

## **The Perceived Usefulness of ESG Indicators by Tunisian Financial Professionals: Exploratory Study for the Construction of a Measurement Scale**

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### **Abstract**

*This research is part of current research on the use of non-financial information. Its objective is to evaluate the perceived usefulness of Environmental, Social and Governance (ESG) indicators, proposed by the Global Reporting Initiative (GRI). A questionnaire survey was conducted among a sample of 105 Tunisian financial professionals. The results show levels of perceived usefulness quite different. Thus, corporate governance dimension collects the highest degree of perceived usefulness, followed by environmental and social ones. With regard to the exploratory factor analyzes, the results revealed a scale composed of 53 ESG indicators adapted to the information needs of Tunisian financial professionals.*

**Keywords:** Usefulness, ESG indicators, GRI guidelines, Investment allocation decision, Tunisian financial professionals.

### **Introduction**

Today, more and more companies are engaging in a Corporate Social Responsibility (CSR) approach. Environmental, Social and Governance (ESG) communication is the most concrete form of this commitment. According to The KPMG Survey of Corporate Responsibility Reporting (2015), more than 90% of the 250 largest global corporations (G250) and nearly three quarters of the top 100 national companies (N100) report environmental and social information. This communication offers a more global vision of performance, going beyond accounting and financial one.

The desire to facilitate corporate ESG communication practices has led to the emergence of several initiatives aimed at proposing a standardization of practices. Among these initiatives, that of the Global Reporting Initiative (GRI) tends to prevail, particularly because of the richness of its content (McGraw and Katsouras, 2010). But this wealth, which is materialized by the large number of indicators proposed, can also be a source of problems or at least of choices to be made by the companies wishing to adopt them to organize their communication. Indeed, the question of the utility for the investor of each of the proposed indicators remains open and may require a prioritization.

In this context, the question of the usefulness of ESG information as a complement to financial information arises, particularly from the point of view of the potential investor. Although, in the past, financial information was the main source for investment decisions, it is the subject of criticism, in particular because of its orientation towards the past and the fact that it does not provide a clear vision on the future performance of the company (Cauvin et al., 2006). Sahut and Pasquini-Descomps (2015) consider that the question of how and why investor stake into account CSR activities when making investment decisions is very relevant.

In Tunisia, ESG is becoming a growing concern (Ben Rhouma et al., 2011). The numerous reforms initiated in favor of CSR constitute a real incentive for companies to engage in a socially responsible approach. However, corporate communication practices appear to be reduced (Khemir and Baccouche, 2010). According to Frimousse et al. (2006), unlike financial communication, social communication of Tunisian companies seems marginal. Chakroun (2012) has shown that voluntary disclosure policy in the annual reports of Tunisian companies is considered by financial analysts to be minimalist.

Although it has foreseen the possibility of the communication of ESG information, Tunisian accounting system, in its conceptual framework, has specified neither its content nor its form. This seems to be an obstacle for companies wishing to communicate their performance in the ESG areas.

Most research conducted in this country has focused on the analysis of ESG communication (Frimousse et al., 2006), the identification of its explanatory factors (Baccouche et al., 2010, Khemir and Baccouche, 2010, Zramdini, 2011), and the assessment of its influence on credit granting and investment decisions (Zramdini and Fedhila, 2003, Khemakhem and Turki, 2007). To our knowledge, no research has focused on the development of a measurement scale or indicators that are tailored to the informational needs of stakeholders. However, it is quite common for financial actors to express dissatisfaction with the extra-financial communication practices of Tunisian companies (Khemir, 2014). This leads us to think about how ESG communication can now be conceptualized and apprehended, in order to contribute to the implementation of a useful reference framework for companies.

The objective of this research is therefore to evaluate the perceived usefulness of the ESG indicators, proposed by the GRI, by Tunisian financial professionals to their investment decision and to develop a measurement scale of ESG communication adapted to their needs.

Conducting such research in the Tunisian context reflects our desire to explore a context in which consciousness in this field is developing, a context that remains little explored by researchers interested in ESG dimensions. This research enriches the literature on emerging countries and provides information on the value of ESG indicators for Tunisian investors, in the absence of universal standard on the communication of these indicators. It is likely to help reflection on the improvement of standardization and the establishment of a regulatory framework to improve practice. The contribution of this research lies in the analysis of the perceived usefulness of ESG indicators derived from the GRI guidelines and the development of a measurement scale of ESG communication. This is likely to inform companies about the ESG indicators that are most useful for financial professionals and to push them to take them into account in order to provide ESG information that can be used to make investment decisions.

If the guidelines proposed by the GRI have already been analyzed by research from the point of view of the information provider (Henderson et al., 2006), no research adopting the viewpoint of the receiver has been made to our knowledge. However, the question of the usefulness of the information for the users seems to us fundamental in the choice of CSR communication. Our research is therefore in line with studies on the usefulness of extra-financial information, more specifically in the category of survey studies (Milne and Chan, 1999). The rest of this paper is organized as follows: the first section is dedicated to the literature review. The second section describes the research method used to develop a tool for measuring ESG communication. The third section presents the data collection and the results obtained. The fourth section discusses the results and highlights the contributions of this research.

### ***Literature review: the utility and use of ESG information in decision-making***

One of the main objectives of the ESG communication is to meet the growing information needs of the company's stakeholders. Like accounting and financial information, ESG information is supposed to be useful and therefore used, especially, in investment decisions. ESG communication research can be separated into two groups, depending on whether they take the viewpoint of the information provider, or that of the information receiver. Our research belongs to the category of studies adopting the point of view of the information receiver. This type of research focuses on the usefulness of ESG information for all users, whether financial (portfolio managers, financial analysts, credit analysts, etc.) or belonging to other stakeholder's categories (NGOs, consumers, etc.). Empirical studies within this framework adopt a variety of methods and can be classified, according to the method used, into three families: survey studies, reaction studies, and experiments (Milne and Chan, 1999) (see table 1).

**Table 1: Typologies of studies on the utility of ESG information to user decision-making**

	Survey studies	Reaction studies	Experiments
Objective	Identify opinions on the importance and usefulness of ESG information	Study the impact of ESG information on stock prices	Analyze the influence of ESG information on individual decision-making
Research question	What is the perception of ESG information by stakeholders?	What is the stock market reaction to ESG information?	How does ESG information influence individual decision-making?
Research Examples	Teoh and Shiu (1990), Deegan and Rankin (1997), Thompson and Cowton (2004), Whitehouse (2006), Adams and Frost (2008), Ioannou and Serafein (2010), Saghroun and Eglem (2008), Cohen et al. (2010), Berry and Junkus (2013), de Zwaan et al. (2015), van Duuren et al. (2015).	Lorraine et al. (2004), Wahba(2008), Kruger (2009), Guidry and Patten (2010), Eccles et al.(2011), Vintilà and Gherghina (2012), Xu et al. (2012).	Chan and Milne (1999), Milne and Chan (1999), Zramdini and Fedhila (2003), Khemakhem and Turki (2007), Holm and Rikhardsson (2008), Rikhardsson and Holm (2008), van der Laan Smith et al. (2010), Chang and Wei (2011), Cheng et al. (2015).

Research concerning the usefulness of ESG information is based on the assumption that while accounting and financial information is provided by companies to serve the information needs of their users, ESG information, too, should play the same role insofar as it is likely to provide information on extra-financial aspects of overall performance. These researches have yielded inconclusive results.

Examining the perception of the importance of CSR information by Australian institutional investors, Teoh and Shiu (1990) have obtained that the latter appreciate the commitment of companies in a CSR approach but consider that the CSR information communicated in annual reports is not important to their investment decisions. In Australia, Deegan and Rankin (1997) have found that shareholders believe that environmental information is important for decision-making while brokers and analysts downplay its importance. Thompson and Cowton (2004) have found that UK bank credit analysts attach importance to the annual report notwithstanding its inadequacy as a source of information on companies' environmental impacts. Whitehouse (2006) has shown that despite the existence of real attempts to develop CSR policies in the UK context, managers state that the context hinders the ability of CSR to provide sufficient information to stakeholders to assess social performance. Adams and Frost (2008) have successfully demonstrated that British and Australian companies integrate environmental and social indicators into their strategic planning, performance determination and risk management decisions. Ioannou and Serafein (2010) have shown that companies engaging in a socially responsible approach are subject to more favorable recommendations by sell-side financial analysts than those who are not. Saghroun and Eglem (2008) have found that environmental and social information is of moderate interest to French financial analysts, and that corporate governance is the preferred topic compared to environmental and social ones. Cohen et al. (2010) have revealed that information about economic performance ranks first in terms of importance for retail investors' investment choices, while information on corporate governance and on CSR occupy respectively second and third place. Berry and Junkus (2013) have found that environmental dimension appears to be the main dimension associated with Social Responsibility Investment (SRI) for socially responsible investors and mainstream ones. Then come questions about company policy and company products. de Zwaan et al. (2015) have sought to examine the perception of ESG investment of Australian pension funds by their members and have found that the majority of pension fund members are interested in ESG investing. Members show a preference for examining governance issues compared to social and environmental ones and perceive that corporate governance should have a positive impact on financial performance. van Duuren et al. (2015) have conducted an international survey of American and European conventional investment fund managers to analyze how ESG factors are integrated into their investment practices. The results reveal that many conventional fund managers are integrating responsible investing into their investment processes, and consider that governance considerations are more important compared to environmental and social factors.

In the British context, Lorraine et al. (2004) have obtained a negative reaction from the financial market as a result of negative environmental disclosure. Kruger (2009) has obtained an abnormal negative return when stakeholders, such as newspapers, non-governmental organizations or regulatory authorities, disclose unfavorable CSR information related to the company under review. Guidry and Patten (2010) did not achieve a significant market reaction following the first publication of stand-alone sustainability reports. Eccles et al. (2011) have found that the financial market places a high value on corporate performance and ESG policies, and have demonstrated that at the international level, environmental and corporate governance information are of greater interest to the investors compared to social information. Vintilà and Gherghina (2012) have concluded that American investors use corporate governance ratings to identify and quantify the risks associated with their investments.

The results obtained from Holm and Rikhardsson (2008) study, carried out in the Danish context, prove that, whatever the investment horizon, environmental information has a positive influence on investment decisions. Rikhardsson and Holm (2008) have confirmed that environmental communication has more influence on long-term decisions and that qualitative environmental information affects short-term investment decisions.

Analyzing four countries, namely: United States, Japan, France and Sweden, van der Laan Smith et al. (2010) have shown that CSR disclosure has a significant impact on investor behavior. Chang and Wei (2011) have demonstrated that strength governance affects investment decision, concluding that investors are willing to pay more for companies with a strong governance system. More recently, Cheng et al. (2015) have shown that investors are more willing to invest in companies whose ESG indicators are of high strategic relevance.

Like developed countries, some research have analyzed the use of CSR communication in emerging countries. Conducting a reaction study in the Egyptian context, Wahba (2008) has shown that the financial market rewards companies that adopt an environmental responsibility strategy. The results of the study by Xu et al. (2012) reveal that communication about environmentally harmful events by Chinese listed companies has a small impact on the stock market. Chen et al. (2003) have found that investing in a well-respected corporate governance firm is likely to generate an average of 8.5% of abnormal return and have pointed out that corporate governance communication does not play an important role in reducing information asymmetry in emerging equity markets such as the Asian one. In Tunisia, few studies have analyzed ESG communication by positioning themselves on the side of the information receiver (Zramdini and Fedhila, 2003, Khemakhem and Turki, 2007). Through their study, Zramdini and Fedhila (2003) have demonstrated that societal information is perceived as being useful for lending decision in a long-term perspective, especially when presented under a quantitative form and published by an independent agency. Khemakhem and Turki (2007) have concluded that environmental information affects the investment decision in the Tunisian context, since the least environmentally performing company loses 13% of the investment and the best-performing one has an investment increase of 22%.

As we can see, most studies have been realized in developed countries: The United States (Eccles et al., 2011), Great Britain (Lorraine et al., 2004; Thompson and Cowton, 2004), France (Saghroun and Eglem, 2008), Denmark (Holm and Rikhardsson, 2008; Rikhardsson and Holm, 2008), etc. In recent years, there has been a marked interest in favor of CSR in emerging countries. We believe that it is interesting to analyze ESG communication within these countries. Also, the majority of research dealt with one dimension of ESG information: either the environmental dimension or the social one. In this research, we propose to take into account all three dimensions at once. Focusing on one dimension can be problematic as ESG issues are increasingly seen as interconnected (Galbreath, 2013). Thus, compared to the previous literature, we broaden the scope of the extra-financial dimensions studied by including the corporate governance dimension and using the GRI guidelines.

Internationally, the GRI guidelines remain the best known for improving corporate environmental and social communication. They are considered to be the main international standardization initiative for environmental and social reporting (Quairel, 2004) and are intended for use by all companies regardless of their sector of activity and location. The version used in this research is the G3.1 version which was published in March 2011. This is the update of the G3 version. GRI reviews and updates its guidelines to meet the requirements of stakeholders, including financial professionals who are considered as the main users of information provided by companies. For this reason, we believe that it is important to test the perceived usefulness of the indicators, proposed by the GRI, by financial users of information.

This stems from the fact that corporate communication practices must take into account the preferences of users of information. In fact, according to the decision-usefulness information theory, the information communicated by companies must be useful from the point of view of the users (Staubus, 1999). The question of the usefulness of GRI's indicators for financial users of information has not yet been addressed in the academic literature. It seems important to us to ask the question of its usefulness for financial users in the framework of a scientific study carried out by an independent researcher.

### **Research method**

#### **Objectives and content of the questionnaire**

In order to assess the perceived usefulness of ESG indicators derived from the GRI guidelines by Tunisian financial professionals, we have administered a questionnaire structured in two parts. The first part aims to collect the perceived utility of ESG indicators. It includes 94 indicators associated with the Environmental (30 indicators), Social (45 indicators) and Corporate Governance (19 indicators) dimensions. The perceived usefulness of each indicator was measured by a Likert scale ranging from 1 "not useful" to 5 "very useful". The second part of the questionnaire includes questions about the demographic characteristics of the respondent (age, seniority, etc.).

The first version of this questionnaire was pre-tested with 10 financial professionals in order to improve the wording of the questions and to avoid problems of comprehension and ambiguity.

#### **Target population and method of data collection**

The target population is made up of Tunisian financial professionals: financial analysts (sell-side and buy-side) and portfolio managers. The choice of this category of stakeholders is justified by the fact that it has some expertise in the analysis of financial information. Due to lack of time or experience, investors can use the recommendations of financial analysts to make the best investment decisions (Galanti, 2006).

We have chosen to administer our research questionnaire electronically. A website has been created for this purpose. The website presented the questionnaire as well as detailed explanations for each indicator. Initially, a total of 122 Tunisian financial professionals working in stock exchange brokerage firms, management companies, banks and insurance companies were contacted by telephone to solicit their participation in our research and to ask them for their e-mail addresses. In a second time, an email was sent to people who agreed to participate in our research to direct them to the website so that they can complete the questionnaire. 17 emails were returned as undelivered. In the end, the target sample was therefore composed of 105 individuals.

#### **Answers collected**

A total of 62 responses were collected, representing a response rate of approximately 59%. Table 2 presents the main demographic characteristics of the respondents.

**Table 2: Demographic Characteristics of Respondents**

<b>Sex</b>	Man	69%
	Woman	31%
<b>Age</b>	25-35 years	52%
	36-45 years	34%
	46-55 years	11%
	56 years and more	3%
<b>Diploma</b>	Licence	3%
	Mastery	16%
	DESS	5%
	DEA/Master	68%
	Other	8%
<b>Job</b>	Financial analyst	53%
	Portfolio Manager	30%
	Other	17%
<b>Seniority in the job</b>	Average	6,5 years
	Standard deviation	4,8 years
<b>Seniority in the profession</b>	Average	7,7 years
	Standard deviation	5,4 years

## Results

We first present the results relating to the perceived utility of ESG indicators for investment decision. Secondly, we present the results of the exploratory factor analyze carried out on the collected data.

### Perceived utility of ESG indicators

We present here the perceived usefulness of different categories relating to the ESG dimensions by Tunisian financial professionals, by calculating an average score for each of the categories as well as the subcategories in question.

#### Indicators related to the environmental dimension

Table 3 presents the average scores obtained for each of categories of environmental information.

**Table 3: Perceived utility of Environmental information categories**

Environmental information categories	Average score
Materials (1 and 2)	3,72
Energy (3 to 7)	3,85
Water (8 to 10)	3,35
Biodiversity (11 to 15)	3,20
Emissions, effluents and waste (16 to 25)	3,59
Products and services (26 and 27)	3,70
Compliance (28)	3,97
Transport (29)	3,31
Overall (30)	4,02
<b>Total Environmental information categories (1 to 30)</b>	<b>3,58</b>

The categories of environmental information considered as most useful by the respondents to their investment decisions are those relating to total environmental protection expenditures and investments by type (aspect: overall), compliance and energy with average scores of 4,02; 3,97 and 3,85.

#### Indicators related to the social dimension

Table 4 shows the average scores obtained for each of the categories and subcategories of social information.

**Table 4: Perceived utility of Social information categories and subcategories**

Social information categories and subcategories	Average score
Employment (31 to 34)	3,56
Labor/ Management relations (35 and 36)	3,48
Occupational health and safety (37 to 40)	3,58
Training and education (41 to 43)	3,80
Diversity and equal opportunity (44)	3,31
Equal remuneration for women and men (45)	3,25
<b>Total Labor Practices and Decent Work category (31 to 45)</b>	<b>3,57</b>
Investment and procurement practices (46 to 48)	2,83
Non-discrimination (49)	3,13
Freedom of association and collective bargaining (50)	3,07
Child labor (51)	3,65
Forced and compulsory labor (52)	3,46
Security practices (53)	3,20
Indigenous rights (54)	3,26
Assessment (55)	2,91
Remediation (56)	3,21
<b>Total Human Rights category (46 to 56)</b>	<b>3,13</b>
Local communities (57 to 59)	3,14
Corruption (60 to 62)	3,75
Public Policy (63 and 64)	3,18
Anti-Competitivebehavior (65)	3,90
Compliance (66)	4,07
<b>Total Society category (57 to 66)</b>	<b>3,51</b>
Customer health and safety (67 and 68)	3,57
Product and service labeling (69 to 71)	3,71
Marketing communications (72 and 73)	3,73
Customer privacy (74)	3,36
Compliance (75)	3,76
<b>Total Product Responsibility category (67 to 75)</b>	<b>3,71</b>
<b>Total Social information categories and subcategories (31 to 75)</b>	<b>3,47</b>

According to survey participants, the category of product responsibility ranks first in terms of utility for investment decision with an average score of 3,71. It is closely followed by labor practices and decent work with an average score of 3,57. The Human Rights category ranks last with an average score of 3,13.

Indicators related to the corporate governance

Table 5 shows the average scores obtained for each of the categories of corporate governance information.

**Table 5: Perceived utility of Corporate Governance information categories**

Corporate Governance information categories	Average score
Board of directors structure (76 to 81)	3,97
Board of directors working (82 to 87)	4,19
Executive compensation (88 and 89)	4,07
Statutory auditor (90 and 91)	4,09
Companyownership structure (92 and 93)	4,56
Diverse (94)	3,95
<b>Total Corporate Governance information categories (76 to 94)</b>	<b>4,12</b>

The participants appear to be mainly interested in company's ownership structure indicators (4,56), board of directors working (4,19) and statutory auditor (4,09).

**Results of exploratory factor analyzes**

We present in the following the results of our exploratory factor analyzes. For each of categories and sub-categories of ESG indicators, our analysis was conducted in three steps. The first step is to verify the factorization of the data by calculating the KMO index and the Bartlett's test. Then, an exploratory factor analysis is conducted to reduce the number of indicators in factors. The scales relating to each of the E, S and G dimensions were purified by performing principal component analyzes under SPSS, with Varimax rotation. Finally, in a third step, we have determined the internal reliability coefficient (Cronbach's Alpha).

**Environmental Scale**

A prior step to the factor analysis is to ensure the correlation of the indicators. Such a correlation conditions the fact that the data are factorizable. The examination of table 6 shows that the KMO index and the Bartlett's test confirm the indicators correlation by presenting satisfactory results.

In fact, the KMO<sup>1</sup> index is equal to 0.851 (greater than 0.7), which reflects a strong correlation between the indicators that can therefore be classified into a reduced number of factors. Bartlett's test<sup>2</sup> has a chi-square equal to 431,387 with a ddl equal to 66 and a significance level of 0,000, which allows us to reject the hypothesis according to which the correlations of the variables are equal to zero. The eigenvalues for each factor are also greater than 1. Thus, our data are correlated and therefore factorizable.

**Table 6: Factor analysis of Environmental indicators**

Indicators	Communalities	Factors		
		1	2	3
16_Env_EmissionsEffluentsWaste_1	,938	,922		
18_Env_EmissionsEffluentsWaste_3	,888	,862		
19_Env_EmissionsEffluentsWaste_4	,839	,830		
17_Env_EmissionsEffluentsWaste_2	,818	,764		
20_Env_EmissionsEffluentsWaste_5	,755	,664		
7_Env_Energy_5	,826		,898	
2_Env_Materials_2	,757		,761	
8_Env_Water_1	,740		,746	
10_Env_Water_3	,783		,716	
24_Env_EmissionsEffluentsWaste_9	,832			,859
25_Env_EmissionsEffluentsWaste_10	,842			,839
22_Env_EmissionsEffluentsWaste_7	,713			,723
Eigenvalues		7,288	1,398	1,044
Percentage of explained common variance for each factor		33,102	24,726	23,255
Percentage of explained common variance for the 3 factors		81,083		
Cronbach Alpha for each factor		,940	,846	,848
Total Cronbach Alpha		,939		
KMO index		,851		
Bartlett's test :		431,387		
• Chi-square		66		
• Ddl		,000		

<sup>1</sup>Whose vocation is to verify the factoring of data

<sup>2</sup>Which is intended to test the hypothesis of the variable correlation nullity

After purifying and eliminating indicators with a factorial weight less than 0.5 as well as those belonging to several factors<sup>3</sup>, table 6 shows that the factor solution contains less than the half of the environmental indicators proposed by the GRI. Eighteen indicators among thirty have been eliminated. The twelve indicators selected consist of 7 core indicators (indicators 2, 8, 16, 17, 19, 20, 22) and 5 additional indicators (7, 10, 18, 24, 25). The factorial solution obtained shows three factorial axes. Our construct is thus multidimensional. The three factorial axes explain more than 81% of the total variance. This is very satisfying because well over 50%.

The first factor contains indicators 16, 17, 18, 19, and 20 belonging to the Emissions, Effluents and Waste category, covering the company's various emissions, so it can be interpreted as the Emissions axis. The second factor seems to be variegated since it includes indicators belonging to various categories of the environmental dimension, namely: indicator 7 which belongs to the Energy category, indicator 2 which relates to the Materials category and finally indicators 8 and 10 which belong to the Water category. Referring to Evrard et al. (2009, p.412) who recommend to "only keep the factor if we can name it", this second factor could be eliminated as we are unable to name it. The third factor is made up of indicators 22, 24 and 25 belonging to the Emissions, Effluents and Waste category, which are related to the company's waste. Therefore, it may be called Waste. The two factors selected have internal reliability coefficients of 0.940 and 0.848, both higher than 0.7, which is the recommended level of acceptability. The Cronbach's Alpha appear high. This means that all indicators selected to reflect the efforts made by companies in the environmental field are coherent and correspond to the informational expectations of financial professionals. Thus, the environmental scale is composed of eight indicators grouped into two categories: Emissions and Waste.

#### Social scales

In a second step, we have tested the indicators dedicated to the efforts made by companies in the social field. The social dimension analyzed is multidimensional.

It comprises 45 indicators derived from the G3.1 guidelines of GRI and divided into four categories: Labor Practices and Decent Work, Human rights, Society and Product Responsibility.

#### *Sub-scale relating to Labor Practices and Decent Work category*

In the same way as forenvironmental indicators, we have started the analysis by the calculation of the KMO index and Bartlett's test to ensure the adequacy of the data. From table 7, the KMO index is 0.801. The Bartlett's test is 203,444, with a ddl of 28 and a significance level of 0,000. Communalities vary between 0.653 and 0.831. Thus, we can accept the results of this factor analysis.

**Table 7: Factor analysis of Labor Practices and Decent Work indicators**

Indicators	Communalities	Factors	
		1	2
39_OccHealthSafety_3	,782	,876	
45_EqualRemunWM_1	,710	,838	
43_TrainingEducation_3	,653	,808	
40_OccHealthSafety_4	,685	,806	
34_Employment_4	,681	,776	
31_Employment_1	,831		,912
32_Employment_2	,751		,865
33_Employment_3	,710		,817
Eigenvalues		3,694	2,109
Percentage of explained common variance for each factor		42,760	29,779
Percentage of explained common variance for the 2 factors		72,538	
Cronbach Alpha for each factor		0,874	0,826
Total Cronbach Alpha		0,823	
KMO index		0,801	
Bartlett's test :		203,444	
• Chi-square		28	
• Ddl		Sig= 0,000	

<sup>3</sup>The criteria used to eliminate items were:

- Rejection of items whose factor score is less than 0.5;
- Rejection of isolated items.



From table 7, we note that eight among the fifteen indicators proposed by the GRI were selected. Among the indicators selected, five are core indicators while there are additional indicators. Thus, the new factorial structure reveals two factorial axes. The first is composed of indicators 34, 39, 40, 43 and 45. It can be called Working conditions insofar as indicator 34 relates to Employment subcategory, indicators 39 and 40 refer to Occupational health and safety subcategory, indicator 43 refers to Training and education subcategory and indicator 45 reflects Equal remuneration for women and men subcategory. The second factorial axis includes indicators 31, 32 and 33. These three indicators belong to Employment subcategory. This axis can therefore be called Employment.

The results also show that the two factorial axes explain more than 70% of total variance. The internal consistency of the construct is good since the Cronbach's Alpha are all greater than 0.7. Thus, the sub-scale relating to the Labor Practices and Decent Work category is composed of eight indicators grouped into two categories: Working conditions and Employment.

*Sub-scale relating to Human Rights category*

To make sure that the collected data relating to Human Rights category are factorizable, we have firstly performed KMO index and Bartlett's tests. As shown in table 8, the KMO index seems satisfactory (0.914), thus this allows us to validate the factorial solution for the Human Rights category.

**Table 8: Factor analysis of Human Rights indicators**

Indicators	Communalities	Factors
		1
53_HR_8	,819	,905
49_HR_4	,791	,890
54_HR_9	,786	,887
55_HR_10	,775	,881
51_HR_6	,740	,860
52_HR_7	,731	,855
48_HR_3	,708	,841
47_HR_2	,687	,829
56_HR_11	,643	,802
46_HR_1	,597	,773
50_HR_5	,581	,762
Eigenvalue		7,859
Percentage of explained common variance		71,444
Cronbach Alpha		,959
KMO index		,914
Bartlett's test :		403,573
• Chi-square		55
• Ddl		Sig= 0,000

Secondly, we have analyzed the dimensionality of the construct. As shown in table 8, principal component analysis certifies the one-dimensional nature of this construct. We retain all the human rights indicators proposed by the GRI. These indicators are spread over a single factor entitled Human Rights. Thus, the new factor structure is composed of a single factor which explains more than 71% of the total variance. It has a high internal consistency reliability (Cronbach's Alpha equal to 0.959).

*Sub-scale relating to Society category*

Table 9 shows that the factorial solution relating to Society category is statistically good since it has a KMO index of around 0.697 and a significant Bartlett's test (0.000). Thus, we can confirm the factorizable nature of the data.

**Table 9: Factor analysis of Society indicators**

Indicators	Communalities	Factors		
		1	2	3
58_LocalCommunities_2	,898	,919		
59_LocalCommunities_3	,800	,843		
57_LocalCommunities_1	,713	,826		
61_Corruption_2	,921		,934	
62_Corruption_3	,916		,909	
60_Corruption_1	,791		,713	
64_PublicPolicy_2	,910			,949
63_PublicPolicy_1	,894			,896
Eigenvalues		4,094	1,699	1,051
Percentage of explained common variance for each factor		30,658	30,505	24,389
Percentage of explained common variance for the 3 factors		85,552		
Cronbach Alpha for each factor		,870	,913	,870
Total Cronbach Alpha		,856		
KMO index		,697		
Bartlett's test :		251,890		
• Chi-square		28		
• Ddl		Sig= 0,000		

According to table 9, the factorial solution is three-dimensional. Three factors summarize information about society. Indicators constituting the first factor synthesize 30.658% of total variance. The second factor explains 30.505% of total variance, while the third explains only 24.389% of this variance. Together, the three factors account for almost 85.552% of total variance.

Table 9 also provides an overview of the number of indicators related to identified factors. We note that two of the ten indicators contained in the questionnaire (8 core, 2 additional) were deleted (1 core and 1 additional). Indicators 57, 58 and 59, belonging to Local Communities subcategory, make up the first factorial axis, which can therefore be called Local Communities. The three indicators 60, 61 and 62, relating to Corruption subcategory, form the second factorial axis which can be, thus, entitled Corruption. The two indicators 63 and 64, belonging to Public Policy sub-category, form the third factor that can be referred to as Public Policy. In all, the results of the reliability analysis of society indicators reveal a Cronbach Alpha coefficient exceeding 0.8. Thus, these indicators appear reliable. As a result, the sub-scale relating to Society category is composed of eight indicators grouped into three factors: Local Communities, Corruption and Public Policy.

**Sub-scale relating to Product Responsibility category**

From the table 10, we note that the factorial solution is acceptable since the KMO index is of the order of 0.719. The data are therefore factorizable and form a coherent whole.

**Table10: Factor analysis of Product Responsibility indicators**

Indicators	Communalities	Factors		
		1	2	3
72_MarketCom_1	,771	,834		
73_MarketCom_2	,744	,827		
75_Compliance_1	,721	,775		
74_CustPrivacy_1	,781	,768		
70_ProdServLabeling_2	,888		,877	
71_ProdServLabeling_3	,771		,828	
69_ProdServLabeling_1	,798		,760	
68_CustHealthSafety_2	,891			,917
67_CustHealthSafety_1	,866			,873
Eigenvalues		4,238	1,846	1,147
Percentage of explained common variance for each factor		30,276	25,473	24,601
Percentage of explained common variance for the 3 factors		80,350		
Cronbach Alpha for each factor		0,835	0,856	0,929
Total Cronbach Alpha		0,857		
KMO index		0,719		
Bartlett's test :		270,483		
• Chi-square		36		
• Ddl		Sig= 0,000		

Table 10 reports the results of the exploratory factor analysis of indicators relating to Product Responsibility category. The factorial structure obtained is composed of three factors. The first represents 30.276% of the variance, the second counts for 25.473% while the third represents 24.601%. According to the same table, on the first factor, we observe four indicators, on the second, three and on the third, two. The first factor may be titled Compliance with Product Rules and Regulations as it includes indicators 72 and 73 relating to Marketing Communications sub-category, indicator 74 relating to Customer Privacy sub-category and indicator 75 belonging to Compliance sub-category. The second factor may be called Product and Service Labeling as it consists of indicators 69, 70 and 71 belonging to Product and Service Labeling sub-category contained in the GRI guidelines. The last factor corresponds perfectly to Customer Health and Safety subcategory of the GRI guidelines since it includes indicators 67 and 68. We can also deduce that the Cronbach Alpha coefficient is satisfactory for each of the three factors, since it is greater than 0.7, hence the reliability of the indicators relating to Product responsibility. As a result, the Product responsibility sub-scale is composed of nine indicators grouped into three factors: Compliance with Product Rules and Regulations, Product and Service Labeling, and Customer Health and Safety.

**Corporate governance scale**

From table 11, the values of the KMO index (0.740) and the Bartlett’ test (0.000) lead to the acceptance of the results of the factorial analysis of the corporate governance indicators.

**Table11 : Factor analysis of Corporate Governance indicators**

Indicators	Communalities	Factors		
		1	2	3
81_StructureConseil_6	,749	,861		
82_FonctConseil_1	,722	,810		
91_ComComptes_2	,648	,773		
84_FonctConseil_3	,586	,668		
76_StructureConseil_1	,868		,889	
77_StructureConseil_2	,818		,871	
78_StructureConseil_3	,764		,793	
92_StructProp_1	,910			,925
93_StructProp_2	,890			,924
Eigenvalues		4,081	1,718	1,156
Percentage of explained common variance for each factor		28,844	27,558	20,886
Percentage of explained common variance for the 3 factors		77,287		
Cronbach Alpha for each factor		,820	,880	,840
Total Cronbach Alpha		,845		
KMO index		,740		
Bartlett’s test :		274,811		
• Chi-square		36		
• Ddl		,000		

The exploratory factor analysis of corporate governance indicators resulted in the elimination of ten indicators among the 19 included in the questionnaire. Eliminated indicators seem less appropriate for understanding the corporate governance dimension. As mentioned in table 11, the factorial solution obtained is composed of three factors. It explains 77.287% of total variance. According to the table 11, we note that the first factor is composed of four indicators related to three sub-categories namely indicator 81 which is part of Structure of the board of directors sub-category, indicators 82 and 84 which belong to Board of directors working sub-category and indicator 91 which refers to Statutory Auditors sub-category. Thus, this factor may be referred to as Various provisions concerning corporate governance.

Similarly, the matrix of structural coefficients proves that indicators 76, 77 and 78, belonging to Structure of the board of directors sub-category, are on the second factor that we can name Structure of the board of directors. Indicators 92 and 93, belonging to Company ownership structure sub-category, form the third factor that we can call Company ownership structure. In the same context of data cleansing, the results of the empirical verification of validity and reliability analyzes of the constructs demonstrate Cronbach’s Alpha values greater than 0.7. They are of the order of 0.820 for the first factor, 0.880 for the second factor and 0.840 for the third one.

## ***Discussion of results***

In terms of analyzing the perceived usefulness of ESG information indicators for investment decision, we have found that respondents favor corporate governance indicators and consider them as more useful than environmental and social ones. Indeed, subjected to a valuation in terms of utility, corporate governance indicators have benefited from an average score of 4.12 against an average score of 3.58 for environmental indicators and 3.47 for social ones. Thus, corporate governance dimension seems to be ahead of other ones in terms of relevance for investment allocation decision. This appears in line with the main results of the previous literature (Saghroun and Eglem, 2008; Eccles et al., 2011; de Zwaan et al., 2015; van Duuren et al., 2015) which has revealed the supremacy of corporate governance compared to the two other dimensions. In addition, environmental and social indicators seem to have almost the same utility with a slight dominance of the first ones. This seems in agreement with the results obtained by Eccles et al. (2011) who point out that the high interest in environmental indicators compared to social ones can be explained by the fact that the environmental implications are easier to quantify and to integrate into evaluation models. Regarding the exploratory factor analysis, the principal component analysis of environmental indicators generated two factorial axes relating respectively to Emissions and Waste. This result supports the results of the study of Chakroun (2012) which focused on the analysis of the perception of the usefulness of the voluntary disclosure by Tunisian financial analysts. Indeed, by conducting an exploratory factor analysis on a set of environmental and social indicators, she has obtained a factorial structure composed of two factorial axes: the first one relates to social information and the second one relates to environmental information. This last factor contains indicators related to corporate pollution abatement, to actions undertaken for management or recycling of products and waste, etc. On the other hand, our results contrast with those of Cauvin et al. (2006) who have analyzed the perception of non-financial communication by French companies. Indeed, following a principal component factor analysis on 11 themes related to non-financial disclosure, they noted that sustainable development theme, containing indicators such as emission of polluting substances, quantity of waste, etc., was excluded from the ranking.

The exploratory factor analysis carried out on the four categories of the social dimension gave rise to various factorial structures. The factorial structure relating to Labor Practices and Decent Work is based on two factors composed of eight indicators in total. The factorial structure relating to Human rights is composed of eleven indicators on a single factor. The factorial structure for Society contains eight indicators divided into three factors: Local Communities, Corruption and Public Policy. The factorial structure for Product Responsibility consists of nine indicators that form three factorial axes that refer to: Compliance with Product Rules and Regulations, Product and Service Labeling, and Customer Health and Safety. These results support those obtained by Chakroun (2012) who obtained a social information factor containing indicators relating to charitable donations, subsidies and financial aids; actions for the integration and employment of young people, women and disabled; sport and cultural activities for employees; employee absenteeism and number of strike days; etc.

The exploratory factor analysis carried out on corporate governance indicators have allowed us to select nine indicators divided into three factors, which relate respectively to Various provisions concerning corporate governance, Structure of the board of directors and to Company ownership structure. This result supports the results obtained in the study of Chakroun (2012) who has found a corporate governance factorial structure composed of two axes: the first one relates to the ownership structure. The second is related to the company's board of directors. The result we have reached seems also in line with the study by Cauvin et al. (2006) who have demonstrated that corporate communication topics are primarily directed to strategy, shareholders, governance and products.

## ***Conclusion***

Through this research, we have managed to determine a scale adapted to the information needs of Tunisian financial professionals with regard to Environmental, Social and Governance dimensions. This scale, composed of 53 indicators<sup>4</sup>, could eventually be used by companies to guide and improve their communication practices. Thus, collecting opinions and analyzing investor behaviors is likely to ensure the promotion of socially responsible practices of Tunisian companies.

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<sup>4</sup>The selected indicators are presented in Appendix 1.

In this sense, the latter have an interest in aligning themselves with the preferences of financial professionals, who are likely to influence the behavior of the investors in the stock market.

Our survey is also likely to promote the interest of GRI's guidelines in the business community and to encourage companies to adopt them to report on their sustainable development practices. Indeed, as Willis (2003) states, the GRI's guidelines appear to be an important tool for companies to communicate with their stakeholders about their performance and accountability beyond financial results.

We believe that our survey has led to some interesting results as much as ESG reporting practices need to be revised. Indeed, relevant ESG information must be provided and presented in an appropriate form and in line with investors' expectations in order to assist them in their investment decisions. In this context, our study has significant implications for accounting standard setters in so far as it can direct standardization efforts toward providing information that meets the decision-makers needs. This is likely to make ESG information specific and precise, not general and vague, and considered as an element of decoration in the annual report. However, given its exploratory nature, our study is subject to a number of limitations. Indeed, the small size of the sample raises the question of the generalization of the results obtained. Similarly, we think that the length of the questionnaire was a source of demotivation for respondents. In addition, we were unable to conduct random sampling because we did not have a survey database containing the population's email addresses (Blais and Durand, 2009).

Finally, we propose to reproduce this research in different contexts to test the validity of the results obtained. Also, a more detailed study of the ESG criteria proves to be essential in order to develop more refined knowledge. A comparative analysis can likewise be done. Other stakeholders may be solicited for similar studies.

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### Appendix 1 Summary table of selected indicators

<i>Environmental dimension</i>	<i>Nature</i>	<i>Factor</i>
16- Total direct and indirect greenhouse gas emissions by weight.	Core	F1
18- Initiatives to reduce greenhouse gas emissions and reductions achieved.	Core	F1
19- Emissions of ozone-depleting substances by weight.	Core	F1
17- Other relevant indirect greenhouse gas emissions by weight.	Core	F1
20- NO, SO, and other significant air emissions by type and weight.	Core	F1
24- Weight of transported, imported, exported, or treated waste deemed hazardous under the terms of the Basel Convention Annex I, II, III, and VIII, and percentage of transported waste shipped internationally.	Add	F2
25- Identity, size, protected status, and biodiversity value of water bodies and related habitats significantly affected by the reporting organization’s discharges of water and runoff.	Add	F2
22- Total weight of waste by type and disposal method.	Core	F2
<i>Societal dimension</i>		
- <i>Labor Practices and Decent Work</i>	<i>Nature</i>	<i>Factor</i>
39- Education, training, counseling, prevention, and risk-control programs in place to assist workforce members, their families, or community members regarding serious diseases.	Core	F1
45- Ratio of basic salary and remuneration of women to men by employee category, by significant locations of operation.	Core	F1

43-Percentage of employees receiving regular performance and career development reviews, by gender.	Add	F1
40-Health and safety topics covered in formal agreements with trade unions.	Add	F1
34- Return to work and retention rates after parental leave, by gender.	Core	F1
31-Total workforce by employment type, employment contract, and region, broken down by gender	Core	F2
32-Total number and rate of new employee hires and employee turnover by age group, gender, and region.	Core	F2
33-Benefits provided to full-time employees that are not provided to temporary or part-time employees, by significant locations of operation.	Add	F2
<b>- HumanRights</b>		
53-Percentage of security personnel trained in the organization's policies or procedures concerning aspects of human rights that are relevant to operations.	Add	F1
49-Total number of incidents of discrimination and corrective actions taken.	Core	F1
54- Total number of incidents of violations involving rights of indigenous people and actions taken.	Add	F1
55-Percentage and total number of operations that have been subject to human rights reviews and/or impact assessments.	Core	F1
51- Operations and significant suppliers identified as having significant risk for incidents of child labor, and measures taken to contribute to the effective abolition of child labor.	Core	F1
52- Operations and significant suppliers identified as having significant risk for incidents of forced or compulsory labor, and measures to contribute to the elimination of all forms of forced or compulsory labor.	Core	F1
48- Total hours of employee training on policies and procedures concerning aspects of human rights that are relevant to operations, including the percentage of employees trained.	Core	F1
47- Percentage of significant suppliers, contractors and other business partners that have undergone human rights screening, and actions taken.	Core	F1
56- Number of grievances related to human rights filed, addressed and resolved through formal grievance mechanisms.	Core	F1
46-Percentage and total number of significant investment agreements and contracts that include clauses incorporating human rights concerns, or that have undergone human rights screening.	Add	F1
50-Operations and significant suppliers identified in which the right to exercise freedom of association and collective bargaining may be violated or at significant risk, and actions taken to support these rights.	Core	F1
<b>- Society</b>		
58- Operations with significant potential or actual negative impacts on local communities.	Core	F1
59- Prevention and mitigation measures implemented in operations with significant potential or actual negative impacts on local communities.	Core	F1
57- Percentage of operations with implemented local community engagement, impact assessments, and development programs.	Core	F1
61-Percentage of employees trained in organization's anti-corruption policies and procedures.	Core	F2
62-Actions taken in response to incidents of corruption.	Core	F2
60- Percentage and total number of business units analyzed for risks related to corruption.	Core	F2
64- Total value of financial and in-kind contributions to political parties, politicians, and related institutions by country.	Add	F3
63 – Public policy positions and participation in public policy development and lobbying.	Core	F3
<b>- Product Responsibility</b>		



72- Programs for adherence to laws, standards, and voluntary codes related to marketing communications, including advertising, promotion, and sponsorship.	Core	F1
73- Total number of incidents of non-compliance with regulations and voluntary codes concerning marketing communications, including advertising, promotion, and sponsorship by type of outcomes.	Add	F1
75- Monetary value of significant fines for noncompliance with laws and regulations concerning the provision and use of products and services.	Core	F1
74- Total number of substantiated complaints regarding breaches of customer privacy and losses of customer data.	Add	F1
70- Total number of incidents of non-compliance with regulations and voluntary codes concerning product and service information and labeling, by type of outcomes.	Add	F2
71- Practices related to customer satisfaction, including results of surveys measuring customer satisfaction.	Add	F2
69- Type of product and service information required by procedures, and percentage of significant products and services subject to such information requirements.	Core	F2
68- Total number of incidents of non-compliance with regulations and voluntary codes concerning health and safety impacts of products and services during their life cycle, by type of outcomes.	Add	F3
67- Life cycle stages in which health and safety impacts of products and services are assessed for improvement, and percentage of significant products and services categories subject to such procedures	Core	F3
<b>Corporate governance dimension</b>		
81- Percentage of Independent Directors in Control Committees and Standing Audit Committees		F1
82- Number of annual meetings of the board of directors		F1
91- Existence of a co-audit		F1
84- Process put in place by the board of directors to avoid conflicts of interest		F1
76- Size of the board of directors		F2
77- Mandate's duration of members of the board of directors		F2
78- Number of independent and / or non-executive directors on the board of directors		F2
92- Dispersion / Concentration of capital		F3
93- Nature of the shareholding		F3