A THEORETICAL REVIEW OF INTERNAL FACTORS AFFECTING ENVIRONMENTAL DISCLOSURE

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Abstract
Environmental Disclosure means the text of environmental reports. The information is provided to the Acquirer in the form of Environmental materials. Environmental disclosures can include both financial and non-financial information relating to environmental performance. The costs relating to pollution and degradation of resources are of serious concern. In Environmental Accounting and Disclosure the Environmental – Laws, regulations, quality, pollution etc., are focused and it is considered as a strategic tool to assess the role of natural environment on the economy. In this work the various internal factors affecting environmental disclosure is being identified. An overview of the theoretical concept of these factors is included. The basis of measuring these factors is also examined. The impact of these factors on environmental disclosure is also analyzed on the basis of available literatures. The main internal factors that affect environmental disclosure are firm size, leverage, exposure to environment, audit of environment, existence of environmental committee, board independence, gender difference, years listed in stock exchange, auditor type, age of firm, type of industry, pollution propensity and profitability. Some of these factors have positive impact on environmental disclosure while others have negative impact on environmental disclosure. The main determinants of disclosure are grouped into two categories namely those relating to firms’ vision and strategy and environmental factors.

Key words: Environmental disclosure, Leverage-Environmental exposure, Environmental audit, Environmental committee, foreign ownership, Environmental certification, Pollution propensity, Profitability

Introduction
Environment means the entire surroundings of a living organism and it also includes natural forces and other living things that provide conditions for development and growth. Environmental issues are any issues created due to human activities and it may cause harm to environment. Environmental disclosure helps the company to understand the relationship between various factors, company plan and strategy, setting objectives, measurement of performance etc. A social and environmental disclosure index is used to measure environmental disclosure of a company. Environmental disclosure about the effects of manufacturing activities on the environment has been gaining importance now days. Environmental performance information enables the investors to know the current value and future prospects of the business and to identify the cost incurred to control pollution. The regulators and general public use this information to assess the firms’ performance. The pressures of society on social and environmental issues are relevant for companies to adopt socially and environmentally sustainable initiatives to reduce the impacts caused by their activities on the environment (Marcon, Medeiros, & Ribeiro, 2017). This has been used by the organizations as a medium to legitimize their activities. Environmental disclosure helps to increase the communication and reduce the asymmetry of information. Securities and

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Exchange Commission regulates the accounting activities of companies when disclosing financial and non-financial information. Business activities have two sides of positive and negative impacts on environment. The environment also contributes to the advantages and disadvantages in the production and business activities of the firm. The main theories affecting social and environmental disclosure are legitimacy theory, institutional theory, resource dependence theory and stake holder theory. Corporate social responsibility has become a global trend and so the reporting of these issues is a matter of concern for the companies. Corporate social responsibility disclosures indicate that activities implemented by the enterprise are made with the sole objective of protecting the environment, rights of employees and to carry out responsibility. It is also considered as a tool for measuring the social efficiency of a business. As a result many companies disclose information about their activities relating to ethics, corporate governance and social and environmental issues.

Literature review

The institutional perspective of legitimacy theory is one of the dominant theories in social disclosure research (e.g. Deegan 2002; Patten & Crampton 2004; Chen & Robert 2010). The focus of legitimacy theory’s institutional perspective is on social legitimacy, which refers to the acceptance of a company by its social environment, and external constituents (Branco & Rodriguez 2008). Legitimacy theory (Lindblom 1994; Suchman 1995) focuses on whether the value system of an organization is congruent with the value system of society, and whether the objective of organizations is to meet social expectations. The theory states that legitimacy is a status or condition that is achieved when the value system of an organization is congruent with the value system of the larger society. Organizations seek this status through the process of legitimating. The importance of social legitimacy comes from the theoretical assumption that companies are embedded in the social Environment in which they operate, and that their performance and expectations are affected by the environment (Branco & Rodrigues 2008). The company’s success, even survival, is determined by this interface

Statement of the Problem

Environmental reporting research was promoted in the early 1970’s. It lost its importance in 1980’s and now it is gaining more importance. There has been increase in the reporting of social and environmental issues by the companies. But the amount of voluntary disclosure is low and most of them are self-laudatory with little or no negative disclosure. Although there
has been an increase the number of disclosures, there is a difference in the content reported. There is a need for standardization of social and environmental reporting practices and use of Global Reporting Initiative framework which is regarded as an ideal model. Global reporting guidelines have also gained attention from the point of view of stakeholders. Different stakeholders are likely to use the environmental information differently. The management targets its disclosure to various audiences. Depending upon the type of audience, management has different modes of disclosing different information. The general environmental information and financial environmental information should be disclosed separately.

**Objectives of the Study**

- To identify the internal factors affecting environmental disclosure
- To examine the theoretical concept of the factors affecting disclosure
- To study the impact of these factors on environmental disclosure on the basis of available literature
- To analyses the basis of measurement of these factors

**Significance of the Study**

Environmental disclosure increase transparency. It also improves public image and relationship between various stakeholders. It also increases the relationship between customers and employees and increases the value of intangible assets of the company. The companies can allocate the resources more effectively and efficiently. Increased disclosure reduces regulatory cost and legal liability of the firm. Thus it helps to increase the competitiveness, profitability and share prices of the organization. The company can demonstrate their environmental concern and social responsibility. The present study provides a theoretical contribution of the various variables for environmental disclosure. The company can attract investment and in turn it helps to improve the financial efficiency of the company. The disclosure has been paid more attention due to need of satisfying international standards. Thus there is a need to have a real understanding of the various internal factors affecting environmental disclosure practices of a company in general.

**Scope of the study**

The study covers the major internal factors contributing to environmental disclosure and their impact on the basis of available literature. The majority of the studies are conducted in international level.
Research Methodology

The present study is purely based on secondary data. Information has been derived from international journals, articles and websites.

Discussion and Findings

Internal factors affecting environmental disclosure

The various internal factors affecting environmental disclosure are identified. They are the firm's size, leverage, exposure to environment, audit of environment, existence of environmental committee, board independence, gender difference, number of years listed in stock exchange, auditor type, age of firm, type of industry, pollution propensity and profitability.

Theoretical concepts on factors affecting disclosure

There are mainly 13 factors affecting environmental disclosure. They are as under:

I Size of the firm

When the size of the company is large, there is more social and environmental disclosure. (Brammer and Pavelin 2006; Cowen et al. 1987; Gray et al. 1995; Hackston and Milne 1996; Patten 2002, Patten 1992; Zeng et al. 2012). These studies opined that big firms are very much exposed to environment because of their reputation, prestige and good image. The large firms will be more compelled to disclose more information relating to environment for making their large number of stakeholders happy. Moreover, they depend on external sources of capital and so disclose environmental information to make a good impression in the society. The larger firms will disclose more information in order to reduce stringent fines and penalties in case of violation of law from regulatory authorities and to ensure regulatory control. (Burgwal and Vieira 2014). Brammer and Pavelin (2008) study quality of voluntary disclosures in UK’s industrial sector and analysed that bigger the size of the firm, the larger will be the environmental disclosure. The main issue to be taken into account is the amount of cost involved in providing environmental information. It is found that high cost is involved in reporting environmental information, and so small firms cannot find it easy to manage them from their less resource (da Silva Monteiro and Aibar-Guzmán 2010). Therefore, larger companies have enough and more resources to spend towards the cost of reporting information in their annual reports for the benefit of users. Secondly, agency cost is higher for big firms to report on their activities relating to environment because their shareholders are largely dispersed (Watts and Zimmerman 1983; Christ and Burritt 2013;
Zeng et al. 2012. Thus, more the information is disclosed less will be the potential agency cost. Thirdly, existing literature suggest that another reason for disclosing more information by larger companies than smaller companies in their annual reports is to gain more competitive cost advantage (Lang and Lundholm 1993; Lobo and Zhou 2001; Kolk 2003).

**II Leverage**

Another explanatory factor of environmental disclosure is INDEBT. Macagnan (2009) clarifies that the higher the level of leverage of an entity, the greater the need to reduce information asymmetry among stakeholders because agency costs are higher for companies with more debt in their capital structure, as mentioned by Jensen and Meckling (1976). Thus, company managers are encouraged to disclose information on corporate activities, so as to satisfy creditors as they may adopt more critical postures regarding the companies (Huang & Kung, 2010). These considerations support the second hypothesis.

**Environmental exposure**

If the outsiders know more about the environmental exposure of a firm, the firm will disclose more in order to differentiate itself from the worst polluters. Thus, firms’ environmental disclosures are associated positively with the extent to which stakeholders know about firms’ environmental exposure. It is not possible to measure the exposure directly. It is measured by news media coverage, ordinal ranking by environment watchdog groups, and the number of Superfund sites (Ingram & Frazier, 1980; Barth et al., 1997; Li et al., 1997; Neu et al., 1998). A key word search of the Canadian Business and Current Affairs (CBCA) database was carried out to identify all news articles that relate to environmental matters for each sample firm. Under the assumption that the number of news articles published reflects the extent of public knowledge about sample firms’ environmental exposure, the extent of public knowledge is considered as the number of environmental articles during the period of 1986 to 1993.

**Environmental audit**

Audit of environment is done for monitoring the compliance with new laws and regulations related to non-financial disclosure. The assurance of environmental information is considered as essential to reduce pressure from outside. According to article 225 of the Grenelle Act II, all listed companies require a verification of disclosed information by a third party to ensure credibility. These companies are questionable to public about the insufficient reliability and the lack of accuracy of environmental information (Braam et al. 2016). In the same vein,
GRI (2013) also comment on the importance of assurance of environmental accounting and its importance in enhancing prestige, trust and creditworthiness for stakeholders. However, due to the relative newness of the practice, empirical studies of CSR assurance is very few and limited number of studies are available to investigate its impact (Brikey et al. 2016). Environmental audit influences the company’s expectations regarding its accountability, thus increasing shareholder’s trust and company reputation (Braam et al. 2016).

Existence of environmental committee
An environmental committee is viewed as a financial asset for the firm. The knowledge, expertise, skills and ability of such a committee play a significant role in ensuring a good quality environmental reporting (Amran et al. 2013). An environmental committee within the board of directors should monitor and promote management activities (Peters and Romi 2012). The various studies have shown that the presence of an environmental committee within the board is a main signal of a company’s dedication towards sustainability and its ability to manage the conflicts between different stakeholder groups. As indicated by Peters and Romi (2012), environmental committee helps companies to evaluate reporting systems. The EC has been seen as a sign of board orientation toward environmental accountability (Liao et al. 2014). In the same vein, Michael and Jill (2009) indicate that EC’sis established by the firm in order to address environmental issues from the point of risks and strategic opportunities of their powerful stakeholders.

Board Independency
The presence of independent directors on boards is important because they can contribute much more because of their experience to the firm (Barros et al. 2013). They play an important role in decision making on the various aspects of the firm, such as CSR (Rao and Tilt 2015). A few theoretical and empirical studies have been made on the influence of independent directors on CSR activities (Ducassy and Montandroua 2015). In this regard, several authors are of the opinion that effectiveness of the board in dealing with non-financial disclosure is determined by its independence because it is related to the strength of the board (Garcia-Sanchez and Martinez Ferrero 2016). Independent directors contribute by their talents, abilities, relationships and contacts to satisfy all stakeholders, thus ensuring corporate survival (Fuente et al. 2017). On this level, Ibrahim and Angelidis (1995) consider that the presence of outside independent directors increases the monitoring role of the board, because they will be more sensitive to the needs of the society and more concerned with ethical
matters. Moreover, authors like Zahra and Stanton (1988) report that independent directors will not violate the laws, regulations, and responsible behavior by the organization. Regarding environmental reporting, Rupley et al. (2012) indicate that the independent directors help companies to achieve strategic goals and provide perspectives that may affect a firm’s willingness to publish transparent environmental information available to a wide range of stakeholders.

**Gender Diversity**

The firms tend to match between their needs and the resources provided by board members, such as education, experience and skills to benefit the organization. In this sense, the role of women on the board is of much importance. Literature suggests that companies with a greater number of females on their boards are an important dimension of corporate governance, because women are different from men (Liao et al. 2014). Forte (2004) provides evidence that women are more likely than men to identify situations requiring ethical judgment. Some have argued that women are more aware of environmental issues and are more concerned in reducing risks than man (Post et al. 2011). Adams et al. (2015) indicates that men and women present differences in terms of ethical behavior and those female directors have different values and are more stakeholders oriented. From a cultural point of view, women are considered to care more about the quality of life than material success (Hofstede et al. 2010) which leads them to be more concerned about the environmental commitment of the company and the wellbeing of the society. They may demand greater environmental reporting quality. In addition, firms with women on the board of directors are more socially responsible (Seto-Pamies 2013). Recent research suggests that board gender diversity may affect reporting quality, compliance and ethical behavior. Al Shaer and Zaman (2016) find a positive influence of female presence in the board on sustainability reporting quality.

**Number of years listed in the stock exchange**

Wachira (2014) study has shown that the firm’s age does not affect the level of disclosure of environmental accounting information. In contrast, the study by Hasan & Hosain (2015) showed that business’s age has a significant effect on the level of mandatory information disclosure. However, according to the theory of legalization, the longer the firm is listed on the stock market, the easier they will be to comply with the disclosure requirements. In terms of additional disclosure, the extra cost they have to spend is not much higher than that of
young firms. So in cost and benefits theory, these firms will tend to spend cost for the disclosure of environmental accounting information.

**Auditor type**

Auditors regularly check the financial accounts of the company. Society reposes confidence and trust in the ‘big four’ accounting firms. Larger firms can appoint one of the big four accounting firms because they have more money and can gain international acceptance and recognition. And since the ‘big 4’ (Pricewaterhouse Coopers(PWC), Klynveld Peat Marwick Goerdeler(KPMG), Deloitte & Touche, Ernst & Young). The issue of auditor type and its association with disclosures is uncertain in literature. Inchausti (1997), Ahmad et al. (2003) and Choi (1999) find a significant association between disclosures and auditor type.

**Age of firm**

Older firms are more likely to engage in environmental performance to influence perception about their business and to legitimize their existence. Older firms are more likely to be bigger firms and may be willing to provide information to influence their continuous existence. Older firms may be abreast with current trends in their industry and are more apt at performing on new policies to sustain their business. Aerts et al. (2006) and Cochran and Wood (1984) study age with mixed results.

**Type of industry**

There are two types of industries namely environmentally sensitive and non-sensitive industries. Environmentally sensitive industries are those industries whose activities affect the environment directly. Mahmood (1999) suggests that disclosure levels reflect the type of industry. These disclosures are more aligned to companies whose activities affect the environment significantly (Brammer and Pavelin 2006, Brammer and Pavelin 2008; Campbell et al. 2003; Cho and Patten 2007; Deegan and Gordon 1996; Hackston and Milne 1996; Roberts 1992; Zeng et al. 2012). Highly environmental sensitive industries comply with strict regulations due to the emission effect of their activities and therefore should disclose their environmental concerns. (Cormier and Magnan 2003; Clarkson et al. 2008; Cho and Patten 2007; Hackston and Milne 1996; da Silva Monteiro and Aibar-Guzmán 2010).

**Pollution Propensity**
Voluntary disclosure theory suggests that, in equilibrium, uninformed stakeholders form their expectations about firms’ potential environmental problems using all available information. Given that corporate pollution propensity differs across industries and is public knowledge, uninformed stakeholders’ expectations about corporate environmental exposure should reflect the difference in corporate pollution propensity. Hence, we expect that firms in an industry with a higher pollution propensity will make more environmental disclosure than firms in less polluting industries. Firms in a more polluting industry need to disclose more in order to avoid adverse actions by uninformed stakeholders against the worst polluters in the industry. Measuring relative pollution propensity of different industries is challenging because the potential environmental impact of industrial wastes is not always known. We follow a simple approach in this study, categorizing our sample firms into two broad groups. Following previous research (Li et al., 1997), define SICi = 1 if firm i belongs to chemical, pulp and paper, petroleum, or primary metal industry, and SICi = 0 otherwise. Although this is a rough measure of corporate pollution propensity, it is consistent with the existing public perception that the above mentioned four industries are more polluting:

### Profitability

One way for companies to differentiate themselves is through the dissemination of environmental information, aimed at revealing their “good news” to the financial markets, that is, to provide a signal of their decisions and actions. Thus, entities with greater PROF are inclined to disclose more information, with the intention of differentiating themselves from those with lower PROF, thus demonstrating an advantage over their competitors (Lang & Lundholm, 1993; Lu & Abeysekera, 2014).

### Effects of the factors on Environmental Disclosure

- Larger firms disclose more environmental information
- Companies with higher leverage disclose more environmental information than companies with low leverage
- If the firm is more exposed to environment, it has more environmental disclosure.
- Audit of environmental information is positively associated with the quality of disclosure
- The presence of an environmental committee in the board improves environmental disclosure
- The quality of environmental disclosure is positively related to board independence
- Gender diversity boards have a positive association with environmental disclosure
- The longer the period of being listed in the stock exchange, the greater will be the environmental disclosure
- If there is foreign ownership, environmental disclosure will be more
- A company which has received environment certification disclose more environmental information
- The type of auditors appointed will affect the disclosure of the firm
- Older firms will disclose more environmental information
- The firms in the environmentally sensitive industries will produce more information than the firm in non-sensitive industries
- The pollution propensity will be positively related to environmental disclosure
- More profitability companies will disclose more environmental information than less profitability companies

**Basis of measurement of factors**

<table>
<thead>
<tr>
<th>Factor</th>
<th>Basis of measurement</th>
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<tbody>
<tr>
<td>Size of the firm</td>
<td>Total assets, Return on assets</td>
</tr>
<tr>
<td>Leverage</td>
<td>Current liability/net equity</td>
</tr>
<tr>
<td>Environmental exposure</td>
<td>Number of news articles published</td>
</tr>
<tr>
<td>Environmental audit</td>
<td>1 if firm adopts environmental audit and 0 if no environmental audit</td>
</tr>
<tr>
<td>Presence of environmental committee</td>
<td>1 if there is environmental committee and 0 if no committee</td>
</tr>
<tr>
<td>Size of board of directors</td>
<td>Total number of members in the board</td>
</tr>
<tr>
<td>Board independence</td>
<td>Percentage of number of independent members on the board to total numbers</td>
</tr>
<tr>
<td>Gender diversity</td>
<td>Number of female workers to total number of workers</td>
</tr>
<tr>
<td>Number of years listed in stock exchange</td>
<td>Number of years</td>
</tr>
<tr>
<td>Foreign ownership</td>
<td>Percentage of share held in foreign companies</td>
</tr>
<tr>
<td>Environmental certification</td>
<td>0 if no certification, 1 if certification</td>
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<td>-----------------------------</td>
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<tr>
<td>Auditor type</td>
<td>0 if not audited Big four and 1 if audited by big four firm</td>
</tr>
<tr>
<td>Age of the firm</td>
<td>Number of years of existence of the company since its incorporation</td>
</tr>
<tr>
<td>Type of industry</td>
<td>Nature of activity</td>
</tr>
<tr>
<td>Pollution propensity</td>
<td>GRI guidelines</td>
</tr>
<tr>
<td>Profitability</td>
<td>Return on assets, Net income/total assets</td>
</tr>
</tbody>
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Source: Compiled from annual reports

**Conclusion**

Highly effective firms are often among the top firms in the industry that are well-regarded for their environmental responsibility, as demonstrated by adequate and detailed disclosure of information related to the environment. The disclosure of environmental accounting information is a way for firms to enhance their images and reputations with stakeholders, especially in the integration trend when developed countries are very interested in green growth and sustainable development. However, the situation shows that the accounting work and information disclosure related to the environment have not been properly paid attention. Therefore, in the coming years, firms need to strengthen solutions for improving environmental accounting to support the disclosure of the related information.

**References**


