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ENVIRONMENTAL PERFORMANCE INDICATORS OF TUNISIAN COMPANIES: ANALYSIS VIA THE DECISION TREE

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Abstract

The article at hand is an attempt to identify the various indicators that are more likely to explain the environmental performance of Tunisian companies. In this respective, the emphasis is put on diversification, innovation, intrapersonal and interpersonal skills. Indeed, they are the appropriate strategies that can designate emotional intelligence, the level of indebtedness, the firm age and size as the proper variables that support the target variable. The "decision tree", as a new data analysis method, is utilized to analyze our work. The results involve the construction of a crucial model which is used to achieve a sound environmental performance.

Keywords: Environmental performance, diversification strategy, innovation strategy, emotional intelligence and decision tree

1. INTRODUCTION

For many decades, the concept of performance has been the focal point of various researches. Actually, this term is getting broader to cover not only financial performance but also the environmental performance of the company which is also established in listed and unlisted companies. Environmental performance indicators are different from one researcher to another depending, Herva *et al.* (2011) there are four environmental performance indicators: energy indicators and material flows, indicators with a territorial dimension, indicators of life cycle assessment and environmental indicators related to risk assessment.

James (1994) shows that environmental performance is linked to six indicators: production, auditing, environmental, accounting, economy and quality. All these indicators may influence the environmental performance of companies. The strategic choice affects the business performance, the level of indebtedness, the investment decisions, the business size and age, the growth opportunities as well as the skills of the leader and other indicators can explain environmental performance. In fact, Bergeron (2000) states that the performance indicators "allow the managers to determine whether the company reaches the desired performance and motivation; thus, they influence the workers to maintain, improve, correct or anticipate performance." Furthermore, Lorino (2003) says

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that "the performance indicators are the meeting point between the strategic objectives and the operational activities and are supposed to drive the share price toward achieving a goal or to allow it to evaluate the results."

Several theories have highlighted the performance relationship with these variables; in this context, one may hint to the theory of resources and skills, the strategic approach, the cognitive theory, the agency theory... For instance, according to the cognitive theory, the leader must use his emotions in order to achieve a better business performance. In this theory, we can perceive the positive effect of emotions on the leader's decision-making; i.e., we talk about a new concept which is "emotional intelligence". Performance is not only related to skills and to the working team skills, but also to the internal skills called "emotional intelligence". Here, we mean a trend in psychology, behavioral finance and management sciences. Our paper aims to present, through the "decision tree" which is a recent data analysis, the environmental performance indicators of Tunisian companies. The main contribution of this work is to explain how the innovation strategy, diversification strategy, emotional intelligence, debt, size and age can affect not only financial performance but also environmental performance, that we applied the method of rating agency KLD to the Tunisian companies. The obtained results, based on the decision tree, show the significant effect of the different variables on environmental performance.

This article is structured as follows: Section 2 presents the related environmental performance indicators which motivate the empirical work; Section 3 presents the methodology and Section 4 presents the main results and discussion of decision tree.

2. ENVIRONMENTAL PERFORMANCE INDICATORS

The topic of performance remains a hot one. Indeed, the researchers have strived to find an explanation to this concept by seeking its sources, its relations with the various strategies, how to achieve it ... Our major goal is to know the environmental performance indicators. Accordingly, we can mention:

2.1. Diversification strategy

Diversification is reckoned as an important factor that explains the competitive advantage (Davel *et al*., 2008) by taking the environmental responsibility into account which is a factor of success in the business performance, environment is an important factor in determining the benefits of diversification for technology companies (Lee *et al.*, 2013).

According to Delmas *et al.* (2011), not only is the company training capacity able to improve the environmental performance but also to gain a competitive advantage (cost control, reputation, and innovation - differentiation); ie, they altogether increase the benefits of the company. In another research area , the findings of a study undertaken by the research consortium Diversity Research Network with four large companies in different industries confirmed that diversity is, in fact, tightly related to the knowledge of what the consumers need, the adaptation to the enquiries of the customers and to the human benefits (the best management of human resources is likely to endow the enterprise with high-potential profiles by increasing motivation; i.e. the satisfaction and the productivity of the employees) (Kochan *et al*., 2003). In fact, researchers agree on the existence of the effect of diversification on performance. Yet, some of them think that this effect is positive and others see that it is negative.

2.2. Innovation strategy

Kemp *et al.* (1994) argue that the "techniques, processes and products can eliminate or reduce the emission of pollutants and / or the use of raw materials, natural resources and energy". Oltra and St Jean (2009) considers the impact of innovation on the environmental performance is based not only on research and development, but also on technology since the existence of new technologies urges the companies to innovate and to develop new environmental approaches.

Brouillat (2008) argues that the companies are more or less encouraged to engage in environmental trajectories that may require high internal research efforts (R&D). Freeman (1984) state that innovation by changing the "technological systems" upsets the technical and economic foundations of industry. Elkington (1998) also studied the types of innovations that may improve the business environment.

The works of Baker and Sinkula (2002), Balkin *et al.* (2000); Darroch and McNaughton (2002), Lyon and Ferrier (2002), Scherer (1992), Utterback (1994), Vrakking (1990) and Wolfe (1994) show that innovation enables the company to cope with the environmental changes and, subsequently, research and development is very important to achieve environmental performance.

2.3. The leader's emotional intelligence

George (2000) indicates that an emotionally intelligent leader must have a high cognitive flexibility to get adapted to the changes in the environment. This implies the existence of a positive correlation between emotional intelligence and the environmental performance. According to Delmas *et al.* (2011), the apprenticeship ability of a company can not only improve the environmental performance, but also can gain a competitive advantage (cost control, reputation, innovation-differentiation) to increase the profit of the company by gaining a competitive advantage from its environmental programs throughout the relations with the stakeholders (shareholders, the local community, government, customers and suppliers) and throughout the environmental impacts on its global reputation.

2.4. Indebtedness

Many studies have highlighted the important role of the capital structure in explaining the corporate performance. According to Nickell *et al.* (1997), for example, debt can improve the business productivity and growth. In 1985, however, Ullman found out that indebted companies pay more attention to the needs of the stakeholders. Nevertheless, Jensen (1986) shows that debt can reduce the leader's discretionary power on the company-resources since debt compels him to be engaged in profitable projects so that he can redeem the debt as well as the interest bills resulting from that debt.

2.5. The company size

The researches that address the issue of performance comprise the company-size as a control variable. These researches include the works of Demsetz and Lehn (1985). In fact, large companies may have enough resources to invest in costly and profitable projects in order to achieve better performance. According to Mintzberg (1998), "The larger an organization is, the more elaborate its structure will be: the more specialized its tasks are, the more differentiated the units and the more developed its administrative component will be. The larger the organization is, the larger the mean-sized units will be. The larger the organization is, the more it is formalized". Hence, large businesses can have multiple resources that enable them to be engaged in profitable projects and achieve a better performance.

2.6. The company age

The company-age is a very important variable in explaining the corporate performance due to the fact that the level of performance varies according to the business lifecycle and age since the means, the objectives and the competence vary throughout the business lifecycle.

3. METHODOLOGY

Our study aims to determine the environmental performance indicators, our methodology consists of two parts, the first is used to identify the data collection method and the second is devoted to the result of interpretation.

3.1. Sample

Our sample involves 96 Tunisian companies divided into 10 industries which are: chemistry, distribution, food processing, transportation, industries, computer, other consumer goods, consumer services, buildings, and services. Companies belonging to the financial sector are excluded (banks, insurance company ...) because they have a unique financial structure. The following table1 summarizes the distribution of the sample by industries:

Table 1: Sample distribution

Industry	Number of businesses	%
chemistry	5	5.2%
distribution	2	2.083%
food processing	15	15.625%
transportation	2	2.083%
industries	15	15.625%
computer	9	9.375%
Consumer services	31	32.291%
other consumer goods	3	3.125%
Buildings	2	2.083%
services	12	12.5%
Total	96	100

3.2. Data collection and sources

Our purpose is to try to explain the environmental performance indicators in Tunisia, was chosen diversification strategy, innovation strategy, emotional intelligence, Debt, Age and Size. Regarding diversification and innovation we gathered the needed data from the annual reports of the listed companies on the Tunisian tustex site, accessed the web-sites of the unlisted companies and contacted them by mail, fax and telephone to find out the necessary information to measure this variable. By using a questionnaire, we measured emotional intelligence (the questionnaire is sent to diversifiable and innovation Tunisian companies in different sectors; for example, food industry, chemical industry, services,). Data collection was carried out in 2013. We used several methods to gather information: personal investigation (by appointment), telephone survey, fax inquiry and internet survey. The Ministry of Tunisian industry as well as several business centers, namely the business center of Sfax, helped us.

3.3. Variables

We have two types of variables, the first characterized the target variable and the second is that all variables related to performance, begin with the target variable is the environmental performance.

3.3.1. Target variable: environmental performance

In the previous paragraph, we have shown that we have adopted a questionnaire to calculate the environmental performance. We have adopted the methodology of the KLD cabinet to measure the target variable which is the environmental performance.

Environmental performance is calculated on the basis of 6 items which are defined to measure the firms' environmental performance. For each firm, a score ranging from 0 (no item is taken into account) to a maximum of 6 (all items are considered). Then, we brought back the number to a value ranging from 0 to 1 by dividing the total by 6.

Environmental Performance (EP) = ($\sum$ items)/ 6

3.3.2. Explanatory variables

We will present the variables that explain social performance:

3.3.2.1. Diversification

Most authors use the specialization ratio, the index of Berry-Herfindahl, the entropy measurement, Utton index and Rumelt classification (1974) or the number of sectors as diversification measurements. The problem is that all these measurements assume to have data by activity. The entropy measurement requires knowledge of the sales of each strategic business area and the total sales of the group. In our case, it is difficult to know the sales of each area of activity of Tunisian companies. Therefore, we used an approximation of the specialization ratio (Rumelt, 1974). The specialization ratio is the ratio of sales of the core business and the total sales of the group.

In our case, we assume that the parent company is the principal company's activity (in terms of sales). This is the same approach used by Stephany and Ngobo (2001) in their study of the French context. According to their study, we can calculate diversification as follows:

Diversification = (1 - (the parent company turnover / the group turnover)) * 100.

3.3.2.2. Innovation strategy: R&D

This measurement (proxy of R&D) is used by Francis and Smith (1995), Cho (1998), Abdullah *et al.* (2002), Azouzi and Jarboui (2012), and Hamza and Jarboui (2012), is the ratio between R&D expense and total sales. This measurement is used also by Symeonidis (1996), Klein and Rosenberg (1986), Gellatly and Peters (1999), Miller (2006) and Chesbrough *et al.* (2006).

Innovation strategy =Research and development expenses/total sales

3.3.2.4. Emotional intelligence

There are many approaches to measure emotional intelligence; for example (Mayer *et al.*, 2000); Zeidner *et al.* (2004), measurements based on skills (e.g. Mayer-Salovey-Caruso Emotional; Intelligence Test, MSCEIT, Mayer *et al.*, 2003). The mixed measurements (e.g. Emotional Competence Inventory, ECI, Goleman *et al.* 2002).

In the second part of our questionnaire, we generated a group of 17 items (the most representative concept of emotional intelligence obtained from Schutte *et al.* (1998), SSREI test) based on the theoretical model of emotional intelligence developed by Goleman (2001). The responding leaders used a 5-point scale, from "no agreement" to "total agreement".

Emotional Intelligence = Σ points collected in the questions

3.3.2.5. Debt (DEBT)

Hovakimian *et al.* (2004) utilized the total debt ratio, but Myers (2001) used the long-term average debt ratio. Nevertheless, ION measured this variable by using the financial leverage which resides in the total debt divided by the total assets. This measurement is also used by Kochhar and David (1996), Barker and Mueller (2002), Lee and O'Neill (2003), Koh (2003), Demaria and Dufour (2007), Jarboui and Olivero (2008), Ben Kraiem (2008), and Sahut and Gharbi (2008).

DEBT= (total debt / total assets) in percentage

3.3.2.6. Size

According to Hovakimian *et al.* (2004) and Dufour and Molay (2010), the size of the firm affects its financial policy. Indeed, larger companies have higher performance and are more diversified than small and medium sized ones (Booth *et al.*, 2001) .The company size, in fact, is calculated by several methods; namely, the log total assets , the workforce and turnover. According to Bahagat and Black (2001), Durnev and Kim (2003), Andres *et al.* (2005), and Hergli *et al.* (2007), the size is measured as follows: "log (sales)." Others, like Brown and Caylor (2006), Ben Cheikh and Zarai (2008), Bauer *et al.* (2007), and Adjaoud *et al.* (2007) used the value "log (the total assets)."

We used the (Ln (CA)) as a size-measurement in this research. It is identified by the logarithm of the group turnover. This same measurement is used in several studies such as Bujadi and Richardson (1997), Barker and Mueller (2002) and Chen *et al.* (2008).

SIZE = Ln(CA)

3.3.2.7. Age

The company age has a very significant effect on performance. It is expressed by the logarithm of the number of working years (Brown and Caylor, 2006; Ben Cheikh and Zarai, 2008).

Age = Ln (number of years)

3.4. Questionnaire validation

Our objective is to test the validity of 6 items about environmental performance and 17 items about emotional intelligence. The internal consistency validity test of our questionnaire is achieved with Gronbach alpha (a measurement of the internal consistency between the different items of measurement) equals ($\alpha = 0.724$).

The internal consistency between the 17 items of emotional intelligence is important as it equals 0.562. This means that each item is the equivalent measurement of emotional intelligence and that they are consistent. The Principal Component Analysis suggests a structure of 4 factors representing 95.138% of the total variance for the factors of environmental performance and 7 factors for emotional intelligence the factor solution (environmental performance and emotional intelligence) is summarized respectively in the following table 2, Table 3:

Table 2: Environmental performance factors: 6 items

Items	Factor 1: Environment protection (28.821%VE)	Factor 2: Energy saving (28.148%VE)	Factor 3: Recycling (16.869%VE)
1-I choose energy sources that protect the environment	0.929		
2-I choose low-cost means of transport	0.928		
3-I apply the highest standards of environmental standards		0.919	
4-I make an energy saving plan		0.916	
5-I recycle my products			0.899
6-The raw materials chosen by our company limit the depletion of natural resources			0.446

Table 3: The leader's emotional intelligence factors: 17 items

Items	Factor 1: personal awareness (15.454% VE)	Factor 2: empathy (12.789%VE)	Factor 3: personal management (10.876%VE)	Factor 4: Report management (8.282% VE)	Factor 5: emotional awareness (7.420% VE)	Factor 6: Motivation (7.174% VE)	Factor 7: Relation management (6.411% VE)
1-My colleagues are not communicative	0.914						
2-I do things that I regret	0.853						
3-I communicate well with each of my co-workers	-0.841						
4-It is unpredictable how my colleagues feel in any given situation		-0.931					

5-I can interpret nonverbal messages	0.906					
6-I can describe exactly what I feel	0.575					
7-I can stay calm even in difficult circumstances		0.786				
8-The things that happen in my life are meaningful for me		0.774				
9-I appreciate other people's feedback		0.532				
10-I feel excited when I think of my goals			-0.683			
11-I get impatient with incompetent people			0.678			
12-I'm influenced by other people's opinions			0.561			
13-I can explain my action				0.777		
14-I comfortably talk to anyone				0.687		
15-I imagine that the corporate performance will be good					0.870	
16-Others do not see me as I see myself						0.764
17-I am aware enough to achieve my future goals					0.4	

4. DATA ANALYSIS VIA THE DECISION TREE

This is an explanatory artificial intelligence method. It was first applied by Morgan and Sonquist (1963) when they used the regression trees in a process of prediction and explanation (AID - Automatic Interaction Detection).

4.1. Definition of the decision tree

This is an explanatory artificial intelligence method. It was first applied by Morgan and Sonquist (1963) who used the arborescent tree. The decisions were based on testes associated with attributes. Each internal node (decision node) denotes a test on an attribute, each branch represents a test result and each leaf node (terminal node) holds a class label. The highest node in a tree is the root node. A decision tree is a decision-making system that assigns a probability to each possible choice based on the decision-context: P (f / h), where f is an element of the future attributes (all choices) and his story (the decision-context). This probability P (f / h) is determined by asking a series of questions from q1, q2 ... qn about the context in which the n^{th} asked question is uniquely determined by the replies to question n -1 of the previous questions. Each of the questions asked by the decision tree is represented by a node in the tree and the possible answers to this question are associated with branches from the node. Each node defines a probability distribution over the space of the possible decisions. The leaf node is a node in which the tree stops asking questions. The decision tree uses a Bayesian algorithm for the total probability procedure. This principle is based on probability and the text is part of a class of a prior probability. The text will be assigned to the posterior probability. Simply speaking, a naive Bays classifier assumes that the presence (or the absence) of a particular characteristic of a class is not related to the presence (or the absence) of any other function. This is a basic result in the probability theory. It stems from the work of Thomas Bayes (1702-1761). The decision tree allows us to aggregate and analyze the different forms of the variables of different nature (they can be historical, equations, ratios ...) in the same model .It is a graphical representation that enables us to place the links precisely and comprehensibly in order to analyze the relationships and to interpret them easily.

4.2. Transformation of the continuous variables into discrete variables

Before presenting our results, all the variables must be discrete, the following table summarizes this transformation:

Table 4: Description of the variable terms in which environmental performance is the target

Variables	Type	Classification
Environmental performance	Discret [1: low ; 2: medium; 3: High level]	1 if SP<0.5 2 if SP=0.5 3 if SP >0.5
Emotional Intelligence	Discret [0: low; 1: High level]	0 if EI < 30 1 if EI >30
Diversification	Discret [1: low; 2: medium; 3: high level]	1 if Div<0.5 2 if Div=0.5 3 if Div >0.5
Research and development	Discret [1: low; 2: medium; 3: high level]	1 if R&D<0.5 2 if R&D=0.5 3 if R&D >0.5
Debt	Discret [0: low; 1: high level]	0 if Debt<0.5 1 if Debt>0.5
Age	Discret [0: not aged; 1: aged]	0 if âge<15 ans 1 if âge >15 ans
Size	Discret [1: small; 2: medium; 3: large]	1 if Ln (CA) <3 2 if Ln (CA) ε [4 ; 10] 3 if Ln(CA)>10

4.3. The graphical model of environmental performance

The second step is devoted to identifying the relationships between the variables. In fact, Orange Canvas software paves us the way to make a decision tree apprenticeship by taking the discrete data. The different relationships are shown in the following graph (Figure 1).

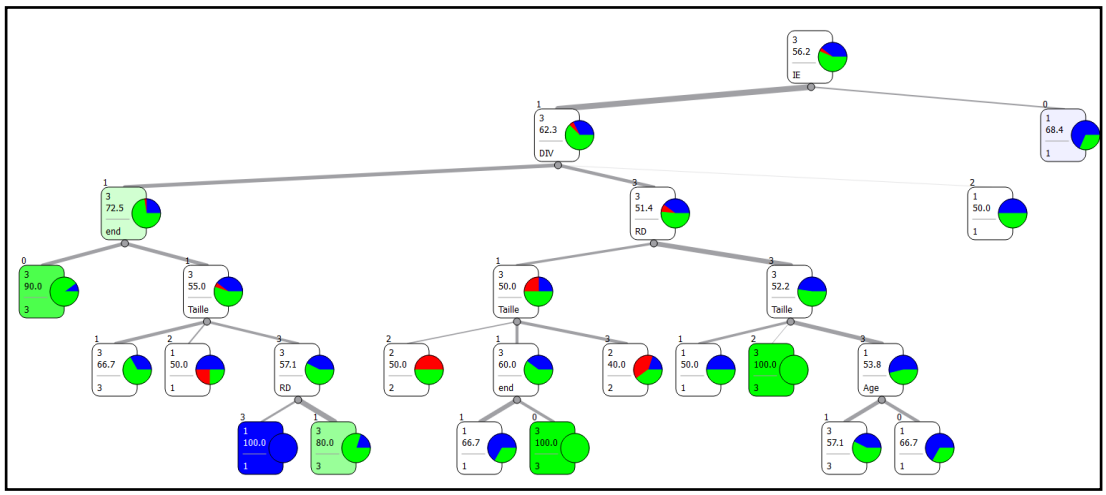

Figure 1: Decision tree of social performance

The probability distribution of the various variables is presented in the following table:

Table 5: probability distribution of the various variables

Variables	Categories	Total value	Percentage
Debt	0	53	55.2
	1	43	44.8
Diversification	1	48	50
	3	46	47.9
	2	2	2.1
Size	3	46	47.9
	1	35	36.5
	2	15	15.6
Age	1	62	64.6
	0	34	35.4
EI	1	77	80.2
	0	19	19.8
RD	3	58	60.4
	1	36	37.4
	2	2	2.1
EP	1	38	39.6
	3	4	4.2
	2	54	56.2

"Emotional intelligence" is the first used variable and is the most important in explaining the environmental performance. This segmentation variable consists of 2 modalities (1: high level of emotional intelligence; 0: low level of emotional intelligence) and produces 2 sub-summits. The frequency distribution shows that emotional intelligence is correlated with a high level of financial performance (p = 0.562). Indeed, this result is explained by the fact that the emotionally intelligent Tunisian leaders adapt to the environmental change in order to solve the environmental problems and to be effective in the development of the strategy to achieve better environmental performance.

The first branch on the right of the second level is produced from the modality "0". The summit is correlated with a low level of environmental performance (p = 0.684). This summit has no sub-summits; i.e. it is a leaf of the tree. This is explained by the fact that the leader's low level of emotional intelligence does not allow him to improve his capacity 0 to solve the environmental problems.

The second branch is the modality "1" of the "emotional intelligence" variable. It signifies the diversification strategy that covers 3 observations "1; 2; 3". This distribution indicates that the leader who has a high level of emotional intelligence is eager to get involved in various activities (positive correlation with financial performance with p = 0,623). So we can say that the emotionally intelligent Tunisian leaders of diversifiable companies are more likely to adapt to the environmental complexity to achieve a high corporate performance (Calori *et al.*, 1994).

The diversification variable becomes a segmentation variable on the second level of the tree. It is composed of three modalities "1: low; 2: medium; 3: high "and produces three branches. The first branch on the left stems from the category "1" of the diversification variable which is indebtedness. In this respective, a leader with a high level of emotional intelligence seeks to get into debt with low diversification. Again, the Tunisian companies which are set up in a small number of markets or produce one or two products run into debt to achieve a high level of environmental performance.

The second branch, in the middle, is the modality "3" of the "diversification" variable. The summit is correlated with a high level of environmental performance; i.e. it is the research and development strategy. The emotionally intelligent Tunisian leader seeks to stabilize the situation of the company after the turbulence of the environment. He innovates in order to deal with the environmental changes since innovation enables the company to cope with the environmental change. (Baker and Sinkula (2002), Balkin *et al.* (2000), Darroch and McNaughton (2002), Lyon and Ferrier (2002),

Scherer (1992), and Utterback (1994) Vrakking (1990) and Wolfe (1994). The Third branch corresponds to the modality "2" of the "diversification" variable. The summit is correlated with a low level of environmental performance. Hence, the companies which have an average diversification have a low environmental performance. This summit has no sub- summits. It is a leaf of the tree.
The research and development variable is segmented using the size variable. In the case of the Tunisian firms with a high or medium level of research and development, the company size is correlated with a high level of environmental performance.

The leader who has a high level of emotional intelligence and who adopts a high level of diversification and innovation strategies in big-sized-old businesses can achieve high environmental performance with p = 0.571.

We also notice that if the leader is emotionally intelligent and has a low level of diversification, the large companies that run into debt and adopt a high level of research and development can achieve a high environmental performance. Hence, we can say that emotional intelligence can improve environmental performance, take a competitive advantage, and increase the company profit by taking a competitive advantage of its environmental programs (Delmas *et al.*, 2011).

4.4. Cross-validation

After constricting the tree and interpreting probability, data must be classified through the cross-classification method. Classification is a data exploration technique that assigns a target class to each element of a group. Classification aims to accurately predict the target class for each case in the data. In our study, we used the naive Bayesian classification to explain the business performance. The Naive Bays classifier is a simple probabilistic classifier. It rests on the application of the Bays Theorem with strong independence assumptions. It presumes that all the features are independent. Cross-validation is shown in the following table:

Table 6: Cross-validation of environmental performance

Low						
Method	**Classification accuracy**	**Sensitivity**	**specificity**	**F-measure**	**Precision**	**Matthews correlation coefficient**
Naive Bayes	0.572	0.421	0.758	0.470	0.533	0.189
Medium						
Method	**Classification accuracy**	**Sensitivity**	**specificity**	**F-measure**	**Precision**	**Matthews correlation coefficient**
Naive Bayes	0.572	0.000	0.989	N/A	0.000	-0.021
High						
Method	**Classification accuracy**	**Sensitivity**	**specificity**	**F-measure**	**Precision**	**Matthews correlation coefficient**
Naive Bayes	0.572	0.722	0.381	0.655	0.600	0.109

4.4.1. Classification accuracy

Here, we talk about the correct classification percentage. In fact, accuracy means the correctness of the overall model which is calculated as the sum of correct classifications divided by the total number of classifications. Our environmental performance classification is correct (CA = 0.5726); this value is important. It explains that the social performance classification into low, high and medium is the most common classification. So, the Tunisian companies can classify their environmental performance in low, medium and high performance.

4.4.2. Sensitivity

Sensitivity identifies the classes taken in the variable segmentation so as to better explain the model to be studied. We note that social performance is distributed in the following two conditions.

• Low environmental performance, (the rate is equal to 0.421)

• High environmental performance (the rate is equal to 0.3810)

Tunisian companies have high or low environmental performance. They can achieve, through their strategies, a high social performance and a low social performance.

4.4.3. Specificity

Specificity measures the proportion of not adopting such a classification. The percentage of the firms that have not adopted the classification low, medium and high environmental performance is between 0.7% and 0.3%. This percentage is low; therefore, the previously found results are confused.

4.4.4. F- measure

It corresponds to the margin of error around the exact solution. We notice that the preferences of environmental performance of the Tunisian companies are divided into the following three conditions with a small margin of error between 0.4 and 0.6

• Low environmental performance

• High environmental performance.

5. CONCLUSION

To sum up, the major goal of the paper at hand is to identify the indicators of environmental performance and to present its ideal classification within Tunisian companies. The obtained results, based on the decision tree, show the significant effect of the different variables on social performance. In this respective, an important model is found to explain environmental performance and the high level of emotional intelligence with a strong diversification and innovation strategy. In fact, social performance is deemed to be very high in large, indebted and aged companies. Equally important, cross-validation prompted the classification of environmental performance into three types: low, medium and high. Ultimately, one may say that, according to this article, the determination of environmental performance indicators within the Tunisian companies is a very important experiment. In other words, it explains the extent to which these strategies influence environmental performance and it, also, shows the growing importance of the leader's emotional intelligence in establishing a high social performance.

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