



## **The PESTEL Environment and Its Impact on the Value Created**

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### **Abstract**

Any business lives in a well-defined global environment and conducts its activities in accordance with national and international conditions. However, certain standards of a political, economic, socio-cultural, ecological, technological and legal influence, the behavior of the company. Because, the specific effects of each variable are particularized by a mode and rhythm of intervention. The recourse to "Checklists" classifying the environmental variables in main categories, as model PESTEL proposes it, facilitates the various company-environment ratios. However, the aforementioned environment is hardly homogeneous, it is protean and its study returns to its decomposition. It is with such an effort of decomposition/differentiation that this paper is delivered. It is here question of the implications of an environmental evaluative approach about the creation of the value.

### **Indexing terms/Keywords**

PESTEL environment, Creation of value, EVA, MVA

### **Academic Discipline And Sub-Disciplines**

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## 1. INTRODUCTION

Any business lives in a well-defined global conducts its activities in accordance with national and international conditions. However, certain standards of political, economic, socio-cultural, ecological, technological and legal influence to a large extent, the behavior of the company. All in the specific effects of each variable are particularized by a fashion intervention own pace.

The use of "checklists" classifying environmental variables into broad categories, as suggested by the model PESTEL, supra-defined reports facilitates various business-environment.

In this context, business leaders are forced to reassess their environmental firms to disentangle the components in risk and uncertainty major constituent's strategic opportunities in this environment (Desjardins 1999). Management of environmental opportunities and constraints in these conditions is a vector of higher business performance, it is therefore important to better assess environmental risk and its impact on the firm [Dufourt Roux, 1999]. In doing so, it becomes permissive to consider strategic choices more consensual and enjoying the backing of the majority of partners and stakeholders [Freeman 1984, Donaldson & Preston 1995].

However, that environment is not homogeneous, it is protean and study refers to its decomposition. Thus, it is first necessary to make a distinction between its various dimensions by defining the marking lines between the macro-environment and the micro-environment. This distinction is clean to allow differentiation of effects and processing power exercised by these dimensions strategies and the implementations of programs for creating value generated jointly by the internal and external stakeholders of the company.

It is such an effort decomposition / differentiation that engages this paper. It is a question here of an evaluative approach environmental implications on value creation.

The performance of this company is structured in four sections. The first expose the role of the political environment on the capacity stimulation of firms in terms of performance. The second will address the various contributions to the economic, socio-cultural and technological creation of value. The third and fourth sections will address the effects of environmental and legal dimensions of the environment on firm performance. They will work as a first step to introduce the theoretical and methodological framework for the analysis of these effects to devote a second component to the presentation of an empirical estimate relating to this study

## 2. POLITICAL ENVIRONMENT, INSTITUTIONAL QUALITY AND CREATION OF VALUE

Companies are required to know and accept the regulations of each national or regional framework and to ensure their compatibility with the new rules of international trade. The diversity and the complexity of these political frameworks may appear as a threat and even a risk concealed for the companies concerned. It provides, paradoxically, strategic opportunities and investment opportunities. It must, however, ensure the content and quality framework. Consequently, the constant yield investment risk is a function of local, national, which may threaten the company. Thus the international indicator "risks country" makes it possible to evaluate uncertainties and the dangers suitable for the environment in which a firm evolves.

It also happens that governments encourage or discourage selectively, certain types of investments through incentive policies or discouraging such as tax exemption, the treatment privileged on the level of employment or the level of the invoicing, the free zones, etc.. The national legislation of a country can indirectly promote or hinder the mobility of international firms. Firms encounter serious difficulties, they are forced into fully know all the details and dimensions of each regional market, national or local.

Such political instability within the meaning of Fosu, Alesina and Perotti, weakens economic growth directly through the total productivity of factors and indirectly through the accumulation of the physical capital and the human capital. Collier shows that on average, a civil war, where the Republic of Chad during 1979, the country was losing more than 2% of GDP per capita which reduces seriously the economic growth. In the same way reflected them Kenyan political crisis since the end of 1990, following the outbreak of violence in several areas of the country was damaging to the economy of this country. Thus 184 stores and 80% of SME have been affected leading to a shortage of basic necessities and the loss of thousands of jobs.

From all these studies we see the role of political stability, it is an important driver of economic growth and the creation of value. Given that the role of business in a free market economy is to create wealth for the economy and the satisfaction of their shareholders, employees, customers and the wider community, the stability or instability referent fundamental political environment makes it a major determinant of value creation by a company. It is the study of mediation between the political or institutional and potential value creation and performance that focuses this section.

### 2.1 Stability government and the fight against corruption

The question of the interaction between the government stability and the environmental performance of the firms has led to a plurality of controversy, that the firm, subject to various internal and external pressures, adjust its strategies according to their hierarchy in this environment. At this stage it is important to emphasize the crucial role played by vigorous government intervention in economic activity. Managers set as the ultimate goal of wealth creation, economic growth vector. However, the various analyzes of political stability and performance relationship for growth highlight the existence



of a stable government as a necessary condition for sustained growth in the long term. Thus, within the meaning of Brunetti and that political stability is a necessary condition for macroeconomic stability.

Such reasoning cuts reflections developed by Telatar (2003), and assuming that government instability fueling inflationary expectations. This has been criticized by Karaca (2003) in his study on the same countries studied by Telatar, namely Turkey. There was no evidence of a statistically significant relationship between government stability and macroeconomic stability observed through inflation, public deficit and the current account balance. Indeed, a stable government can be a pull factor because each country has a structured regulatory framework established by legislation and institutions ensuring the eradication of all forms of corruption.

Corruption in its various forms, economic, political, social, legal, transnational, undermines good governance and alters the policy of the country. However, it should relatives the effects of corruption on said stability. Some studies point at this in perspective, a positive relationship between corruption and economic performance. This "virtue" of corruption takes place through the implications of this on the application because it improves the purchasing power and opportunity costs because it reduces some delays and constraints.

For better disentangling the positive effects of the negative implications of corruption on the creation of the value, we propose to focus our investigation on the economic form of the corruption which remains, in our view, the most condensed expression of all the forms.

### **Economic Corruption**

Corruption is a phenomenon rooted in practices and non-rational thoughts and immoral agents to obtain a truthful implementation of an economic transaction in a framework where there is the lack of trust between public and private sector.

The existence of corruption is not limited to a particular country or a specific region, it has become a global phenomenon. The only difference is the political regime, the institutional and regulatory framework of each country or region as well as its degree of development. Most definitions related to the emergence of corruption are attributed to the weakness of political, social, legal and economic.

The actions of a corruption are quite different and take different extents, the most important are: the tax exemption, preferential treatment in employment or for billing, changes in free zones, the excessive use of non-renewable resources, the conquest of new markets, ownership of investment projects.

The domestic and foreign firms, should be aware of and comply with regulations of each national or regional framework and adapt their compatibility with the new rules of international trade, to avoid over or under invoicing.

Issues of corruption are not limited to a simple relationship between two agents, seeking to satisfy his every need so illegal and immoral. These practices are not limited to only limited public sphere. Corruption is also a common practice in the private sector. In the case of a widespread and systematic corruption, The report corrupter-corrupt becomes more important, leading to a misallocation resources and therefore lower growth.

## **3. ECONOMIC, SOCIO-CULTURAL AND TECHNOLOGICAL ENVIRONMENT OF THE COMPANY**

The economic, socio-cultural and technological environment of the company is a collection of variables that it does not directly control. The economic environment has a structural dimension proportional to the market economy and an economic dimension on the development of certain economic variables such as prices, growth, employment, interest rates, consumption, etc.

This environment requires companies streamline their relationships with their customers, suppliers, shareholders, employees and society as a whole. While these categories allow the company to enter countless opportunities, however, the unstable nature of this environment Corners firm to face a plethora of risks and threats. It is clear from this statement that the economic environment of the company is revising two dimensions: The macroeconomic environment on the one hand and the close relations of the microenvironment. It is difficulty to delineate the lines start between the two dimensions, the lathing remains highly correlated methods Also, studies in this sense, does not carry out a classification of components and effects depending on the nature of the componentThe latter induce differentiated on creating value implications, and according to the following diagram (2-1). The implications are constantly called relationship with the socio-cultural and technological environment. The company is not an isolated cell while it is in constant interaction with the socio-cultural environment which induces on it and permanence of the effects. This environment is based on cultures, beliefs, religion, consumer trends, tradition, education and lifestyle components. The junction of these categories leads to some common values that result in behavioral referents that permeate all stakeholders. This influence is particularly conspicuous through the degree of culturalism and their perception of the main determinants of value creation (2-2), including the innovation variable (2-3).

### **3.1 The components of the economic environment of the firm**



**Table: 1-4:**

Action variables	Interest in the company
The growth of the company	- Growth structure -Forms Control -Industry
consumption	-Product Type -Competition -Elasticity -purchase-power - price
Interest rates	-Joint financing growth -System financial Type (market-oriented bank-oriented) -Economy debt Financial-liberalization -Credit provider

### 3.2 The corporate culture: Responsibility for all stakeholders

The concept of culture fuels many definitions, since 1871 more than three hundred definitions enumerate and Kluckhohn by Kroeber (1952). Originally the word recalls a relationship between people and nature fundamentally referring to the work of the land is cultivated. More recently with the advent of capitalism, the factory became the social matrix, instilling values to the whole community, the report is then moved to the free production by the culture of the land to be transposed to the culture the company.

Designating a set of reports especially natural vocation, culture is apparent then as a social heritage, fed through work habits and social behavior of the different partners of the organization. Hence the development of a learning history and collective concept which, according Thevenet (1993) is essential to the members of the company to acquire certificates to solve problems in their business . Delavalée defines corporate culture as a set of collective representations and symbolic productions rooted in the ideals of the members of the company. From all these different definitions, it appears that any community develops a corporate culture in the social status of the latter on the one hand and on the basis of faiths and socio-politico-ideological positions of the various stakeholders of the other.

Culture is a collective programming of the mind which distinguishes the members of one group or class of persons over another. Then it is a matrix in which are formed relationships, perceptions of belonging, attitudes performance, communication, information, methods of work, in culture. It is now the cornerstone of any organization, any country, any human behavior. The super-advanced and transposed to the corporate culture programming refers to core identity of each category while building on national considerations. In an effort to laminating said corporate culture, Hofstede has sub-cultures that are imposed on the company in its development of a culture. It is treated as a set of cultural materials, each with its own variables consist of values, symbols, myths, rituals and taboos of various parties.

- Values : This is collective predilections that require groups, basic beliefs, standards, defining the ways of acting and thinking. The values form the philosophy of the company in determining its charter of conduct expressed by the rules of procedure, job descriptions, as well as the system of rewards and sanctions adopted. The values set by prohibitions, taboos, the degrees of freedom that should not be violated.
- Symbol's: These are words, objects, gestures, outfits, colors, signs, which have a meaning related to core values.  
For example the badges worn by employees to distinguish individuals outside the company, vocabularies, the style of communication used in work teams to facilitate the flow of information.
- Myths: They are the legends, stories, related to the past of the company. They serve to reinforce common values. The myth may be associated with the founder or officer of the company.
- Rites: These are practices arising from the recruitment shared values, meetings, receptions, promotions workers ... etc.
- Taboos: They correspond to a banned organization (discussion topics, acts, practices) that may affect the business strategy.

### 3.3 The alignment of the sociocultural environment in the technological environment

The criteria used to assess the differentiation ability of value creation by businesses revolve around their ability to react and mobilize all its resources, both financial and human, and their pipeline in order to achieve their objectives. The new economy has refocused the reaction capacity of the management, processing and assimilating new technology, as it is nowadays recognized that it is changing at a faster pace than that of cultures. This consideration has recommended a new



sense of cultural dimension. Culture, the main component in the socio-cultural enterprise, also defines, by reference to the adoption, control and collection practices of ICT.

This is also such mediation between culture and technology category Hofstede referred to assimilate the various dimensions of culture to the collective programming of the mind which distinguishes the members of one group or class of persons over another.

This same line of definition of culture by adding to the perception and adoptive machine learning tool was recommended by Markus and Robey. The importance of that bond between man and machine in the cultural heritage, has been deepened by Gilbert who comes to a pole stratification of this report. The first layer for the programming function attributed to human creativity and refers to the first report of interaction technology-style technology. This interaction applies to automated systems whose functions are known and programmed by humans.

The second report deals with computerized tasks designed and conducted by humans. This report has emerged the computer system (IS) mandatory component in any competitive organizational system. This is the human-technology interaction.

The third level is built on the nature of social relations, it attaches to the relationship between man and man and refers to provisions and communicative role of the machine in the knotting and the development of this communication. The new network technology offers the possibility of human contact in the best conditions possible, clarity and discretion. Gilbert also puts into perspective two analytical approaches to ICT. A vision of order "techno-" analyzing the role of social member through its contribution to technological changes and a vision of order "anthropocentric" focusing on "mutual co-determination" between the individual (as a member in the company) and technology. It follows the formation of a two-way interaction, since ICT is a factor of transformer behavior of individuals. They become the main driving source of the emergence and adoption of ICT. The relationship between man and technology leads to organizational efficiency and determines the manner in which the organization reacts to meet the aspirations of its partners and the market term value creation. It is important to note that the socio-cultural environment includes the system of beliefs and values that do not always favour the adoption of innovations and transformations conducive to business.

#### **4. THE ENVIRONMENTAL AND LEGAL DIMENSIONS OF THE ENVIRONMENT ON FIRM PERFORMANCE**

The emergence of environmental pressure group and the formation of political parties Green obedience, following the various natural disasters that have shaken the world have introduced new constraints and standards for companies. The green label is today coveted by all companies and the appreciation of the value created is heavily dependent. Also, firms have they made specific and specific nature preserve ecological investments. The international classification standards now include the label in the distinction of ISO. Analyzing the relationship business-natural environment, we find that the creation of value depends primarily on the ability of man to draw from nature and the extraction of natural resources. Also, does the company operated without limits by using such resources as the first to be incorporated into the manufacturing process to achieve the semi-finished or finished products.

But besides the natural exploitation, pollution is a strategic situation which traces the environmental quality of each company. However, the abusive behavior brought forth various environmental impacts, where an environmental review that applies to any firm seeking to differentiate itself from its competitors. Dice at the start of an environmental management system opens the way for the creation of environmental or green eigenvalue to later rise to the creation of financial and economic value.

Conventional economic models analyze environmental standards in terms of externalities. Actions of environmental preservations are constraints or negative externalities for the firm, as these actions require high costs then. However, the pollution caused by the industrial firm results in costs that are not supported by this firm or incorporated into the prices of these products. This pollution is treated as negative externalities for the community because it induces health problems, degradation of nature, crop losses, flight of foreign investment, natural resource depletion, waste disposal, deterioration of air quality and water emissions.

These costs are allocated to support the community. If we restrict our attention to the theory of negative externalities resulting from the classical economic approach, consider any pollution as a threat to the image of the firm. The reputation of a company is inversely correlated with the production of pollution.

Attention now focuses on the nature of its inputs, the more they arise from non-renewable resources and the company will be taxed to clean and therefore its competitiveness weakened, especially as environmental awareness for customer oriented more towards green and biological.

A compromise between the firm and the environment, when necessary in order to preserve the continuity of the firm and the protection of the environment. Henceforth environmental management is integrated into the process of business management giving rise to some approaches to preservation of the ecological environment, as is the case of palliative care and integrative approach.

The palliative approach is Boiral depending on pressure on the company to protect the environment. The introduction of barriers to entry of polluting industries in the legislation is a selection criterion to protect the natural environment. In this sense and Dean Brown, focused on the legal factor that may force companies to invest more to protect the environment.



In this context and through a palliative approach the responsibility first order to business leaders who are required to minimize pollution and its effects on the performance of their businesses.

The performance of the company in terms of value creation, going first by an environmental performance for Boiral and Jolly, environmental performance is a referent community business performance, then it follows a passage an ecological performance in macroeconomic performance in order to achieve a performance in terms of value creation for the benefit of all partners of the company are expected to turn to preserve the ecological environment of their business.

The adoption of a palliative approach aims to minimize the negative impact of human activities on the environment, it is considered certain environmental actions to implement environmental technologies curative able to induce changes levels of human practices crystallized in the behavior of business partners. Unlike the palliative approach considering the ecological environment as an external part of the enterprise, the integrative approach focuses on internal corporate responsibility as to the preservation of the environment. It then appears an ideal dosage or dosage scientist responsible for all staff of the company and its internal and external partners. The implementation of environmental technologies also be an important reference for the integrative approach, as it works to pollution response actions and changes in production processes.

However strict legislation, is likely to play a major role in pushing the company to take favorable action on environmental protection by imposing penalties and almonds to those who do not respect the environment and encouraging those adopting environmental management. According to the claims Lanoie and Laplante, some benefits are to grasp as the use of green department granting preferential credits and an increase in market value as they do not pay almonds and penalties that may reduce their values. The Green Wave had touched the majority of industrial sectors, with a view to sustainability, companies must adopt an environmental behavior. Such conduct does not mean an unprofitable innovation, contrary to the work of Porter, classical economic vision by integration of the environmental dimension obstacle to profitability has been replaced by the environmental management of ecological investment support for profitability.

## 4.2 The ecological environment of the company via a legal compliance

The consideration of environmental responsibility in the management of the company has grown significantly in recent years, particularly under increasing pressure from environmental organizations, partners, both internal and external concerned about the preservation of nature, and national and international authorities. This renewed interest in the environment has led some companies to introduce environmental component in their management in accordance with the legal environment and more particularly to get closer to international standards. Recent actions constitute a requirement for its sustainable development.

To preserve the ecological environment, environmental regulation aims to transform adverse actions favorable actions to minimize the environmental accidents. In this regard, Salamitou equates compliance with environmental regulations in a fundamental reference to any step in the environmental field.

The introduction of regulatory measures encouraging companies to seek new methods and new, more efficient production processes. Investments cleanup prove an element of improved competitiveness and a necessary action to comply with regulatory standards and meet legal pressures. The investment code, the various constituent texts of policy against pollution and the main official discourse, working to set up incentives and disincentives touching companies in order to preserve the environment ecological.

Such preservation can not however be realized outside of the development of a truly national project or global mobilization around the different parts of a program breaking with the two extreme optical productivism and / or environmentalism. Broadening the base of cooperation, enhancing the green label and generalization of ISO 14000 are highly recommended for this purpose. A good institutional quality conciliatory and accommodating political and socio-cultural imperatives on the one hand, the economic and technological requirements, on the other, then erects a condition for the growth of a green label compliant with the creation of value, because such a quality push the company to create more value partnership.

The government has set the environmental protection among its national property. It is from the seventies, it was the creation of the Tunisian Association for the Protection of Nature and Environment (ATPNE) with consultative status with ECOSOC in 1996. The ATPNE is committed to work in the environmental protection and sustainable development, being an active member in several international organizations (IUCN 1992 FOEI in 1990 Medforum, SPANA in 1995, WSPA MIOECSD, ADER)<sup>1</sup>. Such cooperation has strengthened national relations both bilaterally (with Germany, Italy, France, Sweden, Japan, Belgium, Canada) and multilateral (European Union, the United Nations Development, World Bank).

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<sup>1</sup> IUCN: International Union for the Conservation of Nature in Switzerland, whose ATPNE and through its chairman on the board of IUCN from 1992 to 2000 and assured the Vice Chair for four years. The IUCN policy addresses issues closely related to the environment.

FOEI "Freinds of the Earth" is an international organization Friends of land, which is ATPNE member since 1990, the strategies of the organization are to treat those areas directly affecting the environment such as climate change, strong protection, the fight against poverty.

Medforum: A network of Mediterranean NGOs headquartered in Barcelona environment.

SPANAN: "The Society for the Protection of Animals Abroad" headquartered in London UK, carries out projects for the protection of animals, environmental education and protection of natural resources.



Public investment in the environment over the last decade represent 1.2% of GDP. They are significant changes from 1.6 billion euros in 1994 and 1998 (8th Plan) to about 2.5 billion in 2002 to 2006 (10th Plan). They have reduced the cost of environmental degradation to 2.1% of GDP and is closer to the rates in the OECD countries which varies between 1% and 2%. Thus, since 13 March 1991, all new projects emerging from the list established by Decree No. 91-362 must be a study to assess its impact on the environment. The National Agency for Environmental Protection (ANPE) sets the specifications for the project after studying the results of this study on the environment through the use of the skills of consultants or foreign consulting firms .

The government through the Investment Incentives Code, provides tax and financial services to companies involved in environmental benefits. Companies importing equipment necessary environmental investments, and not having similar locally manufactured, are exempt from customs duties and charges having equivalent effect. For firms producing locally environmental equipment, they are exempt from value-added taxes.

These tax incentives are accompanied by other financial benefits, such as set up a bar of credit allowing businesses to have credits up to 50% of the cost of environmental investments while benefiting from a specific bonus that can reach 20% of the cost of the investment.

Despite these advantages, the Tunisian SMEs are still unable to provide the financial resources and skills necessary to achieve the ISO 9000 and ISO 14000 certification according to international standards of Environmental Management System (EMS). Only large firms and exporting firms are working to access the ISO 14000 certification in order to get to the level of large multinational firms on the market. These companies are, for example exporters of dates, or local businesses in the agri-food and energy.

*The ecological heritage of the company was also doubly affected by the advent of the new economy, this deterioration has taken place both upstream and downstream. New technology require for their production and enormous natural resources operation. Several studies and analyzes and demonstrated that this technology is significantly consumes energy. The same studies have shown that this technology is quite clean, especially as his life is relatively short and recycling of the materials of the new technology is still not widespread and very expensive.*

## **5. EMPIRICAL VALIDATION OF THE RELATIONSHIP BETWEEN THE PESTEL AND CREATING VALUE WITHIN TUNISIAN COMPANIES**

The purpose of this section is to test in the Tunisian context theoretical and empirical approaches to both measurements of the creation of the value; economic value added and value added market.

We will focus in particular on the ability of Tunisian companies to create value and to detect the nature of the relationship that may exist between these two indicators to measure and certain environmental variables. Such an objective recommends first specify the methodology to guide this company.

### **5.1 Database, methodology and econometric specification**

Our purpose is to check the effect of the PESTLE on creating value in a Tunisian context. To this end we used thirty Tunisian companies listed on the stock exchange of Tunis 'TSE'. The data were compiled from information derived from their accounting, balance sheets, income statements and by reference to some other sources and documentation, such as stock market, the National Institute of Statistics and the World Bank.

The choice of selected companies was justified by two considerations, first the stress of the representativeness of the sample (sectors, regions, exchange microenvironment structure), then the need for usable and on data sheets, income statements and the evolution of their market capitalization, and this over a period spanning from 1999 to 2008.

### **5.2 Model specification to estimate, description of variables and were interpreting**

The objective here is assigned to verify, using economic value added, the magnitude of some macro environmental variables PESTL the ability of Tunisian companies to create value. To conduct our analysis, we consider the following variables between 1999-2008:

- The economic value added (EVA).
- The added value of market (MVA).
- Growth (CROIS)
- Institutional Quality (GS\_INSTI).
- Financial Development (DEV\_FINAN).
- Global Investment (INV).

Human Development Index (HDI) For each company, the EVAjt is a multiplication of the amount of capital invested by the difference between the return on capital and cost of capital. These funds are derived from the liability of corporate balance

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WSPA: World Society for the Protection of Animals homes in London UK  
MIOECSO 'Mediterranean Information Office for Environment, Culture and Sustainable development' where ATPNE in occupying a seat at the board.  
ADER: Arab Network for Environment and Sustainable Development with headquarters in Cairo

sheets and calculated by adding to the equity accounting of bank overdrafts and loans and other financial liabilities. The return on capital is the ratio of operating profit after tax increased financial costs, on the one hand and the amount of capital invested on the other. The weighted average cost of capital must be an arithmetic average of the costs of all sources of financing (equity or debt) that are used by the operating process to generate the value created by the company. Such a cost is calculated based on the nominal rate of return, taking into account both real rates and expected inflation.

The weighted average cost of capital is estimated by integrating the systematic risk borne by each donor. It is formulated so that each component of capital is weighted by its market value, which reflects the true economic value requirements for each type of loan outstanding.

The lack of information on the cost of debt has recommended us to assimilate the relationship between finance charges and total debt. The same choice will operate for the cost of equity to be approximated by the ratio between the dividend and share price. Economic growth is measured in purchasing power parity (PPP), institutional quality is a composite variable, financial development reflecting the approach of King and Levine, the overall investment in \$ constant and HDI from the base of UNDP and various reports development in the world.

**Presentation of the model**

$$Y_t = c + X_t + \varepsilon_t$$

with:

$Y_t$  :  $MVA_j(t)$

$X_t$  : Vector of a dimension of the five above-defined variables:

$\varepsilon_t$  : Term error

**Stationary Test**

We will check the stationary of the above-described variables and determine their order of integration through specific tests for each series of these variables.

**Table (1-1) ; Results of unit root tests**

		D(EVA)	D(CROW)	D(DEF_FIN)	D(GS_INSTI)	D(IDH)	D(INV)
ADF test		-2.348	-1.858	-2.751	-0.288	-2.042	1.449
critical values	1%	-4.296	-4.262	-4.219	-2.644	-4.296	-2.628
	5%	-3.568	-3.552	-3.533	-1.952	-3.568	-1.950
	10%	-3.218	-3.209	-3.198	-1.610	-3.218	-1.611

The results from the Dickey-Fuler increased, shown in the table above, we approved to accept the hypothesis of a unit root for all series in levels 1%, 5% and 10% (statistical test values ADF are greater than the critical values at 1%, 5% and 10%). Given the non-stationary of the series recorded at stationary tests performed on all variables studied, we test the existence of cointegration relationship with the procedure Johansen. It has developed in 1988 a multivariate cointegration approach based on the method of maximum likelihood.

He proposed two statistics namely, the trace test and the test of the maximum eigenvalue. We will follow the approach Johansen, two tests and by reference to our equation are presented in the table below (1-2):

**Table 1-2: Tests of the trace and the eigenvalue**

	Statistical Trace	Critical value	Test eigenvalue	Critical value
Ho	309.525	111.780	88.960	42.772



The trace test and the eigenvalue, supra-described (Table 1-2), we can reject the hypothesis H0 due to the absence of a cointegrating relationship. Hence the transition to the error correction model. He recommended us to confirm the order of integration of the variables studied by the test dikey-Fuller. Thus and after differentiation variables, the unit root test for the entire series is the following results:

**Table 1-3: Unit root test after differentiation variables**

		D(MVA)	D(EVA)	D(CROW)	D(DEF_FIN)	D(GS_INSTI)	D(IDH)	D(INV)
ADF Test		-2.455	-3.047	-4.309	-1.525	-2.570	-4.097	-2.643
critical values	1%	-2.627	-2.628	-3.621	-2.627	-2.647	-2.628	-2.628
	5%	-1.949	-1.950	-2.943	-1.949	-1.952	-1.950	-1.950
	10%	-1.611	-1.611	-2.610	-1.611	-1.610	-1.611	-1.611

After the first differentiation, the statistical values of the different tests are less than the critical values at the 5% and 10%, hence the rejection of the unit root hypothesis, and hence they are integrated of order (1).

**Econometric model to estimate:**

$$MVA_j(t) / cap_j(t-1) = u + a(EVA_j(t) / cap_j(t-1)) + Croiss + DEV\_FIN + GS\_INSTI + IDH + INV + e_{jt}$$

We tried to reuse the relationship MVA - EVA traced in the first three chapters. However, we conduct an analysis in terms of percentage. The MVA and EVA for the year (t) will be reported and the capital employed in the year (t-1) Cap (t-1). It is a relativization of these variables in relation to the five macroeconomic variables describing the PESTEL environment.

As MVA is the total market value of the company, MVA (t) / Cap (t-1) can be defined as the market value of the return on capital of the company.

EVA is the economic benefit of the company, EVA (t) / Cap (t-1) would correspond to the performance of the profit on capital, u is a constant and e is a residual of the regression.

The relationship between MVA and EVA has been defined in equation (1.17) as described in the preparation of the first chapter where the efficiency of MVA was determined by the performance of the EVA. Theoretically, we expect that the performance of each business day MVA is determined by the performance of EVA growth, institutional quality (GS\_INSTI), financial development (DEV\_FINAN), overall investment (INV) and the human Development Index (HDI).

The existence of a relationship cointegration, we recommend using the error correction model (ECM). Latter describes a process of adjustment, it combines variables in first difference (stationary) representing fluctuations long-term and variable level ensuring consideration of the long term. It should be noted that if the residuals are non-stationary, the relationship between value creation and PESTEL environment is a spurious regression. While in the opposite case, the estimated relationship is a relationship cointegration

**Table 1-4: ADF test on the residuals of the static relationship:**

ADF		-3.517
critical values	1%	-2.627
	5%	-1.949
	10%	-1.611

The results of the unit root test on the residuals noted res1 our equation shows that the ADF static value (3517) is less than the tabulated value at 1%, 5% and 10%.

However, the residues of the static relationship are stationary, which allows us to estimate the error correction model (ECM), taking into account two steps:

The first is intended for the estimation of the static relationship. This done, we consider two sets X and Y. The combination of these two variables gives the following static equation:

$$y_t = \alpha + \beta x_t + z_t$$

With  $z_t$  Error term

The second step is to estimate the model to estimate A Error Correction:

$$\Delta y_t = -\delta z_{t-1} + \sum_i a_i \Delta X_{t-i} + \sum_j b_j \Delta Y_{t-j} + \varepsilon_t$$

With:  $z_{t-1} = y_{t-1} - \alpha - \beta x_{t-1}$

## RESULTS AND INTERPRETATIONS

We are dealing here the impact of the "PESTLE" in the value created in the same sample of firm's environment. It should first be noted that we found and via some theoretical and empirical studies or theories agencies or theories "signal", do not explain the reality of Tunisian companies, is also important for there refer to economic and managerial fundamentals.

The estimation results are given in the table below, they allow us to make the following interpretations: The estimation results are given in the table below, they allow us to make the following interpretations:

**Table 1-5: Statistical results of the relationship between value creation and environmental variables**

<i>Variable</i>	<i>Coefficient</i>	<i>Statistic T</i>	<i>prob</i>
C	-0.065882	-1.030258	0.3152
DMVA(-1)	0.010106	0.056864	0.9552
DEVA	2.746008	2.329998	0.0304
DCROISSANCE	39.52434	2.040468	0.0547
DDEV_FIN	21.5146	2.146435	0.0083
DGS_INSTI	10.89772	1.866876	0.0766
DIDH	-5.255848	-0.150644	0.8818
DINV	-23.15313	-2,3711	0.0279
AR (1)	0.408898	0.88617	0.3861

\*R<sup>2</sup> 0.916,\*DW=1.748,

First, the economic value added positively explains the added market value, Such results also converge with those of Stern, Stewart and Chow (1995), Grant (1996), O'Byrne (1996) and Kramer Pushner (1997), O 'Byrne (1999) and J. Kramer Petres (2001) Zaima, Tiesky and Cochran (2005). However, despite the importance attached to the notion of value creation, few studies have examined the relationship between the value created and the macroeconomic environment. These include Zaima, Tiesky and Cochran (2005), which are attached to assess the effects of the economic value added and economic growth (measured by GDP) value-added market. *Economic growth* is the second predictor of MVA estimation we conducted, it appears that it induces a positive and significant impact on the value created measured including the added value.

This is explained by the axiological position occupied macroeconomic stability in the decisions of agents. More economic growth is stable and robust, more agents are encouraged to invest and anticipate opulence, and therefore will be more value-creating opportunities.

The virtues of economic growth in the value created are similar to those described by Zaima, Tiesky and Cochran (2005). It is then noted that the effect of managerial decisions (EVA) and the economic effect (growth) significantly explain the MVA.

After examining the relationship between EVA and economic growth, we are tied us in the third level, to characterize the effects of financial development on the value created.

Despite the bank's own orientation Tunisian financial system, the predominance of family control and the subculture of the owners, we note that the value created within Tunisian companies listed on the stock exchange in Tunis (TSE) in our sample is positively affected by financial development. Fourth level of institutional quality was introduced to explain the MVA, it reflects the impact of a stable government and institutional supremacy on the ability of companies to streamline their creative strategies of value. A good institutional quality is synonymous with healthy framework or environment conducive to investment and truth or market regulation. This control means control of corruption, and the right balance of transparency as too much transparency kills the value, including that generated by the annuity.



Economic value added (EVA) of some companies seems to come more from a situation of pension rather than a real situation (value added). Institutional quality, and in our empirical estimation, we concluded that the value created in the Tunisian firms is positively affected by the institutional quality of the country. However, the human development index (IDH), measured by variables related to access to basic services, poverty and approximated by the rate of primary school enrollment, life expectancy at birth, does not affect the value created by companies despite the HDI revisit a healthy population is a population that can make efforts to work and participate in economic development. This negative and insignificant effect is justified by the mismatch between the education system and the labor market, the inefficiency of the health system, the importance of training and school learning. Such opportunities allow company personnel to work in the process of creating stakeholder value. The HDI could favorably affect the value creation if the study focused on companies operating in less developed economies. The latest environmental component named Global investment negatively affects the value created as measured by market value added (MVA). This relationship is explained by a synergistic effect and rooting low, resulting in low articulation or integration of the economy. The investment does not contribute to create value in the market, it has a negative impact on value creation in listed companies. Increased investment means non dividend, creating competitors and starting skills. Since their ultimate goal is the satisfaction of their shareholders in a shareholder approach and the integration of the partnership dimension to achieve the right balance of interest, always with the aim of creating value.

At the end of this estimate, we see explanatory power ( $R^2 = 91.62\%$ ) very strong value created by managerial variables (EVA) and macro.

Some authors have attempted to explain the added market value by reference to the managerial variables (EVA) and found that the economic value explains the value of the market. However these studies are limited regarding the integration of macroeconomic dimension, only the study of Zaima, Tunesky and Cochran (2005), is committed to identify the explanatory power of EVA and economic growth of value added market.

## CONCLUSION

The analysis of the impact of political, economic, socio-cultural, technological, environmental and legal "PESTLE" environment on the creation of value in Tunisian companies allowed some conclusions about the contribution of national considerations in the creation value by companies.

Thus institutional quality approximated by stable government, the fight against corruption, fiscal policy and regulation of foreign trade, encourage firms to develop strategies conducive to the creation of value. Inherent in the technological environment with the cultural capacity of business partner's financial development and economic managerial variables also induce a positive effect on the creation of value, but this effect is limited. As for the elements approximating the environmental category, their implications are hardly conspicuous. The human development index "HDI" and the total investment will not have a significant effect on the value created. Such a paradox is explained in some work by the nature of the total investment, including the allocation to its intangible component.

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