

# Determinants of Web-Based CSR Disclosure: Middle East Region Evidence

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## Abstract

This paper aims to examine the factors influencing the extent of the web-based CSR disclosure in the Middle East countries. This study uses multiple regression models to examine the effect of some companies' characteristics (company size, profitability, financial leverage, industry profile and company age) on the extent of online societal disclosure. The study was conducted on 200 listed companies in seven Middle East countries (the United Arab Emirates, Saudi Arabia, Kuwait, Bahrain, Jordan, Qatar and Turkey). The website content was analyzed during the period January-February 2020. The results reveal that the most important factors influencing the level of web-based CSR disclosure are company size, profitability, company's leverage and the type of industry. The results of the study have important implications for different stakeholders. It will help regulators to formulate policies about the online CSR disclosure as they offer insights into the characteristics of those companies which do and do not engage in these practices. Thereby, the regulators might expect that the Middle East companies that present CSR information, on the websites, to be larger, have higher performance and leverage levels and belonging to manufactory sector. This paper attempts to fill some of the gap in the knowledge of the online CSR disclosure practices in the Middle East region. It investigates the factors determining the web-based CSR disclosure practices and it was not limited to describe the online CSR disclosure practices like most previous studies that are conducted in this region which allows us to have a clearer idea on these practices in this region.

**Keywords:** Determinants, Web-based CSR disclosure, Middle East

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## 1. Introduction

The communication of information through the internet is a fairly recent phenomenon, fast growing, so several companies use the web to present useful information to different users around the world. This tendency to communicate financial information through websites can be explained by the advantages of this new means of communication compared to traditional means of disclosure. Indeed, the use of the Web for the publication of information offers a low-cost solution for both businesses and users who can have unlimited and fast access to different information regardless of their geographical location.

Although most previous research on disclosure relies primarily on traditional means of sharing information (Neu et al., 1998), the web is now seen as a practical means of presenting financial and non-financial information (Robb et al, 2001; Marston and Polei, 2004). Companies make extensive use of the internet to provide detailed and timely information for a large group of existing and potential investors ( Ettredge et al., 2002).

There are many different ways to communicate, each of which play an important role in sharing information, especially, web-based disclosure makes it possible to reduce dissemination costs, improve the accessibility of information for all stakeholders, and also increase the speed of disclosure of information (Geerings et al., 2003; Oyelere et al., 2003).

As Web-based reporting is a direct communication link between the company and its stakeholders, companies are less dependent on intermediaries such as public media or financial analysts for the dissemination of their information and, therefore, they are more able to monitor their reports (Lymer, 1999).

With the growth of the use of the Web as a means of sharing information, research has been interested in this issue to provide further understanding of the web-based Corporate Social Responsibility (CSR) disclosure (Ettredge et al., 2002; Oyelere et al., 2003; Kelton and Yang, 2008).

Companies are expected to be more socially responsible in addition to the commonly pursued goal of shareholders' benefits. A Corporate social responsibility (CSR) disclosure is a form of a corporate activity that represents awareness and responsibility (Purwanto, 2011). In fact, company disclosure more social information to obtain or maintain legitimacy in response to public pressure (Guthrie and Parker, 1989).

According to the European Commission, CSR is defined as "a concept whereby companies integrate social and environmental concerns in their business operations and in their interaction with their stakeholders on a voluntary basis" (EC, 2001). This definition implies that companies must not only limit themselves to legal and institutional provisions, but should also go beyond and become involved in social and environmental

practices.

The earliest studies related to online reporting were limited to the description of web-based disclosure and did not explain these practices. These studies were exploratory and descriptive, and they investigated whether companies had a website or not to disclose information, and whether they used their websites to communicate information (Allam and Lymer, 2003). This research assumes that the extent of web-based disclosure is associated with firm size ( Ettredge et al., 2002; Marston and Polei, 2004 and Xiao et al., 2004), information asymmetry between internal and external stakeholders (Ettredge et al., 2002), ownership characteristics (Marston and Polei, 2004), leverage level (Xiao et al., 2004), industry (Brennan and Hourigan, 1998) and the general environment of disclosure (Bollen et al., 2006).

The determinants of web-based CSR disclosures are an important but under-investigated field of CSR disclosure. There is a lack of consensus by researchers on what concerns the determinants of CSR disclosure (da Silva Monteiro and Aibar-Guzman, 2010, Siregar and Bachtiar , 2010).

These studies are interested in investigating the corporate Web-based CSR disclosure in several developing countries such as the Middle East countries (the United Arab Emirates, Saudi Arabia, Kuwait, Bahrain, Jordan, Qatar and Turkey). Despite the diversity of these studies, they remain limited to one or two countries, and there are no studies that have examined Web-based societal disclosure in several countries of the Middle East region. Therefore, we do not allow generalizing the results of these studies to other countries in this region. It has been argued that web-based CSR disclosure has remained a very much under-investigated area of research (Pollach, 2003; Wanderley et al., 2008; Lodhia, 2014).

This study contributes to the existing literature. In fact, it investigating the factors that are associated with the web-based CSR disclosure and it was not limited to describing web societal disclosure practices as in previous studies.

Therefore, this study extends the existing research by analyzing seven countries in the Middle East region, which allows us to have a clearer idea on the practices of online societal disclosure in this country. It was interested in societal information presented on the websites, and it was not limited to financial information as in previous studies.

The principal focus of prior CSR studies has been the extent of disclosures in companies' annual reports (Deegan and Rankin, 1997). Several researches mentioned the risk of having incomplete CSR disclosure providing only by this way of communication. It has supposed that we can use other media, such as, websites, providing a better means of CSR information (Stanwick and Stanwick, 1998; Tilt, 2001).

This study seeks to answer this question: what are the factors determining the level of Web-based CSR disclosure in the Middle East region? Consequently, this paper aims to explain the practices of Web-based societal disclosure by identifying the factors that are associated with these practices.

The results of the empirical study, conducted on a sample of 200 companies, show that the company size, profitability, company's leverage and the type of industry are the most important determinants of Web-based CSR disclosure.

This study contributes to the existing literature in several ways. First, to the best of our knowledge, this study is the first to investigate Web-based CSR disclosure in the Middle East region as a whole. Analyzing the role played by the Web in the disclosure of non-financial information in the Middle East country is a very important issue to find out how that the role may be enhanced. Second, the majority of studies investigating the determinant of CSR disclosure have evaluated the level of CSR disclosure, essentially, through traditional annual reports. Therefore, this study provides new evidence on the factors affecting the level of CSR disclosure via the web in Middle East countries.

The remainder of this study is organized as follows. Section 2 presents the web-based societal disclosure in the Middle East countries. Section 3 presents the theoretical framework. Section 4 provides the literature and presents the hypothesis of the study. Section 5 discusses the research methodology. Section 6 provides findings, analyses and discussion. Section 7 provides conclusions, implications and limitations of the study and proposes future research.

## **2. Web-based societal disclosure in the Middle East countries**

Nowadays, companies have become more responsible by focusing on activities that benefit the society, such as considering the environment, product quality, etc. CSR is considered as a means by which companies improve their image and maintain their legitimacy towards community (Khasharmeh and Desoky, 2013).

In a few years, the internet has become a global network interconnecting a growing number of users and constituting a means of communication and source of information. The use of this way considerably enhances a company's ability to convey its strategies and other relevant information directly to its principal stakeholders. The internet has become one of the main tools for CSR disclosure, allowing companies to disclose more information less expensively and faster than ever before (Wanderley et al. ,2008). The following table presents the internet usage in the Middle East for recent year 2021 (Table 1). At the end of this year, there were more than

5.16 billion internet users worldwide, that is to say 65.6 per cent of the world population. The Middle East region has seen an important increase in the number of internet users over the last year. Indeed, this region recorded a penetration rate of 75.2 per cent and the number of internet users in the region were more than 199 million users in 2021. These statistics show that the Middle East regions are looking to take profit of this opportunity and to seize advantage offered by the internet in different areas, including the social disclosure. Especially, companies that have disclosed through the web have the ability to affect public perceptions through the amount and type of CSR activities (Chong and Lodhia, 2016).

Table 1. Middle east internet usage and population statistics 2021

Middle East region	Population (2021 Est).	Pop of word (%)	Internet Users 31 Mar 2021	Penetration Rate (% Pop)	Internet Users (%)
Middle east	265,587,661	3.4	199,845,130	75.2	3.9
Rest of word	7,610,177,926	96.6	4,969,930,477	65.3	96.1
Word total	7,875,765,587	100	5,169,775,607	65.6	100

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Source: Internet World Stats: [www.internetworldstats.com/stats.htm](http://www.internetworldstats.com/stats.htm)

The changing activity environments in the Middle East region post 2009, such as the Arab Spring crisis since 2011, present one of the factors that decreased the level of ROA and therefore enhanced the level of CSR reporting in these countries (Al Fadli et al., 2020).

Recently, Companies in the Middle East realize the importance of adopting CSR activities. They are trying to go beyond a philanthropic action. Moreover, they start to report their social and environmental activities. In these countries, there is a significant difference in applying CSR practices. Over the past two years, the UAE and Oman have different meaningful initiatives. In fact, companies are taking CSR activities very seriously and they are knowing an increasing engagement in CSR.

Similarly, El Haddad et al., (2021) found that CSR present an important factor in managerial decision-making in the Middle East countries. They show that the national cultures of Oman and Lebanon exerting partially differing impact on CSR decision-making.

### 3. Theoretical framework

The web-based CSR disclosure is a complex concept that cannot be explained by a unique theory (Adams and Cormier, 2005). The agency theory, signaling theory and legitimacy theory have been commonly used to explore CSR disclosure (Jensen and Meckling, 1976; Gray et al., 1995; O'Dwyer, 2003). This study theoretically justifies this phenomenon by using these theories. The differences between theories indicated the different determining factors (Gray et al., 1995).

The agency theory supposes that disclosures tend to reduce the agency cost by voluntarily disclosing information (Fahad and Nidheesh, 2018). This theory considers disclosure as a mean which reduces the conflict between the company and its creditors and the managers and different shareholders (Jensen and Meckling, 1976; Fahad and Nidheesh, 2018).

The signaling theory suggests that companies can use online disclosure as a signal of high-quality and high-performance. Consequently, more reporting signal a positive image about the performance of company (Spence, 1974). Web based disclosure consider as a tool of transmission of a signal that company has a higher performance compared to other companies that do not disclose information via the web.

Legitimacy theory is commonly used in the literature to explain company motivations for corporate governance practices and the levels of CSR reporting (Haniffa and Cooke, 2005; Beddewela and Herzig, 2013; Khan et al., 2013; Rashid, 2018). It based on the perception that a company's activity should be within the bounds and norms of their respective societies. In this context, the company's activities are reported in an effort to legitimize their actions and inform the public about their activities (Gray et al., 1996). CSR reporting is one way for companies to communicate with the public at large and gain legitimacy (Deegan et al., 2002).

Therefore, legitimacy theory considers that firms disclose their CSR activities mainly to respond to social-economic pressures and to maintain legitimacy towards society. Legitimacy theory addresses the public recognition of all actions (Hamidu et al., 2015; Islam, 2017).

According to this theory, companies need to operate within the limits, set by the society. They must do actions to avoid any deviation from legitimacy (Gray et al., 1996). The institutional environment requires social and cultural obligations on the company that lead them to adopt CSR practices. (Deegan et al., 2002; Garric et al., 2005).

CSR can be seen as a tentative to obtain, maintain or improve the legitimacy towards society (Moir, 2001).

Literature review and hypothesis development

The internet has become the primary means of communication and a source of information for the twenty-first century (Isenmann, 2006). The advantages of the website, as compared to conventional mass media, includes the ability to disseminate an unlimited quantity of information to different stakeholders (Pollach, 2003),

engagement of stakeholders on a global scale (Wheeler and Elkington, 2001) and reduction in reporting costs (Beattle and Pratt, 2003).

Previous research has highlighted the importance of corporate websites as a means of CSR information disclosure (Adams and Frost, 2006; Branco and Rodrigues, 2008). The use of websites for CSR disclosure has the advantage of easy access, low costs for reporting information, and timely coverage of information that can be easily updated (Adam and Frost, 2006).

Most of the studies dealing with Web-based CSR disclosure have covered, at the beginning, online CSR disclosure practices in developed countries like the USA, UK, Australia, Canada, Belgium, France, The Netherlands (Guthrie and Parker, 1989 ; Brammer et al., 2006; Griffin and Sun, 2018 ). Thereafter, very few studies have been conducted in developing countries like Malaysia, Bangladesh and specifically, in the Middle East countries: Jordan, Oman, Bahrain, Egypt ( Gunawan, 2010, Belal and Cooper, 2011, Nejati and Ghasemi, 2012).

Several studies have found increasing use of web-based CSR disclosure in response to stakeholder expectations for greater social and environmental accountability ( Fifka, 2012; Branco et al., 2014).

Based on different theories, previous literature has shown that the main factors that affect the web-based CSR, which are essential: company's size, profitability, financial leverage, industry profile and company's age.

### *3.1. Company's size*

The company's size is a key factor that explains the extent of CSR disclosure. As the larger companies are under control from various stakeholders. Therefore, they are under obligation to provide more information on their CSR practices (Cowen et al., 1987). This association has been determined mainly by legitimacy and agency theories that supposes that larger companies are more likely to engage in CSR disclosure through various tools of communication, including the website. In these companies, the CSR disclosure can be used as a means by the managers to reduce or avoid the political cost (Watts and Zimmerman, 1978; Giannarakis, 2014 ). Larger companies make more CSR disclosures because they tend to receive more attention from the society and are therefore under greater pressure to exhibit environment and social responsibility (Kansal et al., 2014).

Usually, larger companies have many advantages. On the one hand, they have the necessary resources to develop websites. Therefore, they are more likely to take profits from information technology to increase the transparency of information disclosure. On the other hands, in large companies, the cost of preparing disclosure is less than small or medium companies because of the economics of scales (Jennifer Ho and Taylor, 2007; Giannarakis, 2014). This leads to the assumption that larger companies disclose CSR information to a greater extent than smaller companies (Gray et al., 2001; Hossain and Reaz, 2007; Aras et al., 2010; Siregar and Bachtiar, 2010).

On the basis of the above-mentioned literature, the following hypothesis is formulated:

**H1. There is a positive relationship between company size and the extent of Web-based CSR disclosure.**

### *3.2. Profitability*

Previous studies examining the relation between profitability and the level of CSR disclosure have found a mixed result. The positive relationship can be attributed to the fact that profitable companies have more advantages to disclose more CSR information via different means of communication as web-based disclosure (Haniffa and Cooke, 2005 ; Khan, 2010). In fact, these companies use CSR disclosure as a strategy to demonstrate that they confirm the society's expectation, or to alter the attention of stakeholders (Suchman, 1995). The company continually seeks to ensure that their activities are acceptable to society (Wilmshurst and Frost, 2000). Crisóstomo et al., (2011) suppose that spending resources on CSR disclosure can especially be justified to the shareholders and creditors by excess cash flows.

In contract, there are studies showing that there is no association between the level of profitability and CSR disclosure (Patten, 1991, da Silva Monteiro and Aibar-Guzman, 2010). Siregar and Bachtiar (2010) found that there is an insignificant association between these concepts because CSR activities introduce additional cost without any direct advantage. Other studies found that companies with less profit tend to disclose more information to ensure that their actions are acceptable to society (Jennifer Ho and Taylor, 2007).

Regarding the market rate of return, some research indicated that CSR disclosure has an effect on the financial markets (Shane and Spicer, 1983). These studies stated that the companies with higher corporate environmental reputation (CER) scores, exhibit higher degrees for the share price anticipation of future results than the companies with lower scores. In addition, Saleh et al., (2010) found that CER scores influence market price.

Regarding the previous results, it is hypothesized:

**H2 . There is a positive relationship between profitability and the extent of Web-based CSR disclosure.**

### 3.3. Financial Leverage

Companies with higher financial leverage may have close relationships with their creditors. Therefore, they use other tools to disclose CSR information (Purushothaman et al., 2000). The highly levered companies have an incentive to voluntarily enhance the level of CSR disclosure, and they could disclose this information through the web to help creditors to evaluate the capacity of the company to respect its commitment towards society and to allow them to control usually their activities (Aly et al., 2010). Esa and Mohd Ghazali (2012) stated that higher leveraged companies disclose more CSR information in their annual reports in order to signal that managers take into account social and environmental initiatives.

In contrast, Branco and Rodrigues (2008) claimed that leverage is negatively associated with web-based CSR which means that the higher the levels of leverage, the less the CSR information disclosure by companies. They suppose that the leverage cannot justify the differences in CSR disclosure practices. Reverte (2009) did not find any statistical relationship between financial leverage and the extent of CSR disclosure on Spanish listed companies. In addition, Alsaeed (2006) showed that financial leverage is statistically insignificant on the extent of CSR disclosure. It was generally found that companies and different creditors have other means to communicate with each other. In this study, it is accepted that the level of financial leverage affects positively the extent of web-based CSR disclosure as these companies have the ability to expend their initiatives beyond the traditional business operations (Giannarakis et al., 2014). Thus, the following hypothesis developed:

**H3. There is a positive association between financial leverage and the extent of Web-based CSR disclosure.**

### 3.4. Industry profile

Recent studies have found that industry profile presents a strong determinant of CSR disclosure. Therefore, socially or environmentally sensitive sectors disclose more information compared to less sensitive sectors (Hackstone and Milne, 1996 ; Adelopo et al., 2012; Khlif et al., 2015; chong et al., 2016). In particular, companies operating in the consumer and energy supplying industry tend to disclose more information about CSR activities. In contrast, companies in service industry provide less CSR information (Giannarakis and al., 2014). Galani et al. (2012) suppose that non-environmentally sensitive industries publish less environmental information than the companies operating in environmentally-sensitive industries. These companies seem to have more advantages to provide more information on CSR disclosure to avoid any impeding cost imposed by society (Giannarakis and al., 2014). In another context, Patten (2002) supposes the existence of a negative relationship between the environmental disclosure and a toxic release inventory.

Prior studies' results provide inconsistent findings in relation to the significance of the industry effect on CSR. Some research indicates a significant relationship between the type of industry and the extent of CSR disclosure (Williams, 1999). In contrast, others studies found an insignificant relationship between type of industry and the extent of CSR disclosure (Gray et al., 1995; Gunawan et al., 2009).

Regarding the extent of Triple Bottom Line reporting, Jennifer Ho and Taylor (2007) found that companies operating in manufacturing industry in European countries have a higher probability of disclosing more information related to CSR activities. The manufacturing sector discloses more information about community, product safety and public responsibility.

Based on these arguments and because manufacturing industries classified as sensitive industry, the following hypothesis is formulated:

**H4. Manufacturing companies have a higher extent of Web-based CSR disclosure than non-manufacturing companies.**

### 3.5. Company's age

Different studies tried to understand the relation between firm age and the level of CSR disclosure (Alsaeed, 2006 ; Al-Gamrh and Al-Dhamari, 2016). Previous research has found that age of firm has a significant association with CSR disclosure (Ibrahim, 2014; Al-Gamrh and Al-Dhamari, 2016; Fahad and Nidheesh, 2018). It is expected that company age affects CSR disclosure positively. Therefore, older firms are more familiar with society and the environment they operate, and they wish to be good citizens by disclosing more CSR information (Fahad and Nidheesh, 2018). Because with past experience, older companies are aware how CSR information creates goodwill and attracts different customers (Fahad and Nidheesh, 2018). Thus, the following hypothesis developed:

**H5. There is a positive relationship between company size and the extent of Web-based CSR disclosure.**

## 4. Research Methodology

### 4.1. Sample selection and data sources

The study was conducted in the Middle East region. Seven Middle East countries were chosen: the United Arab Emirates, Saudi Arabia, Kuwait, Bahrain, Jordan, Qatar and Turkey.

The study population consists of non-financial listed companies. Financial companies have been excluded

from our population because of the specificity of their activities. Table 2 shows the distribution of the sampled companies.

Table 2. Distribution of sampled companies

Country	Number of listed companies having functional websites		Companies included in the sample		Industrial companies	Non-industrial companies
	N	%	N	%	N	N
The United Arab Emirates	70	5.65%	16	22.85%	4	12
Saudia Arabia	203	16.38%	28	13.80%	4	24
Kuwait	167	13.47%	22	13.17%	2	20
Bahrain	42	3.39%	18	42.85%	8	10
Jordan	170	13.71%	50	29.42%	18	32
Qatar	48	3.88%	16	33.33%	6	10
Turkey	540	43.55%	50	9.26%	24	26
Total	1240	100%	200	16.13%	66	134

The study's sample consists of 200 listed Middle East companies. It represents 16.13% of the population. It was divided into 66 industrial companies and 134 non-industrial companies. Data was collected directly from the companies' websites during the period January-February 2020.

#### 4.2. Construction of the societal information disclosure index

In order to assess the extent of social responsibility disclosure on corporate websites in the Middle East region, we constructed an index composing of 47 items. These items were selected based on previous studies dealing with social responsibility disclosure in annual reports and on companies' websites in various contexts: Tagesson et al., 2009; Khasharmeh and Desoky, 2013; Juhmani, 2014; Kuhn et al., 2015.

Corporate social responsibility is defined in the literature with reference to three main aspects: economic aspects, social aspects and environmental aspects (Uddin et al., 2008). Thereby, the index used in this paper was composed of 21 societal information items, 13 environmental items and 13 items referring to the economic aspects of corporate social responsibility.

To calculate the extent of the online social responsibility disclosure index, the study applied a dichotomous procedure: assign a score of 1 if an item, which is included in the checklist, is disclosed on the company's website and 0 if the item is not disclosed. The index is calculated as the sum of the items presented on the company's website. Thus, the social responsibility disclosure index for a company is calculated as follows:

$$I_j = \sum_{i=1}^n X_{ij}$$

Where:

$I_j$  = societal disclosure index for the company  $j$ ;

$N$  = number of items incorporated in each component; and

$X_{ij}$  = 1 if the item  $i$  is disclosed by the company  $j$  and 0 otherwise.

#### 4.3. Conceptual model

The aim of this paper is to examine the factors influencing the extent of social responsibility disclosure on the companies' websites in the Middle East countries. Thus, the paper empirically examines the association between some company's characteristics and the extent of the online social responsibility disclosure. We assess the impact of some company's characteristics on the online social responsibility disclosure using a multiple regression model. The model of the study can be estimated empirically using the following equation:

$$\text{CSR index} = \beta_0 + \beta_1 \text{Size} + \beta_2 \text{Lev} + \beta_3 \text{Prof} + \beta_4 \text{Age} + \beta_5 \text{IND} + \beta_6 \text{Country} + \epsilon$$

Where:

CSR index: the dependent variable: the online social responsibility disclosure, it takes four values: total score; the social information score, the environmental information score and the economic information score.

Size: the company's size. The most utilized measure is the total assets and it was used in this study too.

Lev: the company's leverage. It refers to the amount of debt used to finance company assets. The study measures the leverage by the total liabilities to total assets ratio in 2020.

Prof: the company's financial profitability. The study uses the ROE (the net Profit to the equity ratio in 2020) to assess the financial profitability.

Age: the company's age. The number of years from the year of incorporation until the end of 2020 is used in this

study to measure the company's age.

IND: the type of industry of the company. The study uses a dichotomous variable that takes 1 if the company is industrial and 0 otherwise.

Country: it refers to the country of origin. The study uses a dichotomous variable for each country

$\varepsilon$ : error term

Table 3 shows our independent variables and the expected signs of their hypothesized association with the online societal disclosure.

Table 3. Independent variables, proxy and expected sign

Independent variable	Proxy	Expected sign
Firm size	Total assets	+
Leverage	Total liabilities to total assets ratio	+
Profitability	ROE (net profit/equity)	+
Firm age	The number of years from the year of incorporation until the end of 2020	+
Type of industry	Dichotomous variable that takes 1 if the company is industrial and 0 otherwise.	+
Country	Dichotomous variable for each country	+ -

To estimate the model, the study has developed an OLS (Ordinary Least Squares) regression model.

## 5. Findings, Analyses and discussion

### 5.1. Descriptive statistics

Table 4 presents the percentage of companies disclosing social responsibility information on their websites.

Table 4. Social responsibility disclosure on the Web

	Numbers	%
Companies that disclose information about CSR on website	190	95%
Companies that do not disclose information about CSR on a website	10	5%
Total	200	100%

The statistics indicate that 95% of the sampled companies present on their web sites different social responsibility information, while 5% of the sampled companies do not communicate any social responsibility information on their web pages.

Table 5 illustrates the descriptive statistics for our dependent variable: the web-based social responsibility disclosure.

Table 5. Descriptive statistics of web-based social responsibility disclosure

Variable	Minimum	Maximum	Mean	Std deviation
Total score	0	32	12.9	8.412
Social information score	0	21	6.57	5.377
Environmental information score	0	10	3.9	2.79
Economic information score	0	8	2.47	2.042

The level of average social responsibility disclosure on the websites of the sample companies is 12.9, with a maximum of 32 and a minimum of 0. These statistics indicate a wide variation in the online societal disclosure (a high standard deviation of 8.412) in the Middle East countries.

The results show that the social information score represents the highest average of 6.57. Thus, we can conclude that the companies in the Middle East region tend to present on their websites more social information than environmental and economic information. The social information score ranges from a low of 0 to the highest score of 21, with an average score of 6.57 and a standard deviation of 5.377 indicating a vast variation in the disclosure of this type of information on the company's web site.

The statistics presented in table 5 show that the environmental information score ranges from 0 (lowest score) to 10 (highest score). The results indicated also that economic information score ranges from a low of 0 to the highest score of 8, with an average score of 2.47 and a standard deviation of 2.042. These statistics allow us to conclude that there is no significant difference in the level of environmental and economic information disclosed on the companies' web pages in the Middle East countries.

Table 6 presents the ranges of social responsibility disclosure on the websites of the sample companies.

Table 6. Ranges of social responsibility disclosure

Disclosure Scores	%
0-10	49%
11-20	24%
21-30	20%
Higher than 30	2%
Above the average (12.9)	42%

The results presented in Table 6 show that, in general, the level of online social responsibility disclosure of companies in the Middle East region is low. Thus, almost half of the companies in the sample have a disclosure score of less than 10 (the total score was composed of 47 items). Only 2% of companies have a disclosure index with a value higher than 30. The statistics indicate also that 42% of sampled companies have a social responsibility disclosure score higher than the average score of the sample.

Table 7 represents the descriptive statistics of the independent variables.

Table 7. Descriptive analyses of independent variables

Variable	Minimum	Maximum	Mean	Std deviation
Size	11 401 000	276 787 644 000	9 476 579 982	33 122 809 439
Leverage	0.041	0.932	0.443	0.223
Profitability	-0.484	0.544	0.086	0.150
Firm age	10	50	24.12	9.872

Regarding the independent variables, company size, sample companies have an average of total assets of 9476 million with a maximum of 276787 million. These statistics indicate that the study's sample was composed of large companies.

Regarding the leverage, the statistics show a significant dispersion between the companies in the sample. The sample was composed of both companies with low debt ratio (0.041) and companies with high debt ratio (0.932).

The company profitability ranges from -0.484 (lowest level) to 0.544 (highest return on equity), with an average value of 0.086 indicating that the companies in the study's sample are generally characterized by a poor performance.

The average age of the firms in the sample is 24.12. It ranges from 10 years to 50 years

### 5.2. Correlation matrix and multicollinearity analysis

Table 8 presents the correlation matrix and reveals a number of significant correlations between online CSR disclosure and independent variables. The results reveal the existence of a significant positive association between the CSR information disclosed on the websites and three independent variables (size, leverage and profitability) and a significant negative association between the online CSR information and firm age.

Concerning the multicollinearity issue, Field (2009) suggests that the correlation between independent variables should not be considered harmful until they exceed 0.80. The results presented in table 8 show that all the correlations are lower than 0.80. This implies the absence of a serious problem of multicollinearity.

In order to evaluate the normality of the residual distribution, the study uses histograms and normal distribution plots. For all models used in this study, the rank residual was normally distributed.

Table 8. Correlation matrix

variables	CSR index	Size	Leverage	Profitability	Firm age
CSR index	1.000				
Size	0.4733***	1.000			
Leverage	0.3669***	0.2344**	1.000		
Profitability	0.2715***	0.2171**	-0.0447	1.000	
Firm age	-0.2228**	-0.1147	0.0903	-0.1901*	1.000

### 5.3. Multivariate analysis

Tables 9-10 summarize the results of ordinary least squares regression analyses of the study's models. These models use four scores for online CSR disclosure (total score; the social information score, the environmental information score and the economic information score).



Table 9. Regression results of regression model of CSR total score

Variables	Beta	t	Sig.
Constant	14.402***	4.93	0.000
Firm size	8.88***	4.29	0.000
Leverage	10.01***	3.35	0.001
Profitability	10.41**	2.36	0.020
Firm age	-0.130	-1.94	0.055
Type of industry	4.108***	2.89	0.005
Country	-1.43***	-3.52	0.001
Notes: Significant at: **0. 05 and * **0. 01 levels R square : 0.470; Adjusted R square:: 0.435; F value:13.75; Sig. 0.000			

Table 9 shows that the independent variables in the study are able to explain 43.5% of the variance in the online CSR disclosure, as measured by the total CSR index. The was statistically significant, it had a Fisher F of 0.435.

The analyses presented in table 10 show that the model using the social information score as a dependent variable has greater explanatory power (0.404) relative to the model using the environmental score (0.225) and the model using economic score as a dependent variable (0.119). These results indicate that firm characteristics are rather associated with the social information disclosed at corporate websites and to a lesser extent with environmental and economic information.

Table 10. Regression results of regression model of social score, environmental score and the economic score

Variables	Social score		Environmental score		Economic score	
	T	Sig.	t	Sig.	t	Sig.
Constant	4.63***	0.000	3.40***	0.001	1.81*	0.073
Firm size	4.58***	0.000	2.19**	0.031	1.16	0.249
Leverage	2.62***	0.010	1.75*	0.083	2.94***	0.004
Profitability	1.34	0.183	2.97***	0.004	1.19	0.238
Firm age	-2.13**	0.036	-0.90	0.372	-0.21	0.836
Type of industry	2.37**	0.020	2.30**	0.024	1.56	0.122
Country	-3.64***	0.000	-2.02**	0.046	-1.25	0.213
R square : 0.44; Adjusted R square: 0.404; F value: 12.19; Sig. 0.000			R square : 0.27; Adjusted R square: 0.225; F value: 5.79; Sig. 0.000		R square : 0.17; Adjusted R square: 0.119; F value: 3.25; Sig. 0.0061	
Notes: Significant at: **0. 05 and * **0. 01 levels						

The first hypothesis of this study reveals that the company size will have a positive influence on the extent of Web-based CSR disclosure. The company size was captured by the total assets.

The results of the study indicate that the web-based CSR disclosure practices in the Middle East region are dependent on company size. In fact, the effect of company size is significant in the all models except the one using economic score as a dependent variable, indicating that company size is an important determinant of the most aspects of the web-based CSR disclosure. These results are consistent with the first hypothesis of the study. Thus, large companies in the Middle East region tend to disclose more CSR information on their websites than small companies. They tend to disclose more social and environmental information on their web pages.

These companies usually have the necessary resources to create a well-developed web site and, they are more likely to take profits from information technology to enhance the company's transparency.

The results are consistent with the legitimacy and agency theories that large companies are more likely to engage in CSR disclosure through various tools of communication, including the website. They look to avoid political costs, to respond to social-economic pressures and to maintain legitimacy towards society and to reduce agency costs.

This finding is consistent with another prior research Aras et al. (2010), Gray et al. (2001), Hossain and Reaz (2007), Siregar and Bachtiar (2010).

The second hypothesis of this study reveals the existence of a significant relationship between profitability and the extent of Web- based CSR disclosure. The company's performance was measured by the ROE.

The relation between the company's performance and the online CSR disclosure is found to be significantly positive only in the models using total score and environmental score as dependent variables. These results indicate that more profitable companies in the Middle East region disclose more CSR information on their websites than less profitable ones do. These companies tend also to present on their web pages' environmental information more than less profitable companies.

The results are consistent with the signaling theory that companies can use online disclosure as a signal of high-quality and high-performance. The most profitable companies use CSR disclosure as a strategy to

demonstrate that they confirm the society's expectation, or to alter the attention of stakeholders. They try to ensure that their activities are acceptable to society.

This finding is consistent with other prior studies: Haniffa and Cooke (2005) and Khan (2010).

Hypothesis 3 of the study refers to the relationship between the leverage and the extent of online CSR disclosure. It announces the existence of a positive association between the company's leverage and the CSR disclosure practices on the Web. The company leverage was defined in this study was measured by the total debt to total assets ratio.

The sign of this variable is positive for all analyses indicating that the leveraged companies tend to disclose more CSR information through the Web. The effect of the leverage is significant in all models except the one using the environmental score as a dependent variable. These results support the study's hypothesis and they are consistent with the agency theory that the leveraged companies can use the online CSR disclosure to reduce the conflict between the company and its creditors and consequently reduce the agency costs. Thus, the leveraged companies disseminate more social and economic information on their websites web in order to help creditors to evaluate their capacity to respect their commitments towards society and to allow them to control usually their activities.

This finding is consistent with other prior research Esa and Mohd Ghazali (2012) and Giannarakis et al. (2014).

Hypothesis 4 of the study refers to the relationship between the type of industry and the extent of CSR disclosure through the Web. It states that companies operating in the industrial sector disclose more CSR information on their websites. The results of the regression analyses show the existence of a positive association between industry membership and the extent of CSR disclosure on the Web. This association is significant in all models except the one using economic score as a dependent variable. These results support the study's hypothesis and they are consistent with the legitimacy theory that companies operating in socially or environmentally sensitive sectors as the industrial sector, disclose more information compared to companies in less sensitive sectors. These companies have more advantages to provide more social and environmental information on their web pages to avoid any impeding cost imposed by society. They use the online CSR disclosure to inform the public about their activities, gain legitimacy and convince the society that their activities are within the bounds and norms of the society. Thus, the industrial companies in the Middle East countries use the online CSR disclosure to reach a large audience and to legitimize their activities.

This finding is consistent with other prior studies Jennifer Ho and Taylor (2007). This study found that companies operating in manufacturing industry have a higher probability of disclosing more information related to CSR activities.

The last hypothesis of this study reveals the existence of a positive and significant relationship between the company's age and the extent of Web- based CSR disclosure. The relation between the company's age and the online CSR disclosure is found to be negative in all models of the study. These findings reveal that the younger companies in the Middle East countries disclose more CSR information on their websites.

The relation is statistically significant only in the model using social score as a dependent variable indicating that the younger companies in the Middle East countries use the Web to disclose more social information. These findings do not support the study's hypothesis. Thus, it can be concluded that the age of the firms will not make differences in terms of its CSR disclosure practices.

Concerning the control variable: country of origin, the results of the regression analyses state that this variable has a significant sign in the models using total score, social and environmental scores as dependent variables. These findings indicate that the online CSR disclosure practices differ significantly across the Middle East countries. The results of the study also indicate that the extent of social and environmental information presented by the companies through the Web differs significantly from one country to another.

## **6. Conclusions, implications, limitations and future research**

The purpose of this paper is to investigate the factors influencing the online CSR disclosure in the Middle East countries. The study examined a sample of 200 listed Middle East companies in seven Middle East countries: the United Arab Emirates, Saudi Arabia, Kuwait, Bahrain, Jordan, Qatar and Turkey. The companies' websites were analyzed during the period January-February 2020.

To get the measure of the extent of CSR disclosure through the Web in the Middle East region, we constructed an index composing of 47 items. These items were divided on 21 societal information items, 13 environmental items and 13 items referring to the economic aspects of corporate social responsibility.

The results show that firm size is significantly associated with total score, social score and environmental score. Thus, large companies are more likely to use their web pages to present more social and environmental information in order to benefit from decreasing agency costs and to avoid political costs. Moreover, all retained score except the environmental score are significantly associated with firm leverage. The company's profitability is significantly associated with total score and environmental score. The industry membership is also

significantly associated with the extent of CSR disclosure on the Web indicating that sensitive industry will make disclosure of wider social responsibility through the Web. On the contrary, there is no association between the online CSR disclosure and the company's age.

There is little empirical evidence of the online CSR disclosure in the Middle East region. This paper attempts to fill some of the gap in the knowledge of these practices in this region. It investigates the factors determining the web-based CSR disclosure practices and it was not limited to describe the online CSR disclosure practices like most previous studies that are conducted in this region which allows us to have a clearer idea on these practices in this region.

The study's findings have important implications for the stakeholders. It will help regulators to formulate policies about the online CSR disclosure as they offer insights into the characteristics of those companies which do and do not engage in these practices. Thereby, the regulators might expect that the Middle East companies that present CSR information, on the websites, to be larger, have higher performance and leverage levels and belonging to manufactory sector.

This study has some limitations, the results reveal that the firm characteristics used in this study can explain only around 43.5 percent of the variance of the online CSR disclosure in the Middle East region. This means that there are other factors that might influence the companies' practices which are not taken into account in this study. The study examines the online CSR practices by considering only the extent of CSR disclosure and is not interested in the quality of this disclosure. In addition, the study was limited to analyzing the explanatory factors of web-based CSR disclosure and it neglects the consequences of these practices.

Future studies can deepen the analysis by investigating the impact of some other factors not included in this study on the online CSR disclosure, such as governance variables, to better understand this practice in the Middle East countries. Future studies can examine the factors influencing the quality of web-based CSR disclosure. They can also deepen the understanding of this practice by analyzing the consequences of this type of disclosure.

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