Internet-based environmental disclosure tone, corporate environmental performance and board characteristics: evidence from Egypt

Mona Maghraby Mohamed Ibrahim

(*)**Mona Maghraby Mohamed Ibrahim:Assistant Professor, Accounting department. Faculty of Commerce , Benha University. IT Governance , Voluntary Disclosure, IFRS**

Email: monamaghraby1978@gmail.com

Abstract:

Purpose: The main purpose of this paper is to examine the possibility of firms' managers usage of disclosure tone within the environmental internet reporting (EIR) as a mean to impact the users' of this reports perceptions of corporate achievement (i.e., impression management). The paper further explores whether and to what extent the disclosure tone in EIR may varies as a result of corporate environmental performance and the firm's board characteristics using a sample of listed Egyptian in the Egyptian Stock Exchange within EGX 100 index).

Design/methodology/approach: The current paper depended on a sample of 76 Egyptian companies within the EGX 100 index in the period from 2018 to 2020. The study uses DICTION (a computerized content analysis software) to evaluate the disclosure tone within EIR. Ordinary least squares regression analysis was used to help in examining both the impact of corporate environmental performance and firm's board characteristics on the disclosure tone in EIR.

Findings: The empirical analysis results showed that Egyptian companies have more tendency to use disclosure tone as an impression management strategy in their EIR. Additionally, the study results show a significant positive association between both disclosure tone in EIR and the concerns over environmental performance. The results show the presence of a significant negative association between disclosure tone in EIR and the number of board meetings. The study results also show the presence of a significant positive association between CEO duality and disclosure tone in EIR. Finally, the results show that there is a non-significant association between both the disclosure tone and firm's board characteristics (the board size and the board composition).

Research Implications: The current study findings can have many practical implications. For example, it can help policy makers and the Egyptian Institute of Directors (EIoD) in making future reviews of the national corporate governance code regarding board characteristics that reduce disclosure tone as an impression management strategy to increase the reliability of information and gain market confidence through better disclosure. The study also provides insights on disclosure tone in EIR within companies operating in Egypt for the standard-setters, regulators, and accounting professionals to improve environmental reporting practices in respect of items and manner of disclosure in Egypt and other developing countries throughout the world in order to build the confidence of stakeholders and potential investors.

Originality/Value: To the best of the author' knowledge, this study is among the first studies examining the impact of corporate environmental performance and firm's board characteristics on EIR disclosure tone within the Egyptian context as an example of developing countries .

Keywords: Egyptian stock exchange, Environmental internet reporting, DICTION, Disclosure tone.

Paper Type: Research paper.

الملخص:

الهـدف: يتمثـل الهـدف الـرئيس للبحـث فـى فحـص إمكانيـة اسـتخدام مـديري الشـركات نغمـة الإفصـاح ضمن تقارير الإنترنت البيئية كوسيلة للتأثير علـى تصـورات مستخدمي هذه التقارير (أي إدارة الانطباعـات) . كمـا يهـدف البحـث تحديـد مـا إذا كـان وإلـى أي مـدى تختلـف نغمـة الإفصـاح فـي تقارير الإنترنت البيئية نتيجة للأداء البيئي للشركات وخصائص مجلس إدارة الشركة باستخدام عينـة من الشركات المصرية المدرجة في البورصة المصرية ضمن مؤشر EGX 100.

التصميم / المنهجية / المنهج: اعتمد البحث على عينـة من ٧٦ شركة مصرية ضمن مؤشر EGX 100 في الفترة من ٢٠١٨م إلى ٢٠٢٠م. تستخدم الدراسة DICTION (برنامج تحليل المحتوى باستخدام الحاسوب) لتقييم نغمة الإفصـاح فى تقارير الإنترنت البيئيـة . كما تم استخدام نموذج الانحدار لفحص كل من تـأثير الأداء البيئـي للشركات وخصـائص مجلس إدارة الشركة علـى نغمـة الإفصـاح فـي تقارير الإنترنت البيئية.

النتائج: أظهرت نتائج التحليل التجريبي أن الشركات المصرية لديها ميل أكبر لاستخدام نغمة الإفصـاح كاستراتيجية لإدارة الانطباعات في تقارير الإنترنت البيئيـة. بالإضـافة إلـى ذلك، أظهرت نتائج الدراسـة وجـود ارتبـاط إيجـابي جـوهرى بـين نغمـة الإفصـاح فـي تقـارير الإنترنـت البيئيـة والأداء البيئـي للشركات. كما أظهرت النتائج وجود ارتباط سلبي جوهرى بين نغمة الإفصاح في تقارير الإنترنت البيئية وعدد اجتماعات مجلس الإدارة، بالإضافة إلى وجود ارتباط إيجابي جوهرى بين ازدواجية المدير التنفيذي ونغمة الإفصـاح في تقارير الإنترنت البيئيـة. أخيرًا ، أظهرت النتائج أن هنـاك ارتبـاط سلبى غير جوهرى بين كل من نغمـة الإفصـاح فـي تقارير الإنترنت البيئية وخصـائص مجلس إدارة الشركة (حجم المجلس وتكوين مجلس الإدارة).

آثار البحث: يمكن أن يكون لنتائج البحث العديد من الآثار العملية. على سبيل المثال، يمكن أن يساعد صانعي السياسات ومعهد المديرين المصري (EIoD) في إجراء مراجعات مستقبلية للدليل المصرى لحوكمة الشركات فيما يتعلق بخصائص مجلس الإدارة التي تقلل من نغمة الإفصاح كاستراتيجية لإدارة الانطباع لزيادة موثوقية المعلومات واكتساب ثقة السوق من خلال أفصاح أفضل. كما تقدم الدراسة أيضًا رؤى حول نغمة الإفصاح في تقارير الإنترنت البيئية داخل الشركات العاملة في مصر لواضعي المعايير والمنظمين ومحترفي مهنة المحاسبة لتحسين ممارسات إعداد التقارير البيئية فيما يتعلق بالعناصر وطريقة الإفصاح في مصر والدول النامية الأخرى من أجل بناء ثقة أصحاب المصلحة والمستثمرين المحتملين.

الأصالة / القيمة: على حد علم الباحثة، تعد هذه الدراسة من بين الدراسات الأولى التي تبحث في تأثير الأداء البيئي للشركات وخصائص مجلس إدارة الشركة على نغمة الإفصاح في تقارير الإنترنت البيئية في السياق المصري كمثال على البلدان النامية.

الكلمات المفتاحية: البورصة المصرية، التقارير البيئية على الإنترنت، DICTION (برنامج تحليل المحتوى باستخدام الحاسوب)، نغمة الإفصاح.

1. Introduction:

The nature of the tone differs according to the quantitative content in disclosures, where there is a positive association between firm performance and the tone of optimism. However, when the tone in a corporate narrative reporting is non-commensurate with firm's financial performance, then this can show that it is used for strategic purposes and is not tended to be informative. It is also claimed that Managers sometimes use tone in order to impact the readers' response to the information provided, which means that the same exact information can be understood and interpreted in many different forms, and according to the tone that is used to send such information (Huang et al., 2014). Therefore, disclosure tone is sometimes used to alter and to impact the perceptions of different stakeholders, thus this can transform the tone to a form of management impression (Brennan et al., 2013).

In business environment, managers' behavior in the decision-making processes is expected to be shaped according to company's owners and the shareholder's needs. However, result of the separation of ownership and management , together with the existence of conflicts of interest problem and information asymmetry , could make critical problems (e.g., adverse selection and moral hazard problems) because managers are more interested in their job security, bonuses, ability to remain in power and to maximize their own wealth (Beaver, 1998). Therefore, based on agency theory assumptions, opportunistic managers may hide signals failures while emphasizing on the more positive organizational outcomes in order to send sings that would enhance management image/ reputation and to minimize or eliminate negative effects of their poor performance.

At the same time, managers tend to have greater motivations to disclose positive information than negative information. Hence good news is expected to be, and is often viewed, less credible than bad news, with stability of other factors (McNichols, 1989; Williams, 1996; Hutton et al., 2003). On the other side, social and political theories show that managers are utilizing impression management strategies to change the readers' perception of company achievements in an attempt for convincing stakeholders to accept the way management viewing of the society

(Hooghiemstra, 2000). For instance, anecdotal evidence shows that the environmental information in annual reports is an effective method that can be used for management impression (Neu et al., 1998).

In the same context, many companies tend to use graphs in their sustainability reports in order to enhance them; and it can be seen that impression management practices differ across companies facing different regulatory structures (Cho, et al., 2012a). Accordingly, it can be noticed that graphs are used in social and environmental reports as an impression management strategy (Jones, 2011; Cho et al., 2012b). In such cases, variation between companies' declared intentions and the environmental results in a sense of skepticism towards companies' actual commitment regarding to their corporate social responsibility strategies. Consequently, environmental disclosure is regarded as one of the tools that is used to deceive companies' stakeholders, concealment of the harmful effects on stakeholders and to keep and maintain organizational legitimacy (Woolfson and Beck, 2005).

Another factor that can contribute to this skepticism is the non-mandatory and voluntary nature of firm's environmental disclosure. In the Egyptian context, the existing disclosure requirements in Egyptian Accounting Standards (i.e., IAS 1 Revised 2015: Presentation of Financial Statements) and CG Code of 2016, listed Egyptian companies in the Egyptian stock exchange are required to disclose information related to their environmental practices and issues. However, neither of the Egyptian Accounting Standards or CG Code has introduced a format for this information or how it should be presented by companies. Consequently, not only managers have the chance to follow many ways that can enhance the incremental information to this disclosure, but also can increase the ability of managers to managing external impressions.

Based on the above, the current study contributes in many ways to the literature and the practice:

First, it answers the question in the disclosure literature whether disclosure tone is impression management or incremental information in EIR in the Egyptian context, therefore the results of the study could provide investors with valuable insight to interpret managers' tone in the information presented in their EIR and to have the ability to evaluate whether environmental disclosure can point to an increased transparency or it just an attempt to manipulate firms' image.

Second, the current study results will not only help in evaluating the extent of discretion inherent in EIR, but it will also help in identifying some board characteristics that can have a considerable impact on management disclosure tone for a sample of 76 listed Egyptian companies in the Egyptian Stock Exchange within the EGX 100 index in the period from 2018 to 2020.

Third, the current study focuses on Egypt as an example of developing countries that has an emerging capital market, while prior research, especially that with empirical focus, have been targeting developed countries with more advanced capital markets.

Fourth, there is a strong push for Egyptian firms to adopt an approach based on social and environmental issues. This approach is particularly reflected in evolving regulatory rules related to social and environmental policies for firms. Some of the key guidelines which have been recently issued in Egypt: *In March 2010*, the Egyptian corporate responsibility index was issued by the Egyptian Institute of Directors (EIoD) to evaluate the level of firm's corporate governance, environment, and social responsibility related information; this index assesses all the EGX 100 listed companies on an annual basis. *In August 2016*, the EIoD issued an updated version of the Egyptian CG code which indicated that a company should establish a clear policy on its social and environmental responsibility. *In October 2016*, the Egyptian Stock Exchange (EGX) issued an indicative guide to the disclosure of listed companies on the performance of sustainability. The recommendations in this guide contribute to identifying the foundations of sustainability related to environmental protection, social responsibility, and governance in their work.

Fifth, according to the researcher best knowledge this study is one of the first to use DICTION (a textual-analysis software program) to count words that is related to the linguistic theory in a large sample of environmental internet reports.

Finally, this study is one of the first studies to investigate the impact of board characteristics on disclosure tone in EIR in a multi-theoretical framework context. Distinct from prior research, this study adopts a number of theoretical perspectives to help in understanding and explaining the different motivations behind disclosure tone in EIR such as agency, legitimacy, and stakeholder theories in the Egyptian business environment.

The remainder of this paper is structured as follows. Section 2, highlights the concept of environmental disclosure tone with a focus on incremental information and impression management within the Egyptian context. Section 3 presents the study theoretical framework. Section 4 literature review of relevant research and developing the research hypotheses . Section 5 provides a description for the research method. Section 6 discusses the main study the statistical analysis results. Finally, Section 7 provides the study summary and conclusions.

2- Environmental disclosure tone: incremental information or impression management in the Egyptian context?

Recently, environmental information reporting has attracted much attention as a response to the increased harming of the ecological environment, have resulted in the environmental protection organizations, government, and stakeholders progressively increased needs to more environmental information (Chang 2011), which can be seen in how important environmental information has become in both annual and integrated reporting.

Prior studies on environmental internet reporting showed that companies in developed and developing countries tend to use their websites for environmental disclosure. Isenmann and Lenz (2002) showed that internet-based corporate environmental reporting has become a crucial element of contemporary environmental reporting. Bolívar (2009) found that nonfinancial environmental reporting is usually disclosed on the internet by Spanish publicly listed companies. Suttipuna and Stanton (2012) have 88 percent of their study sample that have included Thai listed companies provided disclosures related to their environmental practices on the firms' websites.

One of the attempts in this regard was done by both the Egyptian Financial Supervisory Authority (EFSA) and the Egypt Stock Exchange (EGX) through obliging listed companies to have their own website in order to use it as a platform for providing corporate information online. Moreover, in 2012 the EFSA issued decision No. 15 stating that listed companies in the Egyptian stock exchange should launch an official website for publishing their annual and periodical financial statements, their explanatory notes, auditors' reports and other relevant data and information that are required by the EGX. In accordance with this decision, all listed Egyptian companies have their own website and should engage in corporate internet reporting starting from March 2013 (EFSA, 2012).

Prior research around the topic of environmental disclosure has mainly focused on the amount, categories, and characteristics of disclosure (Neu et al., 1998; Hughes et al., 2001), as a legitimizing tool (Cho and Patten, 2007) the visual and structural manipulation in related graphs (Cho et al., 2012a; 2012b). A result of the increase in the amount of the published information related to environmental reporting in the last two decades in both the developed and developing countries, this kind of disclosure have increased sharply from only 16% in 2010 to 83% in 2014 (Ullah and Rahman, 2015; KPMG, 2017). Additionally, it can be noted that the use of language and verbal tone is becoming more important in environmental reporting (Cho et al., 2010).

Disclosure tone can be defined as the use of levels of both the optimistic and pessimistic language in a corporate narrative reporting which is outlined by the use of nouns, adjectives, or verbs that can help in expressing various intentions (Sydserff and Weetman, 1999). In the USA, Rodrigue et al. (2015) conducted a case study to investigate and to help in comparing corporate and stakeholder communications in a three-year study period with a focus on the volume and tone of the firms environmental disclosures. The authors divided the information type to three categories, positive, negative, and neutral. The main findings of the study demonstrated that environmental disclosures can be differentiated according to the topics covered and the tone used.

Also, Martikainen et al. (2016) have also investigated how the boards of directors can shape disclosure tone by examining firms’ tone in narrative disclosures within the annual 10-K reports in regard to the board of directors members’ age, gender turnover, uniformity, and human capital.

The study results have pointed that the boards’ age is negatively related to negative, positive, and uncertain disclosure tone, while positively related to litigious tone. According to Davis et al. (2012), the language the is used in firms’ reports can be considered a key element in shaping the firm’s information package, as it provides the disclosures framework which can shape the market participants perception and understanding of information.

However, this kind of disclosure method is by nature hard to be organized, and thus it offers a high degree of inherent flexibility to managers which can be used either to give hints for their expectations about future performance or for stakeholders’ impression management about the achievements of the company. In a study based on the contents of the 2014 of listed companies in Istanbul exchange market annual reports, Kahveci (2016) used a text-analysis software package (Diction 7) to evaluate the accomplishment, cooperation, activity, and optimism in the annual reports of his study sample. He used the evaluation scores of the annual reports’ tone and corporate governance ratings to measure the impact on the sample performance, and the results showed that the tone and corporate governance ratings have a significant positive impact on both the efficiency scores and companies' performance.

Results of past empirical studies on whether the disclosure tone is incremental information or impression management are mixed, where some showed that disclosure tone is incremental information, while others supporting the impression management.

One of the main assumptions of the incremental information hypothesis is the dependence on a semi- strong/strong form of market efficiency in which it is assumed that participants in the market can discover any sort of biased information if the companies report. In the same context the efficient market hypothesis (EMA) assumes that the different categories of the market participants have rational expectations in regard to companies' future returns. In other words, on average, the market participants are able to detect any manipulation within companies’ financial reporting practices (Hand, 1990).

In this context, some of the previous studies showed that disclosure tone is incremental information for market participants, and it is associated with firms' future financial performance. Feldman et al. (2010) claimed that disclosure tone found in the management discussion and analysis (MD&A) section can has incremental information content far beyond financial measures examples are earnings surprises and accruals. Demers and Vega (2010) also argue that language contained that can be found within the management's quarterly earnings press releases offers important information about company - issued "hard" information. Davis and Tama-Sweet (2011) also found that a higher level of pessimistic language in the management discussion and analysis has a negative relation with future return on assets. Davis et al. (2012) claims that levels of net optimistic language within published information about earnings has a positive relation with future assets returns, they also found that such information had information content about expected future performance and market response to them.

Nevertheless, as disclosure tone is comparatively not expensive and needs much effort to detect, it gives an opportunity for the managers take opportunistic actions to impact on public's perception about the firm performance. Therefore, another view argues that the disclosure tone is an impression management strategy to change stakeholders' perception of corporate achievements (Impression management hypothesis). Hooghiemstra (2000) introduced a modern definition at that time for impression management as he defined it as a field of study within the social psychology framework that focuses on how individuals can present themselves to others in order to enhance their image and perception by the surrounded communities. In another corporate disclosure context, impression management was defined as an attempting "to control and manipulate the impression conveyed to users of accounting information" (Clatworthy and Jones, 2001).

Opportunistic managers use impression management to take advantage of information asymmetries. Thus, they use the discretion inherent in narrative disclosures to manipulate the corporate reporting in order to influence the public' perceptions of corporate performance

(Godfrey et al., 2003; Merkl-Davies et al., 2011; Neu, 1991). The impression management hypothesis can be explained according to agency theory as the biased reporting provided by opportunistic managers who choose the disclosure tone that achieve their personal interests. This assumes a conscious and deliberate managerial disclosure strategy (Bowen et al., 2005). Melloni (2015) showed that managers use the positive tone of intellectual capital disclosure when declining performance and increasing size as well as level of intangibles, and this supports the use of intellectual capital disclosure as an impression management strategy. Furthermore, Melloni et al. (2016) found that managers use business model disclosure as an impression management strategy in the integrated reporting.

According to Merkel-Davis and Brennan (2007) managers tend to engage in concealment behavior, which can be achieved by either obfuscating failures (bad news) or emphasizing success (good news). Guillamon-Saorin et al. (2017) found that managers often use an impression management score to positively bias investors' perceptions of firm performance. In this context, Cho et al. (2010) argues that the use of language and verbal tone in corporate environmental disclosures is sometimes used to manage stakeholder impressions. Such results suggest that the worse environmental performers tend to use more optimistic language when reporting on their performance compared to their better performing peers. Also, Schleicher and Walker (2010) found that firms with loss and risky tend to use more positive tone in forward-looking narratives. Melloni et al. (2017) showed that firms with weak financial performance or worse social performance tend to have their integrated report longer, less readable, and more optimistic. Thus, the integrated report is used as one of impression management strategies, and that these strategies are shaped depending on firms perform, whether on the type of performance (nonfinancial/sustainability vs. financial) or the level of performance.

A number of studies have empirically tested the Efficient Market Hypothesis in the literature within the Egyptian environment, Aly et al. (2004) have examined the daily stock market anomalies in an Egyptian context, they used the Capital Market Authority Index (CMA) to interpret their collected data. The results of study showed that the market returns are consistent with the weak form of market efficiency. In this context, Jefferis and Smith (2005) have empirically examined the evolving efficiency within seven developing African countries; in their study they used the Generalized Autoregressive Conditional Heteroskedasticity (GARCH) model with time-varying parameters. Their findings concerning Egypt revealed that evolving movements moves towards the weak form of efficiency. Based on the previously mentioned findings, the Egyptian capital market can be classified under the weak form of market efficiency and market participants cannot detect any opportunistic managerial behavior if exists in the short term. Based on the foregoing, managers tend to use impression management in order to show enhanced share performance, which can result in misallocation of capital and increased managers' compensation.

Therefore, the current study examines whether disclosure tone in environmental internet is incremental information or an impression management tool as well as the extent to which board characteristics impact on disclosure tone in EIR using a sample of 76 listed Egyptian companies in the Egyptian stock exchange market within the period from 2018 to 2020.

3- Theoretical framework

The topic corporate environmental performance and board characteristics and their impact on disclosure tone have received much attention in the accounting literature. Many studies have focused on examining this relationship. In the same direction, many theories were referred to when trying to investigate this relation. An example for such theories is the agency, legitimacy, and stakeholder theories. A key study on such topic is the study of Chi and Wang (2009). In this study they identified two common agency problems. The first problem is caused as a result of the separation of ownership and management, this separation happens when the owners do not manage the firm by themselves and pass this role to a hired management. The second problem can rise as a result of conflict of interests among managers, owners, outside shareholders and groups of stake holders.

Agency theory suggests that the interests of management may be different in many situations from that of owners. This because owners main focus is on the firms share price and on profitability, while management focus is mainly on their salaries and other sorts of compensations, promotions, and termination patterns, etc. So, users of reported information are unlikely to trust the disclosures provided by management in cases where management is accused of having big motives for being deceptive. Moreover, management disclosures with negative or bad news are seen to have more significant impact on stock price and analyst forecast than disclosures containing good or positive news (Hassell et al., 1988; Williams, 1996; Hutton et al., 2003).

The impression management is an opportunistic disclosure strategy that leads to increase the agency problem and it arises from information asymmetries between managers and investors, where managers convince the external users that they are acting in an optimal way (Abrahamson and Park, 1994; Hooghiemstra, 2000; Godfrey et al., 2003; Rutherford, 2003; Aerts, 2005; Shehata, 2014). As poor environmental performance gives rise to conflicts of interest between managers and shareholders, managers manipulate stakeholders' perceptions in order to divert attention from environmental performance problems (Aerts, 2005; Tennyson et al., 1990). This managers' opportunistic behavior is called obfuscation hypothesis (Courtis, 1998), which assumes that managers are biased in disclosing environmental achievements, this bias leads to economic incentives for managers and the chance to provide a self-interested view about environmental performance (Sydserff and Weetman, 1999). Managers also strive to improve the company's image in respect of their activities of environmental in the eyes of market participants, despite of their poor environmental performance.

On the other hand, legitimacy theory states that companies need to act within some sort of socially acceptable policies of their surrounding community in order to be successful and to survive (Tilling, 2004). Magness (2006) also claims that there is the obligation stemming from the implicit "social contract" between a company and its surrounding society or community, and that is what gives companies their moral duty that pushes them to act responsibly. Consequently, the persistence of the company and its success mainly depends to some extent on acting within the general morals of societal and environmental standards (Merkl-Davies and Brennan, 2007).

It is generally regarded that legitimacy theory is the best and the widely used theory academic and practitioners to explain the trends and shape of narrative disclosures (Gray et al., 1995), which states that companies seek to gain, keep, or enhance their legitimacy by disclosing the information that is required by their surrounding society (Islam and Deegan, 2008). Disclosures provided by companies and related to social and environmental information are assumed to effect perceptions related to organization legitimacy within its surrounding community (Merkl-Davies and Brennan, 2007). Consequently, companies use these disclosures to gain, maintain and enhance their legitimacy within their community (Suchman, 1995). Based on the previous discussion, many strategies are adopted by the various companies to achieve the goal of perceived legitimacy. Companies sometimes try to direct society's perceptions, alter public expectations, or try and shift attention to positive aspects of environmental performance rather than negative (Deegan, 2002).

Stakeholder theory tries to explain the relation between the company management and different groups of stakeholders. Prior research suggested that corporate social and environmental disclosure can be used as a tool for stakeholder management by companies' management (Mousa, 2010; Deegan, 2002; Deegan et al., 2002; Milne and Patten, 2002; O'Donovan, 2002; O'Dwyer, 2003). Ullmann (1985) have claimed that stakeholder theory can provide a reasonable explanation for why strategic decision-making is part of the studies concerned with the activities related to corporate social responsibility, sustainability, and environmental responsibility. This is explained by the opinion stating that firm are considered as a nexus of linked, planned, and competitive interests having fundamental value (Shankman, 1999).

Van der Laan (2009) also suggested that stakeholder theory can be is considered as the best' theory to explain managerial behavior . Since managers are responsible for meeting the demands and expectations of various stakeholders (such as customers, employees, local communities, suppliers and distributors and shareholders, etc.) of information, they are expected not to be neutral and use impression management to manage (or manipulate) the opinions and perceptions of stakeholder as a way to maintain their support and approval, or to overcome their opposition or disapproval in negative aspects of the environmental performance.

From the above discussion it can be concluded that there is a high degree of interdependencies and overlapping amongst the three mentioned theories, therefore it is suggested that the combined consideration of the three of them will provide a solid base for understanding and explaining the existing trends for disclosure tone of companies within the Egyptian business environment.

4- Empirical literature review and hypotheses development

There have been many empirical studies on the topic of disclosure tone and impression management. An example are the studies on the use of tone in environmental reports in both the developed and developing countries, one of these studies is that of Neu et al, (1998) on a sample of Canadian companies which investigated whether the environmental disclosure information presented in the annual reports of the Canadian public companies in the field of mineral extraction, such as the forestry, oil and gas, and other chemical industries highlights positive environmental actions, obfuscates negative environmental effects or both over the 1982 to 1991 period . The study found that managers often tend to narrative disclosure such as environmental information more than financial or other quantitative information as such information can be designed to manage public impressions.

As well as in U.S. such as Arena et al. (2015) that have investigated the relationship between both the disclosure tone and the future environmental performance, the study also examined whether the board of directors' monitoring activities and stakeholder demands can have an impact on this relationship. The study found evidence that the bias to a positive tone within the contents of environmental reports does not essentially reflect a managerial opportunistic behavior, and that it may only predicts the company's future environmental performance, the study also found that the board monitoring activities can enhance the relationship between both the management disclosure tone and the management's future environmental performance. The study has also concluded that stakeholder's orientation can act as a proxy for the management's environmental disclosure tone to send signals on the firm's good performance.

Moreover, Cho et al. (2010) investigated whether there are biases in the both the language use and the management verbal tone used in corporations’ environmental disclosures, through using a cross-sectional sample picked from the corporate environmental disclosures within the company’s 10-K annual reports. The study found that there is bias in the language used and the management verbal tone used in corporations’ environmental disclosures in order to manage stakeholder’s impressions.

On the other hand, there are some studies in developing countries which addressed the use of tone in environmental reports for instance the study of Esen and Caliskan (2018) in turkey which aimed at understanding companies’ sustainability disclosures on social media from the perspectives of impression management tactics at the organizational level. The results showed that companies want to give the impression of being a sustainable actor by balancing the favorable and unfavorable information they provide to their stakeholders. For that reason, organizations can use sustainability narratives as a tool to formalize their stakeholders’ expectations or manipulate their perceptions on social media.

Based on the above, all the past studies in developed and developing countries did not address environmental internet reporting despite companies in both of developed and developing countries tend to use their websites for disclosure of environmental information. Furthermore, environmental internet reporting has become a crucial and important element in investor decision-making.

Another group of previous studies have examined the relationship between impression management practice in an annual report and corporate governance in developed and developing countries which still seem to be limited until now such as the study of Martikainen et al. (2016) in U.S. which purposed investigating the impact of companies’ BOD on determining the disclosure tone in the period from 2003 to 2014. Their study results showed that the BOD members’ age is negatively related to negative, positive, and uncertain management disclosure tone, while it has a positive relation with litigious tone. On the other hand, the study found that the boards’ both gender uniformity and human capital have a positive relation with the four types of tone: negative, positive, uncertain, and litigious. The study also concluded that Board turnover has a positive relation with negative and litigious tone while negatively related with both the positive and uncertain tone**.**

In this context, study of García Osma and Guillamon-Saorin (2011) in Spain investigated the impact of CG on impression management in annual results press releases (ARPRs). The results of the study found that strong governance can help in limiting impression management practices, consistent with governance monitoring that can effectively help in the reduction of self-serving disclosures that is presented by management.

On the other hand, there are some of studies in developing countries which addressed this relationship for instance study of Amalia (2017) in Indonesia which aimed at analyzing the impact of CG mechanisms on impression management through sustainability report. The study found that CG mechanisms were proportion of board independence, the frequency of board meetings, board size, number of audit committee meetings and audit quality. The results of the study showed that board independence have positive impact on selectivity and number of board meetings, while the audit quality has negative impact on selectivity. However, the study found no impact of CG mechanisms used in that study on the distortion. From the above discussion it can be concluded that the results of these studies are mixed and cannot be generalized on other countries because of the degree of development and the difference in the economic and social conditions.

In Egypt, to the best of the researcher knowledge, there has been one previous research on the association between disclosure tone and financial performance in annual reports. Aly et al., (2017) found a positive relationship between narrative disclosure of both the good and bad news and firm’s financial performance in relation to the return on assets (ROA). it also found evidence on significant relationship between the auditor, firm growth, profitability, leverage, and the narrative disclosure of both the good and bad news. Therefore, the present study is the first to date, that investigates the role of board characteristics in shaping the disclosure tone in EIR for a sample of listed non-financial companies within the Egyptian stock exchange. Thus, the current study can help in investigating whether disclosure tone in environmental internet is incremental information or an impression management tool. Moreover, the study explores the factors effecting the disclosure tone in EIR within the Egyptian context.

4.1 Environmental performance and disclosure tone in EIR

The narrow view of the agency theory refers to impression management as an effort done by management to manipulate shareholders' perceptions of the companies' financial performance (Rutherford, 2003). Whereas the theory broader view focuses on managerial manipulation of stakeholders' impressions of social and environmental performance (Hooghiemstra, 2000). Therefore, under the agency theory, firms with poor environmental performance, managers may use disclosure tone as an impression management tool to obfuscate failures and avoid the negative consequences of their performance. The legitimacy theory indicates that when companies encounter potential threats that can destroy their social or environmental legitimacy, they are motivated to use communication strategies that can impact the perceptions of their stakeholders. More specifically within the environmental field, Patten (2002) found that companies with worse environmental performance tend to use impression management in environmental disclosure to mitigate their negative exposure to the social/political environment. In this context, Cho et al. (2010) found that companies with poor environmental performance operating in environmentally sensitive industries try to impression management by utilizing a biased language in their environmental disclosure. And the degree of bias in these disclosures varies systematically based on company environmental performance.

In Egypt, The CG code of 2016 included policy of social and environmental responsibility which indicated that the company sets a clear policy for its social and environmental responsibility and its continued commitment to contribute to economic and community development. This policy includes, for example, the following: the goal of politics, definition of corporate social responsibility, the company responsibility towards society and the environment and initiatives in which the company participates in the field of social and environmental responsibility.

While some studies found no significant relationship between environmental performance and impression management in the use of environmental graphs (Cho et al.,2012b), other studies found that there is a significant relationship between environmental disclosure language bias, as measured by optimism and certainty, and firm environmental performance (Cho et al., 2010).

The current study expects that Egyptian companies with higher environmental activities will tend to increase disclosure tone in their EIR. The first hypothesis is suggested as follows:

H1: There is a significant positive association between disclosure tone in companies' EIR and the concerns over environmental performance.

4.2 Board size and disclosure tone in EIR

Most government codes when referring to best practices recommends that companies' boards should have at least a reasonable number of directors, as this will impact the effectiveness of the board's monitoring role (Domínguez and Gámez, 2014). Moreover, agency theory suggests that a larger board size in most cases is characterized by more expertise and it is also characterized by wider diversified knowledge and this can result in a more efficient and effective monitoring role, these are essential in ensuring high level of transparency and limiting of discretion to opportunistic managers to conceal or distort information through internet environmental disclosure tone (Luo, 2005; Linsley and Shrives, 2006; Singh et al., 2004). It is usually found that better managerial control is associated with board of higher size which may positively impact the reduction of impression management (Bozec and Bozec, 2012) which helps conform to social rules and norms as well as legitimizes company behavior (legitimacy theory).

In the same stream, stakeholder theory states that companies with larger boards tends to have more ability to access their firm's external environment, this can help to uncertainties and limit management incentives to alter and manipulate environmental information in their internet reporting, which it can lead to the reduction of impression management (Jia et al., 2009). Additionally, Bassett et al. (2007) argue that boards with small number of members do not possess sufficient expertise and will be more vulnerable to the dominance of its chief executive officer (CEO). This can jeopardize the ability of the board to limit self-interested managers on concealment of negative environmental outcomes in the internet reporting.

In Egypt, The CG code of 2016 indicated that a company's board should be composed of an appropriate number of members to enable it to perform its functions and duties and according to international best practice, the mix of board members is considered without prejudice to gender or creed.

Prior research that focused on the association between both management disclosure tone and the board of directors size have produced mixed and inconsistent results. For example, some of the studies such as that of Amalia (2017) and Mather and Ramsay (2007) found no evidence on the relationship between impression management and board size, on the other hand some studies, such as García Osma and Guillamón-Saorín (2011) demonstrated that strong governance constraints managerial incentives to bias the presentation and the diffusion of information in annual results press releases, thus reducing impression management practices. The strength of corporate governance was measured in that study by characteristics of the board of directors such as board size (number of directors).

In the present study, it is expected that Egyptian companies with larger boards will reduce disclosure tone in their EIR. The second hypothesis is suggested as follows:

H2: There is a significant negative association between disclosure tone in companies' EIR and board size.

4.3 Board composition and disclosure tone in EIR

Board composition can be defined as the percentage of non-executive directors in relation to the total number of directors (Haniffa and Cooke, 2002). Both the Agency and stakeholder theories suggest that the independence of directors is one of the most important CG mechanisms, that can help in resolving many agency problems between the companies' managers and shareholders, board independence can also advance the interests of other groups of stakeholders, such as employees, trade unions, government, and local communities (Linsley & Shrives, 2006; Amran et al., 2009; Oliveira et al., 2011). In their pioneer study Fama and Jensen (1983) claimed that board independence can play a key role in monitoring managers' performance and that it can also help in reducing any opportunistic behaviour from managers which will at the end lead to reducing impression management in the environmental reports via the internet. Additionally, Eng and Mak (2003) suggested that non-executive directors are expected to fulfill shareholder preferences more efficiently and to practice a better environmental disclosure.

According to legitimacy theory, the executive directors sometimes get involved in impression management so as to legitimize management actions and to justify its business decisions (Hooghiemstra, 2000, Aerts and Cormier, 2009), other reasons for impression management is to avoid criticism and to prevent the interference that can be subjected by external groups that includes and not limited to trade unions, government bodies, consumer groups and environmental organizations (Hines, 1989). In contrast, part of prior research claim that outside directors sometimes are not prepared enough to understand all the firm activities, also involving in different boards may results in not paying sufficient attention which may lead to their inability to detect the impression management in internet environmental disclosure (Baysinger and Hoskisson, 1990).

In Egypt, The CG code of 2016 indicated that the majority of the board members must be non-executive members, including at least two independent members with technical and analytical skills which will benefit the board and the company. In all cases, when choosing independent and non-executive members, the member should be able to allocate adequate time and attention to the company and not to conflict with other interests.

Prior research on the association between both the disclosure tone and Board composition are rare. García Osma and Guillamon-Saorin (2011) examined the association between the number of independent directors and impression management in annual result press release. They have reached a number of results, among these results is that the percentage of independent directors has a significant negative association with the impression management. This agrees with Mather and Ramsay (2007), who found evidence that boards with more independent directors seem to be more efficient and effective in reducing any potentially opportunistic impression management.

The current study suggests that Egyptian companies with higher percentage of independent directors in their board will be more capable in limiting disclosure tone within their EIR. This can be explained by the notion that their presence as part of the board can help in controlling agency problems and thus reduce the degree of information asymmetry between both management and shareholders. The third hypothesis can be formulated as follows:

H3: There is a significant negative association between disclosure tone in companies' EIR and board composition.

4.4 Board meeting and disclosure tone in EIR

Prior research has produced mixed results regarding the number of board meetings as one of the corporate governance mechanisms. Part of these results suggests that the number of board meetings are beneficial for enhancing the effectiveness of management monitoring, consultancy between directors ,strategy discussion and implementation and in sharing opinions among directors (Vafeas, 1999). On the other hand, part of the studies such that conducted by Jensen (1993) found evidence which suggests that most of boards' meetings are not very effective. The board is often forced to engage in high-frequency activities to resolve corporate problems. Therefore, a higher frequency of board activities may be a response to poor corporate performance.

Agency and stakeholder theories suggest that boards which meet more frequently are likely to monitor management more closely. In turn, more effective monitoring of management will lead to less motivation to influence stakeholders' impressions in case the corporate environmental performance differs from desired benchmarks. This indicates that managers are reluctant to use disclosure tone in EIR to obfuscate bad news and enhance good outcomes (Kanagaretnam et al., 2007; Conger et al., 1998). In this context, legitimacy theory suggests that the dynamic business environment requires an increased frequency of meetings to enhance legitimacy and provide an adequate response to attempt to change society's perceptions toward any negative impacts related to environment (Dienes and Velte, 2016).

In Egypt, The CG code of 2016 indicated that the board of directors should have a meeting at least once every three months, with the possibility of using the board of directors to whom it deems fit from within or outside the company to discuss some topics related to the work of the company. It is disclosed about the number of meetings in the annual report of the company and the board of directors' report.

The literature on the relationship between the board meetings and disclosure tone (García Osma and Guillamon-Saorin, 2011; Amalia, 2017) showed that a board meeting frequency is negatively related with impression management, which means that the higher the number of board meetings, the board's ability to supervise the management actions is better, and thus the chance of impression management is expected to be limited.

In the present study, it is expected that Egyptian companies which have the greater number of board meetings are reluctant to use disclosure tone in their EIR because a board meeting is a media of communication and coordination among directors in performing duties as supervisory management. Thus, the fourth hypothesis is suggested as follows:

H4: There is a significant negative association between disclosure tone in companies' EIR and the number of board meetings.

4.5 CEO duality and disclosure tone in EIR

Role duality happens when the chief executive officer (CEO) is the chairman of the same board of directors which results in a unitary leadership structure. Such case when the chairman holds the CEO role is considered as a clear example for the conflicting of interests as the person who is responsible for making decisions is the same person who is in charge of monitoring those decisions. Furthermore, in this situation it is much easier to behave in an opportunistic manner to pursue personal interests instead of trying to satisfy shareholders' needs as a result of the CEO dominance over the board of directors (Jensen, 1993; Barako et al., 2006).

Agency theory also suggests that the concentration of the power of decision-making power in the case of the role duality can have a great impact on impairing the board of director's governance role on monitoring and regulating management's disclosure policies (Li et al., 2008) which in turn may lead to increase disclosure tone as an impression management strategy. Similarly, legitimacy theory argues that in order to gain or maintain on organizational legitimacy, the CEO who holds the position of chairman of the board uses the impression management for presenting organizational outcomes in narrative disclosure (particularly social and environmental disclosures) to achieve consistency between the company's and society's norms and values, particularly in cases where companies face legitimacy threats (Merkl-Davies and Brennan, 2007).

Jensen (1993) also claims that in the case when the company's CEO is in chairman position, the internal control systems may fail as the board of directors will be less capable its key control functions effectively. According to Chen et al. (2008), the firms that have CEOs who also chair the board are more likely to use impression management.

In Egypt, The CG code of 2016 indicated that the board of directors should elect the president of the board and appoint the managing director. It is not preferable to combine the positions of the chairman and the managing director. If this is not possible, the reasons for this should be disclosed in the company annual report and website. In this case, in accordance with international best practice, an independent vice-chairman is appointed to chair the meetings that discuss the performance of the executive management.

While some studies did not exhibit any significant role to CEO duality in influencing companies to provide high-quality information (Abd Rahman et al., 2017), other studies found that CEO duality is significantly positively associated with impression management through increased favorable graph selection (Mather and Ramsay, 2007).

The current study suggests that Egyptian companies with CEO dual role tend to use disclosure tone in their EIR, this can be because a director with combined roles will have the ability to distort unfavorable information to shareholders and other stakeholders. Thus, the fifth hypothesis is suggested as follows:

H5: There is a significant positive association between disclosure tone in companies' EIR and CEO duality.

5. Research design

5.1 Sample and data

The study sample is composed from internet reporting of listed Egyptian companies in the EGX 100 index (Companies included in both the EGX 30 and the EGX 70 indices). This sample represents different sectors (Such as the industrial, cement, construction, petrochemicals, and services sectors). The choice of EGX 100 is due to recent studies documenting a large diffusion among companies listed in the EGX 100 of many communication tools to enhance the effectiveness of disclosure of corporate social and environmental responsibility (Ibrahim and Wahba, 2013). Following are the criteria for including companies in the research sample:

- Companies had to be listed Egyptian firms in the Egyptian stock of exchange within EGX 100 index during 2018-2020.

- Companies which have environmental disclosure or sustainability reporting on their website, which lead to their gaining a wide social acceptance.
- Companies should have complete information available on all the research investigated variables.
- Financial firms (e.g., banks and insurance firms) are excluded from the sample because of different regulations imposed by the Central Bank of Egypt.

The present study has followed a number of procedures when analyzing the collected data in order to achieve a number of advantages in the data analysis, such as collecting data over three years with both cross-sectional and time series properties. Such procedures aimed to achieve higher degrees of freedom, less multicollinearity among variables and a balanced panel data analysis (Gujarati, 2003).

The final sample of the study included the data from EIR for 76 listed companies in the Egyptian stock of exchange within the EGX 100 index, with 228 observations from a three-year period (2018-2020). The following table (Table 1) summarizes the selected sample.

Table 1: Summary of the sample selection procedure

Description	No. of listed companies
Listed companies in the EGX100 as of 31 December 2020	100
Less:	
Financial firms such as banks, financial services companies, and insurance firms)	4
Suspended and merged firms	3
Firms with no environmental disclosure on their website	9
Firms with no yearly data available to all variables	6
Recently listed recently (2018 to 2020)	2
Total excluded firms	24
Research final sample	76

5.2 Dependent variable

This study uses DICTION - computerized content analysis software - to evaluate the verbal tone of corporate environmental disclosure (the dependent variable) for a sample of Egyptian companies. DICTION is a widely adopted software that is being used for linguistic analysis. This software depends on a number of dictionaries that is utilized according to the linguistic theory, DICTION performs a word counts on the input text, in order to produce an output five master variables: these variables consist of certainty, optimism, activity, realism, and commonality. Producing such variables allows the performing of a lexical analysis (Hart, 2000; Sydserff and Weetman, 2002). such variables are produced using a word list consisting of thirty-one-individual dictionary counts and four calculated variables; the scores of which are standardized, selectively combined using addition and subtraction (Digitext Inc.,2011).

The use of DICTION analysis offers considerable potential for any research in the field of accounting, it is automated and easy to be used by researchers and yet it can support a considerable degree of sophistication. DICTION has a total word corpus in excess of 10,000 and is considerably more comprehensive than other form-oriented approaches used when conducting accounting literature.

DICTION has the ability to separately assess the five verbal tone master variables (and subaltern variables), so measurements are selected in accordance with the hypothesis, which is optimism scores. In this context, optimism is some sort of language endorsing a person, group of persons or event, or highlighting their positive entailments. It is assessed by using the following formula [Praise + Satisfaction + Inspiration] - [Blame + Hardship + Denial] (Hart, 2001). There are many past studies report the "optimism" master variable without adjustment (Ober et al., 1999; Cho et al., 2010).Considering the validity and reliability of produced data, the objectivity of DICTION analysis is a particular strength. Produced data has an automated nature, that is useful for both coding and quantification and this is what gives it usefulness as an important research tool.

The limitations of using DICTION are the limited ability to detect homographs which mean that words spelled the same but have different meanings, homographs are treated through statistical weighting methods (therefore partially correcting for context). Not all homographs are problematic. Benign homographs include different ideas but belong to the same domain of meaning. Such meanings are not differentiated by DICTION (Short and Palmer, 2008; Hart and Carroll, 2013). However, DICTION has some potential shortcomings, particularly, some weakness of measuring tone is the inability to analyze language conditional on the context of a particular statement. This might lead to confusion in the tone measure, and therefore it may be less accurate than a measure that contemplates context (i.e., that is manually coded). In order to validate tone measure, the researcher manually coded a sample of 10 Egyptian environmental internet reporting companies using the frameworks established in (Henery, 2008). It was found that the tone measure is significantly correlated with the manual measures, with a correlation coefficient of 0.46.

5.3 *Independent variable*s

There are five independent variables that are presented in the environmental performance[1] and board characteristics, these variables are the board size, board composition, board meeting, and CEO duality. These five independent variables are defined and highlighted in Table 2.

1 The study relied on S&P/EGX ESG Index to measure the environmental performance. The index measures environmental, social, and corporate governing practices based on quantitative rather than subjective factors with the implementation of a unique and innovative methodology standardized by S&P indices. The study refers to the environmental concern ratings that are assigned to companies referring to the following four items (i) emissions of greenhouse gases, (ii) emissions of ozone-depleting substances, (iii) NOx, SOx, and emissions, (iv) physical or regulatory risks associated with climate change. So, firms with higher environmental concern scores have worse environmental performance. Therefore, environmental performance is measured as the total number of environmental concerns in the year t.

Table 2: Measurement of variables

Variables	Definitions
Dependent variable:	
EDO	DICTION's "optimism" score computed by analyzing EIR.
Independent variables:	
Environmental performance	The total number of environmental concerns in the year t
Board size	total number of members in the board of directors
Board composition	(The number of non-executive directors in the board of directors divided by the total number of directors in the board of directors) multiplied by 100%
Board meeting	The number of board meetings held in a year
CEO duality	(1) if CEO is also chairman and (0) if otherwise
Control variables:	
Company size	Natural logarithm of total assets at the end of the year
Profitability	The ratio of net profit after tax divided by total assets at the end of the year
Sectyp	(1) if a company from environmentally sensitive industries (cement , ceramic and petrochemicals) and (0) if otherwise

5.4 Control variables

To control other factors and to avoid model misspecification that can impact disclosure tone in EIR (Jizi et al., 2014), the study has used some corporate characteristics as control variables. Such variables included company size, profitability and sector type which can affect the extent of disclosure tone (Leary and Kowalski, 1990; Merkl-Davies et al., 2011; Aly et al., 2017). Company size will be measured in the current study as the natural logarithm of total. Profitability is ratio of net profit after tax over total assets. While sector type will be set as a dummy variable (binary variable) that takes (1) if a company from environmentally sensitive industries (cement, ceramic and petrochemicals) and (0) if otherwise.

5.5 Regression model

The ordinary least-squares (OLS) regression model has been used to examine the relationship between EDO in internet reporting and both the environmental performance and the characteristics of board:

$$EDO_{it} = \beta_0 + \beta_1 EP_{it} + \beta_2 BS_{it} + \beta_3 BC_{it} + \beta_4 BM_{it} + \beta_5 Dual_{it} + \\ + \beta_6 Size_{it} + \beta_7 ROA_{it} + \beta_8 Sectyp_{it} + \varepsilon_{it}$$
(1)

Where:
EDO = environmental disclosure optimism score.
β_0 = constant value or the value of (OLS) when all (x) values are zero.
$\beta_{0...}\beta_9$ = regression coefficients.
ε = error term.

6. Empirical findings and discussion

6.1 Descriptive statistics

The following table (Table 3) shows the descriptive analysis of data variables, where Panel A introduces the descriptive analysis of continuous variables. Descriptive analysis of continues variables includes the minimum, maximum, mean, and standard deviation of these variables. The current study, EDO scores ranged from 38 to 58 which reflect the relatively high level of EDO for listed companies in Egypt.

Table 3: Descriptive statistics

Panel A: descriptive statistics of continuous variables (n = 76)				
Variable	**Minimum**	**Maximum**	**Mean**	**Std. deviation**
EDO	38	58	47.63	5.840
EP	0	4	1.020	1.264
BS	5	15	8.263	2.276
BC	0.20	0.80	0.495	0.177
BM	4	7	5.145	1.092
Size	6.10	9.90	8.25	1.027
ROA	-0.20	0.52	0.07	0.08
Panel B: descriptive statistics of dummy variables (n = 76)				
Variable	**Dummy**	**N**	**%**	
Dual	1	13	17.10	
	0	63	82.90	
Sectyp	1	25	32.89	
	0	51	67.11	

Regarding the environmental performance, it was determined as a total number of environmental concerns with a mean of 1.020 and a standard deviation of 1.264. As for board size, it ranges from 5 to 15 members with a mean of 8.263 and a standard deviation of 2.276. BC ranges from 20 percent to 80 percent its mean is equal to 49.5 percent while the value of standard deviation is equal to 17.7 percent. The analysis shows that the average percentage of non-executive members compared to the total number of the board of directors members is amounted to 49.5 percent, which clearly shows an acceptable level of board independence for the study sample. BM has a range valued from 4 to 7 with a mean value equals to 5.145 and a value for standard deviation of 1.092. The CG code of 2016 in Egypt indicated that the board meetings should be convened at least once every three months. Panel B shows that the majority of the companies (82.90 percent) separates the chairperson and the CEO positions.

Regarding the control variables, company size was calculated by the value of natural logarithm for the total assets with a mean of 8.25. Furthermore, companies in the sample have an average ROA of 7 percent, with a range from -20 percent to 52 percent. Panel B shows that 32.89 percent of the sample represents environmentally sensitive companies.

6.2 Correlation analysis

In testing any potential multicollinearity within independent variables, the current study calculated the Variance Inflation Factor (VIF) to find any inter-correlation among the independent variables. The results of correlation analysis showed tolerance levels above 0.65 for most independent variables. Therefore, the inter-correlation between all independent variables does not appear to cause any problems in the data analysis, and thus multicollinearity should not be a serious concern in the current study (Pallant, 2007).

The Following table (Table 4) represents the Pearson correlation matrix for continuous variables. Results show that the Environmental performance variable has a positive and significant correlation with EDO (0.512***). This result is consistent with previous studies results (Cho et al., 2010; Merkl-Davies and Brennan, 2007). BS has a low negative correlation with the dependent variable (-0.137) which is consistent with Mather and Ramsay (2007) but not García Osma and Guillamon-Saorin (2011). BC has a low negative correlation with EDO (-0.142) which is inconsistent with García Osma and Guillamon-Saorin (2011). BM has a negative and significant correlation with EDO (-0.740***). This is consistent with prior studies (García Osma and Guillamon-Saorin, 2011; Amalia, 2017). For the control variables, company size has a positive and significant correlation with EDO (0.435*). ROA has a highly negative correlation with EDO (-0.072).

Table 4: Pearson correlation coefficients matrix for continuous variables

Continuous variables	1	2	3	4	5	6	7
1-EDO	**1**						
2-EP	**0.512****	**1**					
3-BS	**-0.137**	**0.030**	**1**				
4-BC	**-0.142**	**0.025**	**0.087**	**1**			
5-BM	**-0.740*****	**0.034**	**0.043**	**0.069**	**1**		
6-Size	**0.435***	**0.048**	**0.407***	**-0.069**	**0.092**	**1**	
7-ROA	**-0.732*****	**-0.056**	**0.025**	**0.006**	**0.034**	**0.213**	**1**

Not: *, **, * significant at 10%, 5% and 1% levels, respectively.**

6.3 Regression analysis

The following table (Table 5) shows the results of the regression analysis of data examining the impact of both environmental performance and board characteristics on EDO. The results of the analysis of data shows a significant positive association between both the worse environmental performance and EDO. OLS analysis shows that the coefficient of environmental performance is (0.000) with a p-value < 0.01. This result supports H1 and is consistent with the study of Merkl-Davies and Brennan (2007), who reported that companies use an optimistic tone for concealment in environmental reports in order to maintain their environmental legitimacy. This result may relate to the weak form of the Egyptian capital market where investors, on average, are unable to assess reporting bias in the short term. So, Egyptian companies with worse environmental performance and which face potential threats to their social or environmental legitimacy tend to use more optimistic language in their EIR than better performing companies in order to respond to the concerns of various stakeholder groups (stakeholder theory) or to conform to social rules and norms (legitimacy theory) .

Table 5 also shows that board size has a negative, but statistically insignificant relationship with EDO. This finding fails to offer empirical support for H2, or to the findings by García Osma and Guillamón-Saorín (2011) who reported that board size has a significant negative impact on impression management. The result of this hypothesis indicates that boards with large numbers of directors in Egyptian companies can be an impediment and more expensive, where planning, work coordination, communication and decision-making can be difficult with a large number of board members. Therefore, sometimes large boards might have less ability to detect opportunistic managerial behavior in accounting narratives such as EIR. The loss resulting from these opportunistic actions and the expense of implementing mechanisms designed to limit them are described as agency costs (agency theory).

On the other hand, such found an insignificant negative relationship between both the EDO and board composition, which does not support the third hypothesis H3, or to the findings produced by Mather and Ramsay (2007) study which suggested that board composition has a significant negative impact on impression management. The result of this hypothesis indicates that the majority of Egyptian companies suffer from non-executive directors' appointment process due to their inefficiency, where nomination is often depending on close personal relationships with board members through personal contacts or friendships, which leads to weak independent directors' performance to discover impression management strategies in accounting narratives. So, the management may use these strategies as a tool of legitimizing business and to limit interference by external organization acting on environmental issues (legitimacy theory).

Additionally, Table 5 shows that the coefficient of BM has a value of (0.002) with a p-value < 0.01. These values show a significant negative association between both the EDO and the frequency of boards' meeting which support the fourth hypothesis (H4). This result is consistent with the results of previous studies (García Osma and Guillamon-Saorin, 2011; Amalia, 2017), which indicated that a board meeting has a negative relationship with impression management. Agency and stakeholder theories suggest that more frequent meetings of the board of directors can help managers perform their duties and functions, in addition to assessing the policies that have been taken by the board of directors, meeting stakeholders' needs, and adopting oriented behaviors in order to gain legitimacy and social acceptance about environmental outcomes (legitimacy theory). So, a board meeting is one of corporate governance mechanism that can limit the incentives for opportunistic managers to influence stakeholders’ impressions in EIR.

The variable, CEO duality is significantly related with the EDO. OLS analysis of data shows that the value of coefficient of CEO duality has a value of (0.000) with a p-value < 0.01. These values show a significant positive association between both the EDO and CEO duality. which support the fifth hypothesis (H5) and is consistent with the results of previous studies (Mather and Ramsay, 2007). Agency theory suggests that the separation of the roles between CEO and board chairperson is an essential element of corporate governance so as to prevent undue concentration of powers. Also, agency theory discourages the CEO duality because it weakens boards' effectiveness in controlling and monitoring the opportunistic behavior for managers, which increase disclosure tone used in EIR as an impression management strategy to restore company social acceptance and decrease the threats to organizational legitimacy (legitimacy theory).

Regarding the control variables, the findings of the current study show a positive association between both the company size and EDO. OLS analysis of data shows that the value of coefficient of company size has a value of (0.079) with a p-value < 0.10. This result is consistent with the results of previous studies (e.g., Leary and Kowalski, 1990; Merkl-Davies et al., 2011).

On the other hand, the analysis of data shows that the coefficient for the profitability variable is statistically significant, which suggests a negative relationship between the both the ROA and EDO. This is consistent with Aly et al. (2017) who reported that there is a highly significant association between profitability and disclosure tone.

Table 5 shows that the value of coefficient of Sectyp is equal to (0.005) with a p-value < 0.01. These values show a significant positive association between both the EDO and sector type. This result is consistent with the results of previous studies (Arena et al., 2015; Du and Vieira, 2012), which indicated that environmentally sensitive companies tend to use disclose tone in EIR more than other non-environmental sensitive industry. This result suggests that the prediction of stakeholder theory is highly applicable, and that companies operating in an environmentally sensitive industry tends to use optimistic disclosure tone more often to avoid negative environmental assessment by the stakeholders.

Table 5: Regression analysis

Indep. variables (Model)	Dependent variables				
	EDO (1)	2018 (2)	2019 (3)	2020 (4)	Lagged (EDO) (5)
Constant	0.184	0.148	0.165	0.193	0.187
	0.262	0.334	0.268	0.240	0.246
EP	0.288***	0.230**	0.178**	0.248***	0.252***
	0.000	0.020	0.025	0.006	0.001
BS	-0.078	-0.054	-0.062	-0.065	-0.081
	0.225	0.272	0.256	0.243	0.213
BC	-0.075	-0.060	-0.045	-0.038	-0.025
	0.360	0.393	0.426	0.432	0.446
BM	-0.258***	-0.289***	-0.249***	-0.244**	-0.275***
	0.002	0.000	0.007	0.011	0.000
Dual	0.293***	0.289***	0.178**	0.180**	0.299***
	0.000	0.000	0.022	0.011	0.000
Size	0.119*	0 .108*	0.125*	0.115*	0.102*
	0.079	0.080	0.063	0.075	0.089
ROA	-0.290***	-0.244**	-0.274***	-0.288***	-0.276***
	0.000	0.011	0.000	0.000	0.000
Sectyp	0.254***	0.258***	0.249***	0.244**	0.260***
	0.005	0.003	0.007	0.010	0.002
R2	0.581	0.537	0.516	0.550	0.561
Adj. R2	0.661	0.627	0.604	0.634	0.647
F – value	13.974**	12.832**	12.684**	13.496**	13.781**

Not: *, **, * significant at 10%, 5% and 1% levels, respectively.**

6.4 Additional analyses

An additional analysis was conducted in the current study to prove the robustness of findings. First part of the additional analysis was through re-running equation 1 by splitting the study sample into three sub-sample (periods: 2018; 2019; and 2020). The results of this step are presented in Table 5 in Models 2, 3 and 4, respectively and they show the same results reported in Model 1 (apart from other observable minor sensitivities in the magnitude of the coefficients). These figures prove the robustness of the sub-sample estimations.

Second, consistent with the results of prior research (Larcker and Rusticus, 2010; Al-bassam et al, 2015; Ntim, 2013), the current study estimated a lagged association between the EDO-environmental performance/ board characteristics in order to additionally address potential endogeneity problems, whereby EDO and both environmental performance and board characteristics may be simultaneously determined. The revised regressing Equation 1 is:

$$EDO_{it} = \beta_0 + \beta_1 EP_{it-1} + \beta_2 BS_{it-1} + \beta_3 BC_{it-1} + \beta_4 BM_{it-1} + \beta_5 Dual_{it-1} + \beta_6 Size_{it-1} + \beta_7 ROA_{it-1} + \beta_8 Sectyp_{it-1} + \varepsilon_{it-1} \quad (2)$$

All variables are the same as defined in Equation 1 apart from a one-year lag that is found between the EDO and both the environmental performance and the board of directors characteristics where the current year's EDO depends on previous year's environmental performance and board of directors characteristics. Results of analysis shown in Table 5 in Model 5 proves to be similar to those results within Model 1 in the same table (Table 5). Therefore, the study’s findings is suggested to be not significantly affected by endogeneity.

7. Summary and conclusions

This study investigated whether managers use disclosure tone in environmental internet reporting (EIR) to impact the users’ perceptions of companies’ achievements (i.e., impression management). Moreover, this study examined the impact of corporate environmental performance and board characteristics on disclosure tone in EIR by a sample of listed companies in the Egyptian stock exchange within the EGX 100 index. The current study depended on DICTION, which is a computerized content analysis software that is used to evaluate disclosure tone within the information in EIR for a sample of 76 companies using internet reporting. The study depended of the regression analysis of data to test the association between the dependent variable represented in DICTION’s “optimism” score computed by analyzing EIR and independent variables represented in environmental performance and board characteristics.

The empirical analysis showed that Egyptian companies tend to use disclosure tone as an impression management strategy in their EIR. Where there is a significant positive association between disclosure tone in EIR and worse environmental performance. Moreover, the results indicated that there is a significant negative association between disclosure tone in EIR and board meetings. However, the results have shown a significant positive association between CEO duality and disclosure tone in EIR. Finally, findings showed non-significant associations between other board characteristics (board size and board composition) and disclosure tone in EIR. Regarding the control variables, company size and sector type have a significant positive association with disclosure tone in EIR but there is a non-significant association between disclosure tone in EIR and ROA.

This study contributes to the literature by examining whether managers use disclosure tone in environmental internet reporting (EIR) as an impression management strategy and the impact of board characteristics on disclosure tone in EIR for a sample of listed companies in the Egyptian stock exchange within the EGX 100 index. Findings of the study were interpreted from social theories such as agency, legitimacy, and stakeholder theories.

Our findings on the use of the disclosure tone as an impression management strategy in the EIR and the extent to which board characteristics affect disclosure tone in EIR have both theoretical and practical implications. The study found evidence consistent with the view that environmental internet reporting is used by managers in an attempt to be perceived favorably by their stakeholders (i.e., investors).

The results showed that environmental disclosure for companies on their websites is a potential locus for impression management strategies. Proving the influence that board characteristics on disclosure tone, the study also contributes to the literature related to determinants of disclosure tone (García Osma & Guillamón-Saorín, 2011). The study corroborated that impression management methods use as a technique for analyzing environmental narratives reporting. To the researcher best knowledge, it is the first work that investigates whether managers use disclosure tone in environmental internet reporting in Egypt. As well as it explored whether disclosure tone in EIR varies according to the board of directors' characteristics.

Finally, the current study has a number of limitations on its findings. *The first limitation* is the exclusion of banks, insurance companies and other financial institutions. Inclusion of this sector may introduce different results. *The second limitation* is focusing only on one disclosure channel which is the EIR. Future research can extend its scope to include other disclosure channels, such as companies' preliminary announcements submitted to the stock exchange, press releases, and other information types in the annual reports. *The third limitation* is the current study period is limited to only three years, extending the scope of future studies through using a continuous longitudinal approach can help in examining the gradual change in disclosure tone in EIR. *The Fourth limitation* is the current study sample is limited to only 76 companies , increasing the sample size beyond the companies included in the EGX 100 companies , can introduce a better representation of the whole population, alternatively, more comparative research including the MENA region countries will increase the generalizability of the results. *Finally*, the current study analysis has focused only on boards characteristics, investigating other determinants such as ownership structure patterns, audit committee characteristics and firm characteristics will enhance the results of such research. Despite the previous limitations, the results of this study can provide a useful insight into the disclosure tone practice in environment internet reporting by Egyptian companies and provides a solid starting point for future research.

References:

Abd Rahman, N., Rasid , S. and Basiruddin , R.(2017) , " Board effectiveness and quality of voluntary carbon reporting of Malaysian companies", *International Journal of Innovation and Business Strategy* , Vol. 7 No. 1,pp. 1-9.

Abrahamson, E. and Park, C. (1994), "Concealment of negative organizational outcomes: An agency theory perspective", *The Academy of Management Journal,* Vol.37 No.5, pp.1302-1334.

Aerts, W. (2005), "Picking up the pieces: Impression management in the retrospective attributional framing of accounting outcomes", *Accounting, Organizations, and Society,* Vol.30 No.6, pp. 493-517.

Aerts, W. and Cormier, D., (2009), "Media legitimacy and corporate environmental communication", *Accounting, Organizations and Society,* Vol.34 No.1, pp.1–27 .

Al-Bassam, W., Ntim, C., Opong, K. and Downs, Y. (2015), "Corporate boards and ownership structure as antecedents of corporate governance disclosure in Saudi Arabian publicly listed corporations", *Business & Society,* (doi: 10.1177/0007650315610611).

Aly, D., Hussainey, K. and Elhalaby, S. (2017), "Tone Disclosure and Financial Performance: Evidence from Egypt", *Accounting Research Journal,* ISSN 1030-9616 (In Press).

Aly, H., Mehdian, S. and Perry M. (2004),"An analysis of Day-of-the-Week effects in the Egyptian stock market", *International Journal of Business,* Vol.9 No.3, pp. 301-308.

Amalia, D. (2017),"Corporate governance mechanisms and impression management through sustainability report", *bachelor's degree,* Faculty of Economics and Business, Diponegoro University, pp.1-97.

Amran, A., Bin, A. and Hassan, B. (2009), "Risk reporting: An exploratory study of risk management disclosure in Malaysian annual reports", *Managerial Auditing Journal,* Vol.24 No.1, pp. 39–57.

Arena, C., Bozzolan, S. and Michelon, G. (2015), "Environmental reporting: Transparency to stakeholders or stakeholder manipulation? An analysis of disclosure tone and the role of the board of directors", *Corporate Social Responsibility and Environmental Management*, Vol.22, pp. 346–361.

Barako, D., Hancock, P. and Izan, H. (2006), “Factors influencing voluntary corporate disclosure by Kenyan companies”, *Corporate Governance: An International Review*, Vol. 14 No. 2, March, pp. 107-125.

Baysinger, B. and Hoskisson, R. (1990), “The composition of boards of directors and strategic control: Effects on corporate strategy”, *The Academy of Management Review*, Vol. 15 No. 1, Jan., pp. 72-87.

Beaver, W. (1998), “Financial reporting: An accounting revolution”, 3rd ed. Upper Saddle River (US): Prentice Hall.

Bolívar, M. (2009), “Evaluating corporate environmental reporting on the internet -The utility and resource industries in Spain”, *Business & Society*, Vol. 48 No. 2, pp.179- 205.

Bowen, R., Davis A., and Matsumoto D. (2005), “Emphasis on pro forma versus GAAP earnings in quarterly press releases: Determinants, SEC intervention and market reactions”, *The Accounting Review*, Vol.80 No. 4, pp. 1011-1038.

Brennan, N. and Merkl-Davies, D. (2013),“Accounting narratives and impression management”, *In the Routledge Companion to Communication in Accounting*, chapter (8), pp. 109-132.

Chen, J., Duh, R. and Shiue, F. (2008), “The effect of audit committees on earnings-return association: Evidence from foreign registrants in the United States”, *Corporate Governance: An International Review*, Vol.16 No. 1, pp.32-40.

Chi, W. and Wang, Y. (2009),“Ownership, performance and executive turnover in China”, *Journal of Asian Economics* , Vol. 20, pp. 465–478.

Cho, C. and Patten, D. (2007), “The role of environmental disclosures as tools of legitimacy: A Research Note”, *Accounting, Organizations and Society*, Vol.32 Nos.7/8, pp.639–647.

Cho, C., Michelon, G. and Patten, D. (2012a), “Enhancement and obfuscation through the use of graphs in sustainability reports: An international comparison", *Sustainability Accounting, Management and Policy Journal*, Vol. 3 No. 1, pp.74-88.

Cho, C., Michelon, G., and Patten, D. (2012b), “Impression management in sustainability reports: An empirical investigation of the use of graphs”, *Accounting and the public interest*, Vol.12 No.1, pp.16-37

Cho, C., Roberts, R. and Patten, D. (2010), "The Language of US Corporate Environmental Disclosure", *Accounting, Organizations and Society*, Vol.35 No.4, pp. 431–443.

Clarkson, P., Overell, M. and Chapple, L. (2011) , "Environmental reporting and its relation to corporate environmental performance", *Abacus*, Vol. 47 No. 1, pp. 27-60.

Clatworthy, M. and Jones, M. (2001), "The effect of thematic structure on the variability of annual report readability", *Accounting, Auditing and Accountability Journal*, Vol.14 No. 3, pp.311-326

Conger, J., Finegold, D. and Lawler III, E. (1998),"Appraising boardroom performance", *Harvard Business Review*, Vol.76, pp.136-148.

Courtis, J. (1998), "Annual report readability variability: Tests of the obfuscation hypothesis", *Accounting, Auditing and Accountability Journal*, Vol.11 No. 4, pp. 459-471.

Davis, A. and Tama-Sweet, I. (2012), "Managers' use of language across alternative disclosure outlets: Earnings press releases versus MD&A", *Contemporary Accounting Research*, Vol.29 No.3, pp.804–837.

Davis, A., Piger, J. and Sedor, L. (2012), "Beyond the numbers: Measuring the information content of earnings press release language", *Contemporary Accounting Research*, Vol.29 No.3, pp.845–868.

Deegan, C. (2002),"Introduction the legitimising effect of social and environmental disclosures – A theoretical foundation", *Accounting, Auditing and Accountability Journal*, Vol. 15 No. 3, pp. 282–311.

Deegan, C., Rankin, M. and Tobin, J. (2002) "An examination of the corporate social and environmental disclosures of BHP from 1983–1997: A test of legitimacy theory", *Accounting, Auditing and Accountability Journal*, Vol. 15 No. 3, pp. 312–343.

Demers E. and Vega C. (2010), "Soft information in earnings announcements: News or Noise", *Working Paper*, INSEAD, pp.1- 67.

Dienes, D. and Velte, P. (2016), "The Impact of Supervisory Board Composition on CSR Reporting: Evidence from the German Two-Tier System", *Sustainability*, Vol.8 No.63, pp.1-20.

Digitext Inc. (2011), "DICTION 6.0 help manual", available at: *www.dictionsoftware.com/files/dictionmanual.pdf* (accessed 20 June 2017).

Du, S. and Vieira, E. (2012), "Striving for legitimacy through corporate social responsibility: Insights from oil companies", *Journal of Business Ethics*, Vol.110 No.4, pp. 413–427.

EFSA (2012), "Decision No. 15 Regarding Amending Listing and De-listing Rules", EFSA, Egypt, available at: *http://www.efsa.gov.eg/content/efsa2_ en/decisions_en/dec15_en* (accessed 20 March 2017).

Eng, L. and Mak, Y. (2003),"Corporate governance and voluntary disclosure", *Journal of Accounting and Public Policy*, Vol. 22 No. 4, pp. 325-45.

Esen, E. and Caliskan, A. (2018), "Sustainability disclosures and impression management on social media*", Press Academia Procedia* (PAP), Vol.7, p.213-216.

Fama, E. and Jensen, M. (1983),"Separation of Ownership and Control", *Journal of Law and Economics*, Vol. 26 No.2, pp.301-326.

Feldman, R., Govindaraj, S., Livnat, J., & Segel, B. (2010) ," Management's tone change, post earnings announcement drift and accruals", *Review of Accounting Studies*, Vol.15 No.4 , pp.915-953.

García Osma, b. and Guillamón-Saorín, E. (2011),"Corporate governance and impression management in annual results press releases", *Accounting, Organizations and Society*, Vol. 36 No. 4, pp.187-208.

Global Reporting Initiative, (2010), "A new phase: the growth of sustainability reporting", available at: *www.globalreporting.org* (accessed 10 December 2017).

Godfrey, J., Mather P., and Ramsay A. (2003), "Earnings and impression in financial reports: The case of CEO changes", *Abacus*, Vol.39 No.1, pp. 95-123.

Gray, R., Kouhy, R., and Lavers, S. (1995), "Corporate social and environmental reporting: a review of the literature and a longitudinal study of UK disclosure", *Accounting, Auditing & Accountability Journal*, Vol.8 No.2, pp.47-77.

Guillamon-Saorin, E., Isidro, H. and Marques, A.(2017),"Impression Management and Non-GAAP Disclosure in Earnings Announcements" *Journal of Business Finance & Accounting*, Vol.44 Nos.3-4, pp.448–479.

Hand, J. (1990),"A test of the extended functional fixation hypothesis", *The Accounting Review*, Vol. 65 No.4, pp. 740-763.

Haniffa, R. and Cooke, T. (2002),"Culture, corporate governance and disclosure in Malaysian corporations", *ABACUS,* Vol. 38, pp. 317-49.

Hart, R. (2000), "*DICTION 5.0: The text-analysis program*", Thousand Oaks, CA: Scolari ⁄ Sage.

Hart, R. (2001), "*Redeveloping DICTION: Theoretical considerations*", In M.D. West (Ed.). Theory, method, and practice of computer content analysis, 43-60. Westport, CT: Greenwood Publishing Group.

Hart, R. and Carroll, C. (2013), "*DICTION 7 Help Manual: The text analysis program*", *Digitext, Inc.*, pp.1-52.

Hassell, J., Jennings, R. and Lasser, D.(1988), "Management earnings forecasts; their usefulness as a source of firm-specific information to security analysts", *Journal of Financial Research,* Vol.11No.4, pp. 303-319 .

Henry, E. (2008), "Are investors influenced by how earnings press releases are written?", *Journal of Business Communication* ,Vol.45 No.4, pp. 363–407.

Hines, R., (1989), "The socio-political paradigm in financial accounting research", *Accounting, Auditing and Accountability Journal,* Vol.2 No.1 pp.52–76 .

Hooghiemstra, R. (2000),"Corporate communication and impression management – New perspective why companies engage in corporate social reporting", *Journal of Business Ethics,* Vol. 27 Nos.1-2, pp.55-68.

Huang, X., Hong Theo, S., & Zhang, Y. (2014),"Tone Management", *The Accounting Review,* Vol. 89 No. 3, pp. 1083-1113.

Hughes, S., Anderson, A. and Golden, S. (2001), "Corporate environmental disclosures: Are they useful in determining environmental performance?", *Journal of Accounting and Public Policy,* Vol.20 No.3, pp. 217–240.

Hutton, A., Miller, G. and Skinner, D.(2003), "The role of supplementary statements with management earnings forecasts", *Journal of Accounting Research,* Vol.41 No.5, pp.90-110.

Ibrahim, M. and Wahba, H. (2013) , " The effect of corporate social responsibility on the firm's financial performance", *International Journal of Business and Management Studies,* Vol. 5 No.2, pp.147-156.

Isenmann, R. and Lenz, C. (2002), "Internet use for corporate environmental reporting: current challenges – technical benefits – practical guidance", *Business Strategy and the Environment*, Vol.11, pp.181-202.

Islam, M. and Deegan, C. (2008), "Motivations for an organisation within a developing country to report social responsibility information: Evidence from Bangladesh", *Accounting, Auditing & Accountability Journal,* Vol.21 No.6, pp.850-874.

Jefferis, K. and Smith, G. (2005) , "The changing efficiency of African stock markets", *South African Journal of Economics*, Vol.73 No.1, pp. 54-67.

Jensen, M. (1993), "The modern industrial revolution, exit and the failure of internal control systems", *The Journal of Finance,* Vol.48 No.3, pp.831-880.

Jizi, M., Salama, A., Dixon, R. and Stratling, R. (2014), "Corporate governance and corporate social responsibility disclosure: evidence from the US banking sector", *Journal of Business Ethics*, Vol.125, pp. 601-615.

Jones, M. (2011),"The nature, use and impression management of graphs in social and environmental accounting", *Accounting forum*, Vol.35, pp.75- 89.

Kahveci, E (2016), "The tone of annual reports as a strategic performance management tool: Application on Turkey's Borsa Istanbul corporate governance index firms", *Journal of Economics, Finance and Accounting*, Vol.3 No.3, pp.209-221.

Kanagaretnam, K., Lobo G., and Whalen D.(2007), "Does good corporate governance reduce information asymmetry around quarterly earnings announcements?" *Journal of Accounting and Public Policy*, Vol.26 No.4, pp.497–522 .

KPMG (2017), "The KPMG survey of corporate responsibility reporting 2017", available at: *www.kpmg.com/crroprting* (accessed 2 January 2017).

Larcker, D. and Rusticus, T. (2010),"On the use of instrumental variables in accounting research", *Journal of Accounting and Economics*, Vol.49 No.3, pp. 186–205.

Leary, M. and Kowalski, R. (1990), "Impression management: a literature review and two-component model", *Psychological Bulletin*, Vol. 107 No. 1, pp. 34-47.

Li, J., Pike, R. and Haniffa, R. (2008),“Intellectual capital disclosure and corporate governance structure in UK firms”, *Accounting and Business Research,* Vol. 38 No. 2, pp. 137-159.

Linsley, P. and Shrives, P. (2006), “Risk reporting: A study of risk disclosures in the annual reports of UK companies”, *The British Accounting Review,* Vol. 38 No. 4, December, pp. 387-404.

Magness, V. (2006), “Strategic posture, financial performance and environmental disclosure: An empirical test of legitimacy theory”, *Accounting, Auditing & Accountability Journal*, Vol. 19 No. 4, pp.540-563.

Martikainen, M., Miihkinen, A. and Watson, L. (2016), “Board characteristics and disclosure tone”, *Paper presented at Florida Accounting Symposium,* United States.

Mather, P. and Ramsay, A. (2007),“Do board characteristics influence impression management through graph selectivity around CEO change”, *Australian Accounting Review*, Vol. 17 No. 2, pp.84-95.

McNichols, M. (1989), “Evidence of information asymmetries from management earnings forecasts and stock returns”, *The Accounting Review,* Vol. 64 No.1, pp.1-27.

Melloni, G. (2015), “Intellectual capital disclosure in integrated reporting: an impression management analysis”, *Journal of Intellectual Capital,* Vol. 16 No.3, pp.661-680.

Melloni, G., Caglio, A. and Perego, P. (2017), “Saying more with less? Disclosure conciseness, completeness and balance in integrated reports”, *Journal of Accounting and Public Policy*, Vol. 36 No. 3, pp. 220-238.

Melloni, G., Stacchezzini, R. and Lai, A. (2016) ,“ The tone of business model disclosure: an impression management analysis of the integrated reports ”, *Journal of Management & Governance* , Vol. 20 No. 2, pp. 295–320 .

Merkl-Davies, D. and Brennan, N. (2007), “Discretionary disclosure strategies in corporate narratives: incremental information or impression management?”, *Journal of Accounting Literature,* Vol. 26, pp. 116-194.

Merkl-Davies, D., Brennan, N. and McLeay, S. (2011), “Impression management and retrospective sense-making in corporate narratives:

A social psychology perspective", *Accounting, Auditing & Accountability Journal*, Vol. 24 No. 3, pp.315-344.

Milne, M. and Patten, D. (2002), "Securing organizational legitimacy – An experimental decision case examining the impact of environmental disclosures", *Accounting, Auditing and Accountability Journal*, Vol. 15 No. 3, pp.372– 405 .

Mousa, G. (2010),"Stakeholder theory as an arch to manage successful legitimacy strategies", *International Journal of Critical Accounting*, Vol. 2 No. 4, pp.399– 418.

Neu, D. (1991), "Trust, impression management and the public accounting profession", *Critical Perspectives on Accounting*, Vol.2 No.3, pp. 295-313.

Neu, D., Warsame, H., and Pedwell, K. (1998), "Managing public impressions: environmental disclosures in annual reports", *Accounting, Organizations and Society*, Vol.23 No.3, pp.265–282.

Ntim, C., Lindop, S. and Thomas, D. (2013), "Corporate governance and risk reporting in South Africa: A study of corporate risk disclosures in the pre- and post-2007/2008 global financial crisis periods", *International Review of Financial Analysis*, Vol.30, pp.363–383.

O'Donovan, G. (2002), "Environmental disclosures in the annual report: Extending the applicability and predictive power of legitimacy theory", *Accounting, Auditing and Accountability Journal*, Vol. 15 No. 3, pp.344–371.

O'Dwyer, B. (2003), "Conceptions of corporate social responsibility: the nature of managerial capture", *Accounting, Auditing and Accountability Journal*, Vol. 16 No. 4, pp.523–557.

Ober S., Zhao, J., Davis, R. and Alexander, M.(1999), "Telling it like it is: The use of certainty in Public business discourse", *Journal of Business Communication*, Vol.36 No3, pp. 280-296.

Oliveira, J., Rodrigues, L. and Craig, R. (2011), "Risk-related disclosure by non-finance companies: Portuguese practices and disclosure characteristics", *Managerial Auditing Journal*, Vol. 26 No. 9, pp. 817-839.

Patten, D. (2002), "The relation between environmental performance and environmental disclosure: a research note", *Accounting, Organizations and Society*, Vol. 27 No. 8, pp. 763-773.

Rodrigue, M, Cho, H. and Laine, M. (2015), “Volume and tone of environmental disclosure: A comparative analysis of a corporation and its stakeholders”, *Social and Environmental Accountability Journal,* Vol. 35 No. 1, pp.1-16.

Rutherford, B. (2003),“Obfuscation, textual complexity and the role of regulated narrative accounting disclosure in corporate governance”, *Journal of Management and Governance,* Vol. 7 No. 2 pp.187-210.

Schleicher, T. and Walker, M. (2010),“Bias in the tone of forward-looking narratives", *Accounting and Business Research,* Vol.40 No.4, pp.371-390.

Shankman, N. (1999), “Reframing the debate between agency and stakeholder theories of the Firm”, *Journal of Business Ethics,* Vol.19 No. 4, pp.319-334.

Shehata, N. (2014),“Theories and Determinants of Voluntary Disclosure”, *Accounting and Finance Research,* Vol. 3 No. 1, pp.18-26.

Short, J. and Palmer, T. (2008), “The application of DICTION to content analysis research in strategic management”, *Organizational Research Methods,* Vo. 11 No.4, pp.727-752.

Suchman, M. (1995), “Managing legitimacy: Strategic and institutional approaches”, *The Academy of Management Journal,* Vol.20 No.3, pp. 571 - 610.

Suttipuna, M. and Stanton, P. (2012) , “A study of environmental disclosures by Thai listed companies on Websites”, *Procedia Economics and Finance,* Vol. 2, pp. 9-15.

Sydserff, R. and Weetman P. (1999), “A texture index for evaluating accounting narratives: An alternative to readability formulas”, *Accounting, Auditing and Accountability Journal,* Vol.12 No.4, pp. 459-488.

Sydserff, R. and Weetman, P., (2002), “Developments in content analysis: A transitivity index and scores”, *Accounting, Auditing and Accountability Journal,* Vol.15 No. 4, pp.523-545.

Tennyson, B., Ingram, R. and Dugan, T. (1990), “Assessing the information content of narrative disclosures in explaining bankruptcy”, *Journal of Business Finance and Accounting,* Vol.17No.3, pp. 391–410.

Tilling, M. (2004),“Some thoughts on legitimacy theory in social and environmental accounting”, *Social and Environmental Accountability Journal,* Vol.24 No.2, pp.3-7.

Ullah, M. and Rahman, M. (2015), "Corporate social responsibility reporting practices in banking companies in Bangladesh: Impact of regulatory change", *Journal of Financial Reporting and Accounting*, Vol. 13 No. 2, pp.200-225.

Ullmann, A. (1985), "Data in search of a theory: A critical examination of the relationships among social performance, social disclosure and economic performance of U.S. firms", *Academy of Management Review*, Vol.10 No.3, pp.540–577.

Vafeas, N. (1999),"Board meeting frequency and firm performance", *Journal of Financial Economics*, Vol.53 No.1, pp.113-143.

Van der Laan, S. (2009), "The role of theory in explaining motivation for corporate social disclosures: voluntary disclosures vs 'solicited' disclosures", *Australasian Accounting, Business and Finance Journal*, Vol.3 No.4, pp.15-29.

Verrecchia, R. (1983),"Discretionary disclosure", *Journal of Accounting and Economics*, Vol. 5 No.1, pp. 179-194.

Williams, P. (1996),"The relation between prior earnings forecast by management and analyst response to a current management forecast", *The Accounting Review*, Vol.71 No. 1, pp.103-115.

Woolfson, C., and Beck, M. (2005), "*Corporate social responsibility failures in the Oil Industry*", New York: Baywood Publishing.