

# CORPORATE GOVERNANCE AND VOLUNTARY SUSTAINABILITY PRACTICES IN ISLAMIC BANK: A STUDY IN THE MENA REGION

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## Abstract

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The purpose of this paper is to investigate the effect of selected governance characteristics on the level of environmental disclosure in Islamic banks within the MENA zone. This study used a sample of 40 Islamic banks as part of a new data set, namely the data collected from the annual reports. Environmental disclosure is developed to measure the level of environmental information. We measure the environmental disclosure by both the energy disclosure items and the natural environment disclosure item provided by the annual reports. Multiple linear regression analyzes were used to verify the effect of a bank's governance characteristics on the level of environmental disclosure. This study may contribute to the existing literature by providing insights from countries with an emerging economy and providing updated documentary and empirical evidence concerning the association between the characteristics of governance and the level of environmental disclosure of Islamic banks within the MENA zone.

**Keywords:** Governance Mechanism, Board of Directors, Islamic Bank, Environmental Disclosure

**Authors' individual contribution:** Conceptualization — J.C.; Writing — Original Draft — J.C., Y.C., and N.C.; Writing — Review & Editing — J.C., Y.C., and N.C.; Project Administration — Y.C. and N.C.; Funding Acquisition — N.C.

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## 1. INTRODUCTION

Recent governance failures and scandals have highlighted the critical role of external auditing in promoting good corporate governance. The contribution of legitimacy theory is an adequate analytical framework to examine the impact of some characteristics of Islamic bank governance on the level of environmental disclosure. The disclosure of sustainability is determined by environmental disclosure and more specifically by the disclosure of energy and the natural environment. It is an interdisciplinary and multidimensional concept. Banks disclose their environmental activities in annual reports or a special report on environmental disclosure. Sustainability reports are an essential

means of commercial communication with stakeholders.

Indeed, Islamic banks are spreading very rapidly, which reflects their importance in the international financial system. Banks' compliance with best practices for disclosure of sustainability and the integration of environmental and ecological dimensions into annual reports indicates that these banks are confident that they will increase transparency and reduce asymmetric information. Corporate governance aims to strike a balance between economic and social goals as well as between individual and collective goals. Corporate governance is there to encourage the efficient use of resources and to demand accountability for the management of these resources (World Bank Group, 2000). In this respect, disclosure of

environmental information is not merely an important environmental management tool; but an important sub-domain of information disclosure by the Islamic banking system. The disclosure of environmental information is a basic requirement for local socio-economic development and also a fundamental prerequisite of a more transparent governance system (Rodríguez-Ariza, Cuadrado-Ballesteros, Martínez-Ferrero, & García-Sánchez, 2017). In this context, the operations of the Islamic banks require that the board of directors can effectively monitor management and collaborate with the Shariah Supervisory Board (SSB)<sup>1</sup> to ensure that all transactions are deemed to be Shariah-compliant. Accordingly, we anticipate that the size of the board, that is the number of directors in the board, will be larger as a larger board will have more members with varying skills to monitor and advise managers. However, a large board increases compensation costs while creating communication and coordination problems in decision-making (De Andres & Vallelado, 2008). Therefore, the size of the board of an Islamic bank, which represents a compromise between the benefits of increased supervision and its costs (communication, coordination, and control), influences the behavior of Islamic banks in terms of voluntary disclosure (Ridwan & Mayapada, 2020).

In addition, Musallam (2018) has shown that the ability of administrators to control and promote value-creating activities is likely to increase with the increase in the number of directors on the board. As a result, the need for information disclosure will be greater. The size of the board can affect the level and extent of CSR practices and the decision-making process concerning sustainable development. In addition, the commitment of the largest shareholder is an asset to study the strategic role of Islamic banks in financing the economy. In this respect, few research works dealt with the effect of the largest shareholder on the level of sustainable development disclosure. Regarding the other determinants of Islamic banks' governance in explaining environmental disclosure, the results found are similar in terms of the positive effect of the Shariah board and audit committee on sustainable development disclosure. Actually, Islamic banks that want to adopt societal and partnership behavior aim to create partnership value. This allows establishing the legitimate role of Islamic banks in society in general. These banks aim to promote disclosure and transparency practices in these different facets (financial and non-financial). Therefore, it seems rather interesting to conduct relevant research for companies with a high level of commitment to ethics. Such a study concerns the interests are multiple. Our results are highly recommended for researchers who want to launch their work by adopting the behavioral approach of the governance of Islamic banks. As a result, our work can be considered as a cornerstone of such an approach.

The primary purpose of this study is to the extent of prior research on environmental

disclosure by investigating the relationship between bank governance and the level of environmental disclosure by Islamic banks belonging to environmentally sensitive, MENA region. Especially, this paper empirically analyzed the effect of selected governance characteristics (size of the board of directors, independence of the board of directors, duality of CEOs, concentration of owners, number of meetings, Shariah board and audit committee) on the level of environmental disclosure. To achieve this goal, the study considered a total of 40 Islamic banks as part of a database collected from annual reports for the year 2016.

The findings are generally acceptable and that confirm the role played by variables, such as the Shariah board, the audit committee, and CEO duality, in explaining the environmental disclosure. On the other hand, for the rest of the independent variables (size of the board of directors, independence of the board of directors, number of meetings), the results indicate that these characteristics of governance are unrelated to the level of environmental disclosure.

The current study may contribute to two streams of literature, the disclosure literature and governance of Islamic banks, by providing updated documentary and empirical evidence on the association between governance mechanisms and the level of environmental disclosure within the MENA zone. Additionally, developing two global indices encompassing the different dimensions of environmental disclosure would be a major contribution of the present study.

The paper is divided into five sections. Section 2 provides an overview of the previous related literature and introduces the hypotheses of the study. Section 3 outlines the data and methodology. Section 4 presents the empirical findings of the study. Finally, Section 5 discusses the conclusion, limitations, and future research opportunities.

## 2. LITERATURE REVIEW

### 2.1. Theoretical framework

Environmental disclosure has been studied according to many theories: agency theory; signal theory and especially the legitimacy theory. Agency theory provides a debate relating to bank governance between the shareholder and the manager which poses problems of agency and conflicts of interest. According to this theory, environmental disclosure plays an important role between stakeholders in order to resolve the different sources of conflict. Another important theory that explains the motivation of banks to disclose environmental information is signal theory. This theory is based on the asymmetry of information between the bank's managers and stakeholders, and environmental disclosure is one of the solutions that serve to minimize this asymmetry of information between managers and others. The theory of legitimacy is used to determine whether the behavior of an organization is appropriate in some social systems. In this regard, this theory is based on a view that bank managers are accountable not only to investors but also to other stakeholders, in financial, social, and

<sup>1</sup> Shariah Supervisory Board (SSB) is one of the main components of an Islamic bank. He is entrusted with the duty of directing, examining and supervising the company's activities for the sake of ensuring that they do actually comply with the Islamic Sharia rules, principles, and regulations (Sallemi, Zouari-Hadjji, & Zouari, 2021). Shariah boards have fiduciary responsibilities towards the institution's stakeholders.

environmental matters. This improves the level of environmental disclosure within Islamic banks (Jan, Marimuthu, Hassan, & Mehreen, 2019).

In addition, financial communication has an ambition: to inform the market in its entirety, and first and foremost decision-makers, shareholders and investors, and specifiers such as journalists and financial analysts, not to mention employees. This permanent information is based on regulatory texts to protect shareholders, partners, and third parties, and to ensure the safety of savers through market transparency. It has been gradually developed to protect shareholders by guaranteeing them "accurate, precise and sincere" information.

Indeed, financial communication is, thus, significant interest and confers legitimacy for the bank. It allows it to value its assets compared to its competitors in the financial market. This is due to an improvement in the valuation of the stock, as stockholders place great value on transparency, the clarity of its strategy, and the involvement of managers in this communication. Decisions such as the vectors used or the content of the information to be disseminated have an essential strategic dimension for the bank. This explains the fact that financial communication has become an essential element in the relationship between the bank and its environment. It becomes a new strategic weapon provided you understand its scope and make good use of it. Financial communication is one of the tools that allows the manager to ensure its legitimacy and to build its reputation inside and outside the bank. He is the spokesman of the bank and like all communicating, it is characterized by its status, its position, and its capabilities. It represents the image of the company which gives it undeniable power and legitimacy.

## 2.2. Environmental disclosure and governance of Islamic banks

This study aims to investigate the relationship between governance mechanisms and the level of environmental disclosure of Islamic banks. Prior studies in recent years have provided insights into the number of Islamic banks disclosing environment-related information. This section presents the relevant literature on the relationship between Islamic banks' governance and the level of environmental disclosure of developing countries.

The characteristics of the board of directors and the audit committee are decisive factors in the company's reporting policy (Chen & Jaggi, 2000; Chau & Gray, 2010; Khlif & Samaha, 2014). A wide range of publications has proven that internal and external corporate governance mechanisms are the most effective ways to limit the discretionary behavior of executives. With regard to the banking sector, previous studies reveal that internal mechanisms are considered more effective than external mechanisms. Indeed, the intrinsic characteristics of banks, including the complexity of agency problems and the existence of information asymmetry between foreigners and insiders, as well as the importance of regulation, weaken the disciplinary role of external mechanisms (Labaronne & Ben Abdelkader, 2008; Sulub, Salleh, & Hashim, 2018; Al-Bassam, Ntim, Opong, & Downs, 2018).

It should be noted that the effectiveness of these mechanisms depends on specific conditions that cannot be fulfilled in banks. First, the information must be accurate, truthful, and complete in order to effectively evaluate the value of the bank. Secondly, contractual relations between managers and stakeholders should be supervised to ensure that contractual terms and conditions are properly applied. Third, the existence of mechanisms for detecting and predicting bankruptcies should be implemented. Finally, the financial market and the labor market should be as dynamic as possible to control the actions of managers and force them to improve the performance of the bank. Since these conditions cannot be verified in banks, external mechanisms cannot exercise sufficient control over management (Labaronne & Ben Abdelkader, 2008). Indeed, internal mechanisms are likely to be more effective than external mechanisms in overseeing the actions of managers. We will therefore conduct our study on the internal mechanisms of Islamic bank governance.

Bank governance can be understood the relevant attributes include the size of the board (Esa & Ghazali, 2012; Giannarakis, 2014a, 2014b). The leadership duality (Elsayed, 2007; Giannarakis, 2014a, 2014b), and the presence of independent directors (Galbreath, 2017). Let's evaluate each of them in terms of impact on the disclosure of ESG information, which, as previously mentioned, refers to corporate reports on environmental, social, and governance performance.

## 2.3. Hypothesis development

### *Independence of directors' board*

The independence of directors was one of the main characteristics used by most previous researchers to determine what determines environmental disclosure. It appears that the presence of independent and external directors on the board of directors is expected to improve the effectiveness of governance because it promotes economic, social, and environmental sustainability. Many reasons have been given for this conclusion. First, in terms of disclosure, the primary role of a board is controlled. Thus, the members of the board of directors are responsible for controlling the behavior of management, which normally leads to more voluntary disclosure. Thus, board members are tasked with controlling the behavior of management, which normally leads to more voluntary disclosure. Similarly, independent directors improve the transparency of the board of directors by adopting a policy of voluntarily disclosing additional information (Chen & Jaggi, 2000; Cheng & Courtenay, 2006; Donnelly & Mulcahy, 2008).

Furthermore, independent directors provide external expertise and knowledge of social and environmental regulations regarding information disclosure (Liu & Zhang, 2017). As a result, boards of directors with more independent directors are more likely to ensure that a company fulfills its social responsibility including environmental responsibility. Independent directors could play a role in classifying social and environmental responsibilities as well as economic and legal responsibilities: they force management to pursue

intensive social activities and to disclose detailed information on social and environmental relations.

Indeed, external or independent directors sometimes act as “free riders” and thus the inclusion of such board members may reduce operational efficiency and decision-making effectiveness, and then lead to actions that do not take into account business sustainability and other voluntary reporting (Liu & Zhang, 2017). Therefore, based on the above discussion we can draw the following hypothesis:

*H1: The proportion of independent directors' board is associated (positively or negatively) with Environmental disclosure in Islamic banks.*

#### *Duality of the CEO*

The CEO duality refers to a situation in which the same person occupies two positions simultaneously: the director-general (DG) and the chairman of the board (Vintila & Duca, 2013). This situation results in a unitary management structure. According to the agency theory, the concentration of decision-making power due to the unitary leadership structure can significantly reduce the supervisory function of the board. Furthermore, proponents of CEO duality also emphasize the importance of clear lines of authority and unity of command to reduce conflict and improve decision-making (Lakhal, 2005). Therefore, the CEO duality may result in greater voluntary disclosure as it limits the supervisory role of the board of directors.

In terms of disclosure, Forker (1992) argues that the separation of the roles of the CEO and the chairman of the board improves the quality of control and increases the benefits of disclosure. Ho and Wong (2001) reported that companies whose CEO is himself chairman of the board are expected to have a lower level of voluntary disclosure, but have not been able to establish a meaningful relationship. Others have stated that the duality of CEOs reduces benefit management practices and improves the quality of benefits (Lakhal, 2005). In addition, Ho and Wong (2001) believe that the separation of the CEO and the chairman of the board should promote transparency and adequate disclosure by discouraging managers from using unfavorable information. Environmental disclosure as a policy that is part of the full transparency process is the result of the behavior of the leader who holds the information and knowledge. The leader could influence the behavior of banks, especially if he or she is also chairman of the board of directors. Previous researchers (Haniffa & Cooke, 2002; Cheng & Courtenay, 2006) have indicated an insignificant or positive association between the two variables. So, we propose to test the following hypothesis:

*H2: The dual roles of executive director and chair of the board have a positive effect on environmental disclosure.*

#### *Concentration of ownership*

The conflict of interest between shareholders and management can be resolved through corporate governance mechanisms (Cornett, McNutt, & Tehranian, 2009; Leventis & Dimitropoulos, 2012). This suggests that internal governance mechanisms

are much less effective when the ownership structure is concentrated (Jaggi & Tsui, 2007). In addition, these companies are not in a position to comply with public accountability since most information is provided through meetings and other informal means (Mohobbot & Konishi, 2005). Generally speaking, Lakhal (2005) suggested that large or institutional shareholders are less likely to require more information because they can easily access internal information. For example, some previous research has argued that there is a positive relationship between disclosure and institutional ownership (Donnelly & Mulcahy, 2008; Laidroo, 2009).

Most previous research has shown that disclosure of the information is likely to be more important in companies with widely dispersed ownership. For this reason, Chau and Gray (2002) argue that disclosure of the information is higher for dispersed-owned companies in order to reduce control costs. Indeed, the shareholder can ensure that his economic interests are optimal and the agent can demonstrate that he is acting in the best interest of the owner. Gebhardt and Novotny-Farkas (2011) found that there is a high degree of separation of ownership and control in participating banks and, consequently, a greater asymmetry of information between the bank and shareholders, which is consistent with the argument of Abbott, Parker, and Peters (2004).

In the particular case of Islamic banks, the concentration of ownership could be a handicap for banks to engage in an environmental disclosure policy. Based on findings of prior research, we propose to test the following hypothesis:

*H3: The concentration of ownership within the board of directors in Islamic banks has an impact on environmental disclosure.*

#### *Frequency of the board meeting*

Some previous research has shown that structured boards are more active as their activities increase with the number of other mandates held by independent directors (Jensen & Meckling, 1976). However, other studies (Grassa, 2016) also show that more frequent board meetings can improve corporate performance and are therefore considered an important element of corporate governance and can affect compensation systems, as they are linked to corporate performance.

A significant body of previous research has shown a positive relationship between the frequency of board meetings and directors' compensation, as directors are paid for each meeting. In addition, boards of directors that meet frequently each year are more likely to identify gaps and ensure the reliability of the CSR disclosure process (Larmou & Vafeas, 2010). It should be noted that the frequency of Board meetings gives directors more time to play an effective supervisory role and improve the information provided by companies on CSR. Similarly, Abbott et al. (2004) argue that boards that meet frequently can quickly resolve CSR accounting, auditing, and disclosure issues. They found a positive relationship between the frequency of meetings and the disclosure of financial and non-financial information. Indeed, there are arguments for and against the existence of a positive relationship between the frequency and

effectiveness of meetings. Boards that meet more frequently are more effective at managing and acting more diligently (Lipton & Lorsch, 1992). In addition, Pucheta-Martinez and De Fuentes (2007) found that the frequency of board meetings has a positive influence on the level of financial disclosure. In line with some previous studies, we propose to test the following hypothesis:

*H4: The frequency of the board meetings has a positive effect on the level of environmental disclosure of Islamic banks.*

#### *Size of directors' board*

The size of the board of directors was one of the main characteristics used by most previous researchers to determine the level of environmental disclosure. Some studies have shown that the importance of information and strategic resources in a highly uncertain environment is an asset in regulating the behavior of companies or banks in resolving conflicts of interest or information asymmetries. In addition, the ability of directors to control and promote value-creating activities is more likely to increase as the number of directors on the board increases. As a result, the need for disclosure of the information is greater. The size of the board can influence the level and extent of CSR practices and the decision-making process (Leventis & Dimitropoulos, 2012).

However, the creation of boards of directors composed of various stakeholder groups can improve the company's reputation. Indeed, members of the company's various stakeholder groups generally negotiate to obtain more disclosure of mandatory and voluntary information related to their own interests (Hahn, Pinkse, Preuss, & Figge, 2015), which could improve the quantity and quality of the information provided.

Some studies have shown that board size has a positive effect on disclosure levels (Lopes & Rodrigues, 2007; Pucheta-Martinez & De Fuentes, 2007). Some previous research has shown that a positive association between board size and voluntary disclosure (Abeysekera, 2010; Allegrini & Greco, 2013). Nevertheless, few studies have shown (Arcay & Vazquez, 2005; Prado-Lorenzo & Garcia-Sanchez, 2010) a non-significant association between the two variables.

Based on this documentation, we consider the size of the board to be an important element of the board's characteristics that can influence environmental disclosure practices. However, given the mixed results of previous studies, we cannot predict the sign of the relationship between board size and environmental disclosure. Therefore, based on the above discussion we derive the following hypothesis:

*H5: There is an association between the size of directors' boards in Islamic banks and the level of environmental disclosure.*

#### *The Shariah board's size*

Most researchers agreed that SSB plays an important role not only in the governance of banking transactions and operations but also in monitoring and controlling the roles of all actors in the banking system (Ginena & Hamid, 2015). It is therefore

important to examine the role of the SSB in the governance structure of Islamic banks. In previous studies, an internal governance mechanism was established to ensure transparency in the disclosure of information (Mollah & Zaman, 2015).

To improve the functioning of this council, AAOIFI (2010) has published a set of governance standards relating to the composition and role of the SSB. For example, each board must have at least three members. It must produce an annual report to be published with the bank's financial statements (Vinnicombe, 2010). In fact, the existence of an SSB is the main difference with conventional banks. Thus, previous studies suggest that the existence of SSB in banks is essential to ensure the integrity and credibility of Islamic banks (Ginena & Hamid, 2015).

However, members of the SSB should reassure Islamic banks by asking them to disclose adequate Shariah-based information in their annual report. In studying the determinants of disclosure of Islamic bankers' social responsibility, Ginena and Hamid (2015) found that the characteristics of SSB influence the level of social disclosure. In addition, the size of SSB is an effective mechanism that prevents opportunistic behavior (Quttainah, Song, & Wu, 2013) and, therefore, large boards are more effective than small ones. Therefore, we propose to test the following hypothesis:

*H6: The SSB's size has a positive impact on the level of environmental disclosure.*

#### *Audit committee*

An audit committee plays an important oversight role in the supervision of management actions and the control of managers' discretionary behavior (Beasley, 1996; Carcello & Neal, 2000; Liao, Luo, & Tang, 2015).

Forker (1992) believes that the audit committee as an effective monitoring tool could improve disclosure and reduce agency costs. At the same time, it is expected that the size of the audit committee will be associated with the level of disclosure and vice versa. This leads to the proposition that a greater proportion of audit committee members in the total board members will improve the quality of the information disclosed. The activities of the audit committee include the review of audit results, internal financial controls, and financial information of a company. DeZoort, Hermanson, Archambeault, and Reed (2002) argued that the responsibilities of the audit committee should ensure the quality of accounting policies, internal controls, and the timely and high-quality disclosure of financial and other relevant information to the board and shareholders. The most active committees are able to exercise their governance more effectively and control their responsibilities more easily (Collier & Gregory, 1999; Abbott et al., 2004; DeZoort et al., 2002; Barako, Hancock, & Izan, 2006).

The audit committee is a necessary body for the proper functioning of the board of directors especially in the case of Islamic banks. The composition and competence of the members of this committee could influence the voluntary disclosure policy of Islamic banks especially in terms of sustainable development. The social role that Islamic banks seek is an asset in explaining the engagement and involvement of audit committee

members in voluntary disclosure for sustainable development. Besides competency, committee composition is a strategic factor in explaining the behavior of banks in setting up a financial and non-financial disclosure strategy. In addition, the audit committee could bring together external and independent members who could make such a disclosure policy. So, we propose to test the following hypothesis:

*H7: The audit committee has a positive effect on the level of environmental disclosure.*

### 3. METHODOLOGY

#### 3.1. Sample and data collection

This study verified the impact of the key governance mechanisms and the level of environmental information disclosure of Islamic banks. We collected

data from publicly available annual reports on the banks' websites for the year 2016. The choice of Islamic banks is explained by the importance of these banks in the financing of companies in the MENA region countries. We selected the Islamic bank because it is classified as a global region with a high degree of sustainability. On the other hand, we also exclude banks with missing data. After these eliminations, the final sample consists of 40 Islamic banks which are considered the nerve center of Islamic finance, all of which meet the basic requirements. Governance data, environmental indicators, and control variables are collected from the annual reports. Due to the availability of data, the Bahrain Islamic banks (11 banks) occupy the first position in the selection of this sample.

The list of the distribution of Islamic banks is shown in Table 1 below.

**Table 1.** Sample distribution by country

<i>Name of Islamic banks</i>	<i>Number of Islamic banks</i>	<i>Country</i>
Al Salam Bank Algeria Al Baraka Bank Algeria	2	Algeria
Al Baraka Bank Egypt Faisal Islamic Bank Egypt Ridge Islamic Capital Egypt	3	Egypt
Al Baraka Bank Soudan Tadamon Islamic Bank Al-Shamal Islamic Bank Aljazeera Sudanese Jordanian Bank	4	Sudan
Al Baraka Bank Tunisia Zitouna Bank	2	Tunisia
Liquidity Management Centre ABC Islamic Bank Arab Islamic Bank First Energy Bank Bank Al-Khair Al Salam Bank-Bahrain Gulf Finance House International Investment Bank Ithmaar Bank Kuwait Finance House Khaleeji Commercial Bank	11	Bahrain
National Islamic Bank in Baghdad	1	Iraq
Central Bank of The Islamic Republic of Iran	1	Iran
Jordan Dubai Islamic Bank Jordan Islamic Bank Islamic International Arab Bank	3	Jordan
Bank Boubyan Dimah Capital Kuwaiti International Bank	3	Kuwait
Al Baraka Bank Lebanon	1	Lebanon
Qatar Islamic Bank Masraf Al Rayan	2	Qatar
Alinma Bank Bank Al Bilad Islamic Development Bank Bank Aljazira	4	Saudi Arabia
Syria International Islamic Bank	1	Syria
Al Hilal Bank Emirates Islamic Bank	2	United Arab Emirates

#### 3.2. Variable definition

We consider defining the entirety of the variables included in this empirical study, along with their respective measures. All the variables of the study and their measurement techniques are presented in Table 2.

##### 3.2.1. Dependent variables

The dependent variable, environmental disclosure of Islamic banks has been measured through

the natural environment disclosure items by following Nobanee and Ellili (2016). We measure the environmental disclosure by both the energy disclosure items and the natural environment disclosure item. Panel A of Table 2 shows 15 items of the natural environment disclosure (*NEDISC*). Each item is a binary variable; it takes 1 if it is disclosed in the annual reports, 0 otherwise. Panel B of Table 2 shows 9 items of the energy disclosure (*ENEDISC*). Each item is a binary variable; it takes 1 if it is disclosed in the annual reports, 0 otherwise.

The description and measurements of this index are shown in Table 2.

Table 2. Measurement of the dependent variable

No.	Items of disclosure	Description
<b>Panel A: Disclosure of the natural environment</b>		
1	Corporate environmental policies	A process that determines the potential environmental impacts
2	The necessity to protect the environment	Awareness about the necessity to protect the environment
3	Compliance with environmental regulations	Conformity with the environmental rules, standards, and requirements
4	Investing in waste recycling/treatment	Initiatives to mitigate environmental impacts of products and services, and extent of impact mitigation plant
5	Initiatives for water supply and sanitation	Special financial products to support the investment in water supply and sanitation
6	Environmental financing such as ecological credits	Financing methods and mechanisms in support of environmental programs and policies that protect human health and the environment
7	The low interest rate for green projects	Credits at the low-interest rate to finance renewable energy projects
8	Aiding environmentally friendly programs	Support of businesses adopting environment-friendly practices
9	Steps in ensuring a pollution-free environment	Efforts of the bank in reducing the pollution out of its buildings and operations Funding tree plantation and afforestation programs
10	Undertaking tree plantation/afforestation programs	Funding tree plantation and afforestation programs
11	City beautification programs	Beautification of the bank of the exterior appearances of its buildings
12	Initiatives to reduce greenhouse gas emission	Total direct and indirect greenhouse gas emissions by weight. Other relevant indirect greenhouse gas emissions by weight and initiatives to reduce greenhouse gas emissions and reductions achieved
13	Environmental cost-saving operations	Environmental cost-saving and eco-efficiency such as reductions in waste costs for the bank
14	Issues concerning climate change	Dedication of one section on climate change or global warming
15	Other environmental disclosures	Any other environmental disclosures not fitting the items above
<b>Panel B: Disclosure of energy</b>		
1	Energy-saving policies	Strategies, current actions, and future plans for managing impacts on biodiversity
2	Investing in energy projects	Development of energy-efficient products and services
3	Investing in renewable energy	Initiatives to provide energy-efficient or renewable energy-based products and services, and reductions in energy requirements as a result of these initiatives
4	Information concerning energy consumption	Direct and indirect energy consumption by primary energy source
5	Energy use efficiency	Energy saved due to conservation and efficiency improvements
6	Initiatives to reduce energy consumption	Initiatives to reduce indirect energy consumption and reductions achieved
7	Awareness building concerning energy consumption	Procedures related to training and raising awareness in relation to the social aspects
8	Energy-saving results	Reduced amount of energy needed to carry out the same processes or tasks (e.g., partial outsourcing of production)
9	Other energy disclosures	Any other energy disclosures not fitting the items above

Note: Items used for the measures of environmental disclosure are directly adopted from Nobanee and Elilili (2016).

### 3.2.2. Independent variables

The characteristics of the bank governance used were: size of the board, independence of the board of directors, duality of the CEO, the concentration of ownership, number of meetings, the size of the SSB, and the audit committee. Data on these characteristics were collected from the annual reports. Table 3 represents the measure of the independent variable from this study. The size of the board of directors (*BD\_SIZE*) is measured by the number of effective members of the board of directors. The independence of the board (*BD\_IND*) is measured by the percentage of independent

directors compared to the total number of directors on the board. The duality of the CEO (*BD\_DUAL*) is measured by a dummy variable (0,1) to 0 for the banks which have the duality of the CEO. The frequency of the board meeting (*BD\_MEET*) is measured by the total number of board meetings for a fiscal year. The concentration of the property (*BLOCK*) is measured by a dummy variable to 1 if the first shareholder holds more than 10% of the capital of the bank. The size of the SSB is measured by the number of directors in the SSB. The audit committee (*AUDIT\_COM*) is measured by a dummy variable to 1 if there is an audit committee within the bank.

Table 3. Description of independent and control variables

Variables	Symbol	Measurement	Source
<b>Panel A: Variables measurement summary</b>			
Independence of directors' board	<i>BD_IND</i>	The% of external directors on the board of directors.	Annual report
Duality of the CEO	<i>BD_DUAL</i>	It is a binary variable worth 1 in case of commutation of the two functions (CEO and the chairman of the board) and 0 otherwise.	Annual report
Number of board meetings	<i>BD_MEET</i>	This variable is measured by the total number of board meetings for a fiscal year.	Annual report
Concentration of the ownership	<i>BLOCK</i>	This variable takes 1 if the first shareholder holds more than 10% of the bank's capital during the year 2016, and 0 otherwise.	Annual report
Size of directors' board	<i>BD_SIZE</i>	This variable measures the size of the bank's board of directors expressed in terms of the number of members during 2016.	Annual report
Audit committee	<i>AUDIT_COM</i>	It is a binary variable that takes the value "1" if there is an audit committee within the bank, and "0" otherwise.	Annual report
The SSB size	<i>SSB</i>	It is measured by the number of Shariah board directors.	Annual report
<b>Panel B: Control variables summary</b>			
Return on equity	<i>ROE</i>	ROE = Net income/total equity capital	Annual report
The skills of administrators	<i>BD_COMP</i>	This is a binary variable coded 1 if the administrators in question have auditing and accounting skills, 0 otherwise.	Annual report

### 3.2.3. Control variables

In this study, two banking characteristics are examined as control variables such as return on equity and the competence of administrators. Return on equity (ROE) is measured as the financial profitability generated by equity. The competence of administrators (*BD\_COMP*) is measured by a dummy variable that takes the value 1 if the administrators

in question have competence in matters of audit and accounting and 0 if otherwise.

### 3.3. Model and method of estimation

To test the seven hypotheses described in Section 2, the following regressions models in equations (1) and (2) are posited. The variables used in the estimation models are defined in Table 3:

Model 1:

$$NEDISC_{it} = \beta_0 + \beta_1 BD\_IND_{it} + \beta_2 BD\_DUAL_{it} + \beta_3 BLOCK_{it} + \beta_4 BD\_MEET_{it} + \beta_5 AUDIT\_COM_{it} + \beta_6 BD\_SIZE_{it} + \beta_7 SSB_{it} + \beta_8 BD\_COMP_{it} + \beta_9 ROE_{it} + \varepsilon_{it} \quad (1)$$

Model 2:

$$ENEDISC_{it} = \beta_0 + \beta_1 BD\_IND_{it} + \beta_2 BD\_DUAL_{it} + \beta_3 BLOCK_{it} + \beta_4 BD\_MEET_{it} + \beta_5 AUDIT\_COM_{it} + \beta_6 BD\_SIZE_{it} + \beta_7 SSB_{it} + \beta_8 BD\_COMP_{it} + \beta_9 ROE_{it} + \varepsilon_{it} \quad (2)$$

where,

*NEDISC*: The level of disclosure of the natural environment for each bank;

*ENEDISC*: The level of energy disclosure for each bank;

*BD\_SIZE*: Board size of the company;

*BD\_IND*: Board independence of the company;

*BD\_DUAL*: Duality of the CEO of the company;

*BD\_MEET*: Number of board meetings;

*BLOCK*: Concentration of the ownership;

*AUDIT\_COM*: Audit committee;

*SSB*: The Shariah supervision board size;

*ROE*: Net result/total equity capital;

*BD\_COMP*: The skills of administrators;

*i*: 1.....40 banks;

*t*: the year 2016;

$\varepsilon_{it}$ : the random error.

the diversity of the banks of our sample which belong to different countries. These results are consistent with those of Nobanee and Ellili (2016).

The results indicate that, on average, directors' independence in Islamic banks (*BD\_IND*) during the study period is around 0.14 for Islamic banks with external directors. This means that the majority of Islamic banks in our sample have a small number of independent directors. The minimum and maximum values of the independent directors in our sample are respectively 0 and 0.90. This trend is explained by the willingness of these banks to involve a number of external directors to promote relations with the various stakeholders of the bank. Indeed, we note that the majority of Islamic banks in our sample have adopted separation of functions of CEO/chairman (60%). This is explained by the determination of Islamic banks to avoid agency problems and asymmetric information. In this respect, the variable of the concentration of ownership (*BLOCK*) presents an average of the order of 0.55 with a minimum of 0 and a maximum of 1.00, which is explained by the diversity of the concentration of property in Islamic banks. As for the audit committee variable (*AUDIT\_COM*), we note that the majority of Islamic banks in our sample (95%) have an audit committee. This allows Islamic banks to work in a more transparent environment. In addition, from the same table, we note that the size of the SSB of our sample is high with an average of 4 scientists. The minimum and the maximum values of this variable (0 and 6) can be explained by the resolution of these banks to incorporate a large number of scientists within the Shariah board. Similarly, according to this table, we note that the frequency of the board meetings of our sample (*BD\_MEET*) has an average of 4 meetings with a minimum of 0 and a maximum of 13. This last result can be explained by the fact that the number of board meetings in Islamic banks is low. Moreover, on average, the size of the board in Islamic banks (*BD\_SIZE*) during the study period is around 10 people. This means that the majority of the Islamic banks in our sample have a high number of directors on the boards of Islamic banks. The minimum and maximum value of the board size of our sample is of the order of 5 and 16, respectively. This trend is explained by the willingness of these banks to incorporate a large

## 4. EMPIRICAL RESULTS AND DISCUSSION

The current study, although engineered for testing specific hypotheses, has an explanatory purpose, so to identify the potential determinants for the voluntary disclosure of intellectual capital through the ethical-and-social responsibility approach. As a result, a linear relationship could be established between the variable to be explained (intellectual capital voluntary disclosure) and the explanatory variables (business ethics and corporate social responsibility).

### 4.1. Description statistics

Table 4 reports the descriptive statistics, the mean, median, standard deviation, minimum and maximum values. The mean value of the dependent variable of the study has a low level of disclosure of the natural environment (0.316). This shows that the Islamic banks in our sample tend to decrease the level of disclosure of the natural environment. Its minimum and maximum values are equal to "0.06" and "0.66", respectively. This finding can be explained by the diversity of the banks of our sample which belong to different countries. The energy disclosure has an average value of 0.36 which is also relatively low. This can be justified by the fact that Islamic banks in our sample tend to decrease the level of disclosure in energy. Its minimum and maximum values are equal to "0" and "1.00", respectively, which is attributed to



number of directors. Regarding, the variable of competence of the administrators (*BD\_COMP*), on average 40 of the directors have skills in auditing and accounting. This is explained by the determination of Islamic banks to better improve the profitability of the bank and avoid all forms of fraud. Finally, for the variable that relates to

financial profitability (*ROE*), we note that the Islamic banks in our sample have an average of around 0.0921 with a minimum of -0.157 and a maximum of 0.540. This finding highlights the effectiveness of the bank in generating profits from each unit of shareholders' equity.

**Table 4.** Description statistics

Variables	N	Average	Standard deviation	Median	Minimum	Maximum
<i>NEDISC</i>	40	0.3166667	0.18163549	0.2666667	0.06667	0.66667
<i>ENEDISC</i>	40	0.3667	0.31042	0.3333	0.00	1.00
<i>BD_IND</i>	40	0.1401	0.24897	0.1100	0.00	0.90
<i>BD_DUAL</i>	40	0.4000	0.49614	0.0000	0.00	1.00
<i>BLOCK</i>	40	0.5500	0.50383	1.0000	0.00	1.00
<i>BD_MEET</i>	40	4.3750	3.25567	4.0000	0.00	13.00
<i>SSB</i>	40	3.6000	1.21529	4.0000	0.00	6.00
<i>AUDIT_COM</i>	40	0.95000	0.220721	1.00000	0.000	1.000
<i>BD_SIZE</i>	40	9.900000	2.1339743	9.000000	5.0000	16.0000
<i>BD_COMP</i>	40	0.40000	0.496139	0.00000	0.000	1.000
<i>ROE</i>	40	0.09214	0.116236	0.07110	-0.157	0.540

#### 4.2. Correlation matrix

Table 5 presents the correlation matrix between the independent variables. At this level, the Pearson correlation coefficient is computed to examine the independent variables' persistent inter-associations. As highlighted by Gujarati (2004), should the pair-wise associations binding two independent variables exceed the rate of 0.8, a serious multicollinearity problem will persist. With respect to the present study, the relevant maximum

pair-wise value turns out to be of the rate of 0.187 (Table 5). Accordingly, multicollinearity does not appear to represent a concern for regression analysis. Moreover, the autocorrelation associated null hypothesis turns out to be accepted. In effect, the fact that the explanatory variables are weakly correlated with one another indicates well that this autocorrelation does not seem to constitute any problem. The correlation coefficients relevant to the various model applied explanatory variables are presented in Table 5 below.

**Table 5.** Correlation matrix

Variables	<i>BD_IND</i>	<i>BD_DUAL</i>	<i>BLOCK</i>	<i>BD_MEET</i>	<i>SSB</i>	<i>AUDIT_COM</i>	<i>BD_SIZE</i>	<i>BD_COMP</i>	<i>ROE</i>
<i>BD_IND</i>	1								
<i>BD_DUAL</i>	-0.246	1							
<i>BLOCK</i>	0.160	0.226	1						
<i>BD_MEET</i>	-0.269	0.321	0.212	1					
<i>SSB</i>	0.275	0.187	0.201	0.278	1				
<i>AUDIT_COM</i>	0.131	0.187	0.254	0.268	0.497	1			
<i>BD_SIZE</i>	0.163	-0.131	-0.367	-0.142	0.125	-0.174	1		
<i>BD_COMP</i>	0.214	-0.442	0.226	0.270	-0.145	0.187	-0.131	1	
<i>ROE</i>	-0.245	0.146	0.360	-0.165	-0.299	-0.314	0.550	-0.591	1

#### 4.3. Regression results

A backward multivariate regression test is employed to test the above-developed regression model. The results of the regression are presented in Table 6. The table shows that Model 1 is significant in its entirety ( $F = 2.789$ ,  $P = 0.017$ ). The coefficient of determination,  $R^2$ , which is equal to 45.6% means that the independent variables explain 45.6% of the variation of the *NEDISC* variable. Thus, this model has an acceptable explanatory power since  $R^2 = 0.456$  and the adjusted  $R^2 = 0.292$ . Concerning the significance of the independent variables, we can say that all the variables are statistically significant except for *BD\_MEET* and *BD\_SIZE* variables. With respect to the control variables (*ROE*, *BD\_COMP*) introduced in the model, the results show that they are statistically significant.

Similarly, Model 2 is significant in its entirety ( $F = 2.374$ ,  $P = 0.037$ ). The R-squared which is equal to 41.6% means that the independent variables explain 41.6% of the variation of the *ENEDISC* variable. Thus, this model has an acceptable explanatory power since  $R^2 = 0.416$  and adjusted

$R^2 = 0.241$ . Regarding the significance of the independent variables, we can say that all the variables are statistically significant except the *BD\_SIZE* one. For the control variables introduced in the model, the results show that they are statistically significant.

All models presented in Table 6 shows that the examination of causal relationships shows that the coefficient associated with the relationship between the proportion of independent directors in Islamic banks and the level of disclosure of the natural environment is negative and statistically significant. Similarly, the examination of causal relationships shows that the coefficient associated with the relationship between the proportion of independent directors in Islamic banks and the level of energy disclosure is negative and statistically insignificant. Consequently, our first hypothesis (*H1*) is partially validated. This finding is consistent with the result of most of the previous research that pointed to the belief that disclosure policies emanating from boards of directors, especially sustainable development disclosure, are conditioned by the attributes of the board (Michelon & Parbonetti, 2012). This result is expected because

a larger board size is more desirable as it allows board members to have more opportunities to communicate with external knowledge, skills, and networks (Shaukat, Qiu, & Trojanowski, 2016) by encouraging communication on CSR information (Jizi, 2017). As a result, the effect of board composition on CSR has been assessed by examining the influence of board structure characteristics, such as independence (Bear, Rahman, & Post, 2010; Shaukat et al., 2016).

A negative and marginally significant association was also observed between the combination of the duties of the CEO and the chairman of the board of directors on the level of environmental disclosure. Thus, the second hypothesis (*H2*) is fully validated. This finding is consistent with previous studies that indicated that banking practices suggest the separation of the roles of chairman of the board and CEO. A growing body of literature has proven that when the CEO is also the chairman of the board, independence and effectiveness of the board are compromised (Coombes & Wong, 2004; Taktak & Mbarki, 2014), which justifies the results obtained from this study in the context of Islamic banks. Some studies report a negative association between duality of roles and voluntary disclosure by banks (Forker, 1992; Gul & Leung, 2004; Samaha, Dahawy, Hussainey, & Stapleton, 2012; Wang & Hussainey, 2013).

A significant but negative relationship was detected between the concentration of ownership in Islamic banks and the level of environmental disclosure. So, the third hypothesis (*H3*) is fully validated. This finding is consistent with the result of most of the previous research that pointed to show that the concentration of ownership in Islamic banks has a negative impact on the level of environmental disclosure (Haniffa & Cooke, 2002; Chakroun & Matoussi, 2012; Konishi & Ali, 2007).

Although consistent with expectation, the frequency of meetings of the board of directors of Islamic banks has a negative and insignificant effect on the level of disclosure of the natural environment. However, it has a positive and significant effect on the level of environmental disclosure in relation to energy at a significant level. Thus, the fourth hypothesis (*H4*) is partially validated. Previous works found positive relationships between the frequency of board meetings and disclosure (financial and non-financial). For example, Pucheta-Martinez and De Fuentes (2007) find that the board meeting frequency positively influences the level of disclosure of financial information.

Contrary to expectations, the regression results showed that the size of the board has a positive but not significant impact on the level of disclosure of the natural environment. Similarly, the results obtained show that the size of the board has a negative but not significant impact on the level of energy disclosure. On the basis of these results, the fifth hypothesis (*H5*) is totally rejected. Our results do not corroborate the conclusions of Zahra, Neubaum, and Huse (2000) where they found that the size of the board increases the ability of administrators to monitor managers in the handling of rapid information. A large board is therefore seen as an effective governance mechanism to improve transparency and disclosure. But this result agrees with empirical works by Arcay and Vazquez (2005)

and Prado-Lorenzo and Garcia-Sanchez (2010) established a non-significant association between the size of the board and voluntary disclosure in Islamic banks.

Although, as expected, the size of the SSB has a positive and significant impact on the level of disclosure of the natural environment. Similarly, the results obtained show that the size of the SSB has a positive and significant impact on the level of energy disclosure. Therefore, the sixth hypothesis (*H6*) is fully validated. However, this finding corroborates the findings of Mohd Ghazali (2007) who, in his study of corporate governance practices, highlights a positive relationship between the size of the board and the extent of voluntary disclosure. Thus, Rahman and Bukair (2013), who believe that the fact that SSB consists of 3–7 members suggests that a larger size of the SSB translates into greater accuracy in transaction tracking and review of the bank in accordance with Shariah law.

According to this assumption, the audit committee has a positive and significant effect on the level of disclosure of the natural environment. Similarly, a significant and positive relationship was detected between the audit committee and the level of energy disclosure. Thus, the seventh hypothesis (*H7*) is therefore fully validated. This is in agreement with previous results found by Ho and Wong (2001). Furthermore, Arcay and Vazquez (2005), Samaha et al. (2012), Khlif and Samaha (2014) suggest that an audit committee plays a crucial role in meeting investors' needs for clear, relevant, and comprehensive information. Indeed, Helfaya and Moussa (2017) note that audit committee directors with financial expertise have a positive impact on environmental and sustainable disclosure in banks.

The statistical results show that both control variables are significant. Indeed, skills have a positive and significant impact on environmental disclosure in Islamic banks. This is justified by the fact that the directors must have the ability based on knowledge or experience to better manage their activities within the banks. Thus, competence refers to an integrated set of knowledge, skills, perceptions, and attitudes to properly perform a function or task and improve the level of environmental disclosure within Islamic banks. This hypothesis allows us to examine the cognitive contribution of the administrator. In the same way, the results found state specifically that cognitive contribution is an asset, based on his knowledge, know-how, and acquired competence in accounting and auditing. Furthermore, the experience of the administrator is a privilege that allows the bank to be more efficient in terms of environmental disclosure by taking advantage of the knowledge and know-how of the administration. Thus, it responds to the recent call for more in-depth research on the review of the diversity of directors' knowledge and experience, which can have a significant impact on CSR results. (Jain & Jamali, 2016). This result agrees with Ben Barka and Dardour (2015), who show a positive association between board members with experience and skills and social/environmental performance. Similarly, the statistical results show that ROE has a positive and significant influence on the level of disclosure of the natural environment and the level of energy disclosure.

Table 6. Regression results

Variables	NEDISC			ENEDISC		
	Coefficients	T-student	Significance	Coefficients	T-student	Significance
Constant	0.233	-1.267	0.215	0.879	1.139	0.264
BD_IND	-0.309	-2.014	0.053	-0.045	-1.285	0.225
BD_DUAL	-0.610	-2.708	0.009	-0.156	-1.971	0.042
BLOCK	-0.007	-2.064	0.030	-0.038	-3.245	0.001
BD_MEET	-0.225	-1.578	0.125	0.401	2.707	0.011
SSB	0.091	1.981	0.036	0.458	3.477	0.000
AUDIT_COM	0.548	3.344	0.002	0.101	3.597	0.001
BD_SIZE	0.144	1.014	0.252	-0.122	-0.829	0.414
BD_COMP	0.159	2.083	0.025	0.032	2.085	0.042
ROE	0.269	1.796	0.083	0.374	2.413	0.022
Model statistics	R <sup>2</sup> = 0.456 R <sup>2</sup> adjusted = 0.292 F = 2.789, Sig. 0.017			R <sup>2</sup> = 0.416 R <sup>2</sup> adjusted = 0.241 F = 2.374, Sig. 0.037		

## 5. CONCLUSION

This study analyzed the relationship between the characteristics of government and the level of environmental disclosure available in the annual reports of Islamic banks in the MENA region during 2016. For the measurement of the study dependent variable, the level of environmental disclosure, we compute two disclosure indices (ENDISC, ENEDISC). These indices are calculated based on the ENVDISC related items provided by the annual reports. The (ENDISC and ENEDISC) are measured by dividing the number of items voluntarily disclosed by the bank over the total number of items. Seven characteristics of the governance mechanisms are considered to be independent variables that may have a relationship with the extent of environmental information, namely the size of the board, the independence of the board, the duality of the CEO, the concentration of ownership, the frequency meetings the size of the SSB and the audit committee. In order to avoid a false relationship between the dependent and independent variables, the skill of the directors and the return on equity are included as control variables in the study.

This study contributes to the existing literature on environmental disclosure by providing empirical results on the relationship between

the characteristics of governance mechanisms, and the extent of environmental disclosure in the MENA region. The results of this study confirm the continued importance of governance mechanisms of Islamic banks as a means of influencing environmental disclosure.

This is explained by the fact that Islamic banks have a legitimate and responsible role in the application of good practices, especially in terms of financial transparency. In this regard, we found results that are generally acceptable and that confirm the role played by variables, such as the Shariah board, the audit committee, and CEO duality, in explaining the environmental disclosure. Indeed, like any research work, the present one suffers from some limitations. Among these limitations, one can cite the size of the sample which remains small and this is explained by the difficulty of data collection. Similarly, methodologically, we tested our data in cross-section (over a single year) while we can conduct a more in-depth analysis by integrating the dynamic variable of time (panel data) which will allow for more conclusive results. From a future research perspective, we could consider other environmental transparency-affecting factors and extend the findings to companies belonging to other countries and other sectors.

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