirical work of the correlations when the mediation of the entrepreneurial orientation is controlled.

Our empirical results presented in Table 6 indicate the crucial role of the mediating variable of the entrepreneurial orientation in transposition effects of the analysis, the treatment and the protection of valuable information on the international competitiveness of Tunisian firms. These results validate the assumptions A.1.2.b and A.1.4.b.



Table 6 Results of the simple model with maximum likelihood and bootstrap procedure.

	Standardized coefficients	(t test)
<b>Exogenous paths</b>		
Protection of information → Entrepreneurial orientation	0.96	(9.36) ***
Analysis and treatment of information → Entrepreneurial orientation	0.78	(15.83) ***
<b>Endogenous paths</b>		
Entrepreneurial Orientation → International competitiveness	0.74	(15.23) ***
Protection of information → International competitiveness	0.038	(0.257)
Analyzes and treatment of information → International competitiveness	0.048	(0.63)
Diffusion and division of information → International competitiveness	0.258	(4.47) **
Collect of information → International competitiveness	0.118	(2.88) **
<b>R<sup>2</sup></b>	<b>Explained variance: 0.87</b>	
Threshold of significativity: *** ( $p<0.01$ ), **( $p<0.05$ ), *( $p<0.1$ )		

## 5. Discussion and conclusion

The results of this paper show originally the motor role of the devices of the corporate economic intelligence in strengthening the competitive position of firms. To this end, the success of some of these devices in terms of international competitiveness requires a mediating effect of entrepreneurial orientation. This result is particularly relevant for the variables the analysis and the treatment of information and the protection of information assets. In this regard, the effects of these variables must be directed to the prior identification and exploitation of opportunities, and hence entrepreneurial orientation, and after being materialized in performance in international competitiveness. Given this situation, we introduce in this paper a new concept called the corporate economic intelligence that integrates entrepreneurial orientation and which has a positive and significant impact on the international competitiveness either alone or articulating with the analysis, the treatment and the protection of information. We believe that our research is far reaching both theoretically and empirically since it emphasizes the role of the economic intelligence in the fight or the maintaining of the competitive position of firms. This latter is

conditioned by taking into account an essential concept that relating to the entrepreneurial orientation.

## References

- Covin, J. G., et Slevin, D. P. (1989), «Strategic Management of Small Firms in Hostile and Benign Environments», *Strategic Management Journal*, vol. 10, p. 75-87.
- Covin, J. G., et Slevin, D. P. (1988), « The influence of organization structure on the utility of an entrepreneurial top management style», *Journal of Management Studies*, vol. 25, n° 3, p. 217-234.
- Covin, J. G., et Slevin, D. P. (1991), « A Conceptual Model of Entrepreneurship as Firm Behavior », *Entrepreneurship theory and practice*, vol. 16, n°1, p. 7-25.
- Delbecq E. Grard P. (2008), « Les politiques d'intelligence économique ». Collection Que sais-je, PUF 2008.
- Harbulot, C., et Baumard, P. (1997), «Perspective historique de l'intelligence économique». *Intelligence Economique*, 1, pp. 1-17.
- Ireland, R. D., Covin, J. G. & Kuratko, D.F. (2009), "Conceptualizing Corporate Entrepreneurship Strategy", *Entrepreneurship: Theory & Practice*, 33, pp. 19-46.
- Jennings, D., Young, D. (1990), « An empirical comparison between objective and subjective measures of the product innovation domain of corporate entrepreneurship». *Entrepreneurship Theory & Practice*, 15 (1): pp. 53- 66.
- Knauf A. (2010), « Les dispositifs d'intelligence économique». Paris : L'Harmattan.
- Knight, G. (1997), "Cross-cultural reliability and validity of a scale to measure \_rm entrepreneurial orientation". *Journal of Business Venturing* 12: 213-225.
- Lieberman, M., Montgomery, D. (1988), « First- mover advantages». *Strategic Management Journal*, 9: pp. 41-58.
- Lumpkin, G. T., & Dess, G. G. (1996), « Clarifying the Entrepreneurial Orientation construct and linking it to performance », *Academy of Management Review*, vol. 21, n° 1, p. 135-172.
- Lumpkin, G. T., Dess, G. G. (2001), "Linking two dimensions of entrepreneurial orientation to firm performance: The moderating role of environment and industry life cycle". *Journal of Business Venturing*, 16(5): pp. 429-45.
- Martre H. (1994), « Intelligence économique et stratégie des entreprises». Commissariat général du Plan, Paris: La Documentation française. Site Internet : [www.documentationfrancaise.fr](http://www.documentationfrancaise.fr).
- Masson H. (2001), « Les fondements politiques de l'intelligence économique». Thèse de doctorat, Université Paris-Sud XI, Droit-économie-gestion.
- McClelland, D.C. (1961), « The Achieving Society». Princeton, NJ: D. Van Nostrand
- Miller, D., Friesen, P. H. (1982), « Innovation in conservative and entrepreneurial firms: Two models of strategic momentum ». *Strategic Management Journal*, 3(1): pp. 1-25.
- Porter, M. E. (1980), « Competitive Strategy ».The free press, New York.
- Revelli, C. (1998), « Intelligence stratégique sur Internet». Paris, Dunod.
- Schumpeter, J. (1934), « The Theory of Economic Development». Cambridge, Mass: Harvard University Press.

- Schumpeter, J. (1942), « Capitalism, Socialism and Democracy». George (1976 ed.), George Allen & Unwin, London
- Stevenson, H., Jarillo, J. (1990), « A paradigm of entrepreneurship: Entrepreneurial management». *Strategic Management Journal*, 11: pp. 17- 27.
- Wiklund, J. (1999), "The sustainability of the entrepreneurial orientation Uperformance relationship: a longitudinal analysis". *Journal of Business Venturing* 10: pp. 43-58.
- Zahra, S. A. (1993), « A conceptual model of entrepreneurship as firm behavior: a critique and extension », *Entrepreneurship: Theory and Practice*, vol. 17, n° 4, p. 5-22.