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Determinants of Voluntary Disclosures on the Websites of Firms in Ghana

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Abstract:
The purpose of this study is to investigate the determinants of voluntary disclosure (VD) on the websites of Ghanaian companies. Specifically, the study examines the relationship between VD and four variables: company size, profitability, liquidity and leverage. The study employed a quantitative explanatory design. The study revealed that 76.2 per cent of the companies had and reported a significant portion of information on their website. It was also revealed that all the companies disclosed more user-friendly information than the other components of voluntary disclosure followed by the financial information disclosure. On explanation of VD, size, profitability and liquidity are significant determinants of VD. In addition to the current requirement of publishing financial statements in newspapers, regulators should encourage companies to keep websites to disclose more information. The availability of more investor related information on company websites will inform potential investors about the performance of these companies and attract investments.

Keywords: *Voluntary disclosure, websites, firms, Ghana*

1. Introduction

1.1. Background to the Study

Companies are required to make their financial statement disclosures for the benefit of all stakeholders (Nobes, 2014). The financial information helps stakeholders in making decisions about providing resources to the entity. Those decisions involve buying, selling or holding equity and debt instruments, and providing or settling loans and other forms of credit. Financial statements also give evidence of management stewardship. Management is in a fiduciary relationship with shareholders and as such it is the responsibility of management to furnish the shareholders with accurate and true information.

Corporate financial reporting and in particular annual reports are important avenues for communicating company's financial and non-financial information. Furthermore, companies have become aware of the importance of presenting information about the broader range of activities including both their financial performance and non-financial performance such as corporate social responsibility (Akisik & Gal, 2011).

According to Bremer and Elias (2007), poor disclosure practice of companies is to a greater extent responsible for the numerous financial scandals such as those involving Enron, WorldCom, Nortel, Parmalat and Royal Ahold, that exposed failures in corporate disclosure practices and shook the capital markets of developed countries. After these corporate scandals and financial crises, regulators, academicians, investors and other stakeholders called for greater corporate transparency in conducting business. To achieve this level of transparency, managers have to disclose corporate information beyond what they are required to disclose by regulators. This is what is often referred to as voluntary or discretionary disclosure. Adherence to corporate voluntary disclosure practices buoys up transparency and stimulates investor confidence which eventually helps to resolve the agency problem (Cheung, Jiang & Tan, 2010).

Until recent past, companies used hard copies (paper) as the medium for transmitting financial information to shareholders. This medium has proved to be expensive, time consuming and limits accessibility of information to the stakeholders who are dispersed all over the world (Willis, Tesniere & Jones, 2003). The situation in Ghana is not different. It is difficult to have access to financial statements of companies in Ghana. Although these companies are mandated by law to file their financial statements with statutory bodies like the Securities and Exchange Commission, Ghana (SECG) and the Registrar General's Department, it is not always the case. As a result, these bodies are unable to provide such information to stakeholders on request (Tsamenyi, Ennimful-Adu & Onumah, 2007).

Technological advancement has made the internet a useful, timely and cost-effective tool for the communication of information to stakeholders. On the contrary, the practice of companies disclosing information on their corporate websites started decades after the emergence of the internet (Xiao, Yang & Chow, 2004). Unfortunately, the information on these websites was limited. Companies displayed some basic information about their vision, mission, contacts and the services offered. In recent years, corporate websites have assumed diverse usage. Companies can now publish financial

information on their websites. This has made it possible to reach a large audience at fairly low cost. In addition, some companies have innovatively included audio and video content on their websites to give a better picture to prospective and existing investors about the reality of the progress made. According to Oyelere, Laswad and Fisher (2003) the internet has revolutionized financial reporting.

Balogun (2013) identified that the use of corporate websites has the potential of promoting the image of a company. He established that the unique interactive characteristics of a corporate website provide outstanding strategic contribution to the creation of corporate identity and the management of corporate image. As a result, firms can use the corporate website to inform, remind and persuade stakeholders. Furthermore, corporate websites allow companies to publicize detailed and up-to-date information. The websites can also readily host complete archives of financial statements, corporate press releases as well as in-depth background on products and services which are freely available for stakeholders' usage.

Khadaroo (2005) also reports that internet usage has significantly impacted on corporate reporting practices. Although there is an emergent use of the internet as a medium for the distribution of corporate information, some companies either do not have a corporate website, or are not using their website to disseminate such information. There is the need therefore, to analyze the role played by websites in the disclosure of financial and non-financial information in Ghana in order to determine how that role can be enhanced. The study therefore focuses on finding and describing the explanatory determinants of voluntary disclosures by companies in Ghana.

Online financial reporting has become the norm, rather than the exception, in most western countries (Gowthrope, 2004). This is because there have been a growing number of empirical studies on web-based financial reporting disclosures reflecting the growth in this form of information dissemination (Marston, 2003; Oyelere et al., 2003; Xiao et. al., 2004; Bonson & Escobar, 2006).

The same cannot be said of developing countries such as Ghana, where empirical evidence of the phenomenon is only just emerging (Tsamenyi et. al., 2007). There is a dearth of research on voluntary disclosures of firms in emerging economies like that of Ghana. Questions persist as to whether corporate organisations in Ghana are availing themselves for the opportunities provided by the internet to communicate financial information to their stakeholders.

The practice of companies having websites and using them to voluntarily disclose financial information is motivated by certain factors. Marston (2003), Gowthorpe (2004), Boubaker, Lakhal, and Nekhili (2011), and Uyar, Kilic, and Bayyurt (2013) recognized several determinants of corporate website financial disclosures. These studies identified company size, audit firm size, ownership dispersion, industry type, profitability, leverage, liquidity, foreign listing among others as determinants of voluntary disclosures by corporate institutions.

The results from these studies were mixed. Boubaker et. al. (2011) using Ordinary Least Square regression analysis and Uyar et. al. (2013) using content analysis identified company size as a determinant of corporate website financial disclosure. They differed on results with industry type, profitability and audit firm size. The results from Boubaker et. al. showed that company size, audit firm size, ownership dispersion, and firm performance determine corporate website financial disclosures while the outcome of Uyar et. al. revealed that industry type and profitability are not determinants of corporate website financial disclosures.

The motivation for this study is to fill in the gaps identified by examining whether the variables that researchers have found to be significant in explaining voluntary disclosure of companies in developed countries also apply in a developing country like Ghana. The study examines 2015 annual reports on the websites of these companies to determine the firm specific characteristics that influence companies to disclosure financial information on their corporate websites.

Websites can provide better and more effective ways of communicating financial and non-financial information. Therefore, there is the need to explore the factors that influence companies in Ghana to disclose financial statements on their websites.

2. Literature Review

2.1. Theoretical Review

Prior studies have employed several theories to explain why companies may use the website to voluntarily disclose financial information. The present study employs agency theory, signaling theory, and information cost-benefit analysis theory to explain why a company may voluntarily disclose information on their websites.

2.1.1. Agency Theory

The agency theory is directed at the ubiquitous agency relationship, in which one party (the principal) delegates work to another (the agent), who performs that work (Mallin, 2010). In this perspective, the agents are the managers and the principals are the shareholders. The theory, in the context of the firm, has as its major feature the separation of ownership and control.

It is difficult and expensive for the principal to verify what the agent is actually doing. The problem here is that the principal cannot verify that the agent has behaved appropriately. This is due to the fact that the principal and the agent have access to different levels of information; in practice, the principal only knows what the agent wants him to know. Moreover, to reduce the agency problem, the agent must be monitored. The incurrence of agency costs is thus inevitable (McClogan, 2001). Managers will have to set up governance mechanisms to ensure that the agents act in the best interest of shareholders. This may include providing additional information disclosures to shareholders through different media including corporate websites.

The agency theory explains why managers disclose information for the shareholders (Marston & Polei, 2004). The theory assumes that the agency cost will vary with corporate characteristics (e.g. company size, leverage, profitability and liquidity). It is debated that voluntary disclosures lower agency costs. This debate will be the same for larger companies in terms of size, because if the larger company would use the higher debt because of the tax advantage, then they will disclose more to satisfy the creditors. The other corporate attributes might be explained in the same argument. That is, by disclosing more information, the managers will reduce the agency cost to be trustworthy to the shareholders, and then the agency theory would be justified in this regard.

Furthermore, agency theory uses management incentives to explain voluntary disclosure. Watson, Shrives and Marston (2002) stated that agents will act optimally because they know that shareholders seek to control their behaviour through bounding and monitoring activities. Therefore, one way of reducing agency costs is to increase the levels of corporate disclosure.

2.1.2. Signaling Theory

In economics, more precisely in contract theory, signaling is the idea that one party (agent) credibly conveys some information about itself to another party (principal) (Shehata, 2014). The informational value of the credential comes from the fact that the employer assumes it is positively correlated with having greater ability. The theory operates on the principle that users of financial reports need confidence regarding financial markets. As such, according to Hossain and Hammami (2009) firms (managers) are expected to disclose information in order to increase the confidence of users of financial information. This way, the investors will feel much secured with the increased level of voluntary information disclosure.

The signaling theory explains why some firms disclose more information than others. The theory suggests that voluntary disclosure is one of the means available for companies or managers to differentiate themselves from others on such measurements as quality and performance (Healy & Palepu, 2001). In addition, signaling theory challenges companies to try to implement the same level of disclosure as other companies within the same industry do because if a company does not keep-up with the same level of disclosure as others, it may be perceived by stakeholders that it is hiding bad news (Craven & Marston, 1999). Therefore, companies may use website disclosure to keep pace with other companies in the same industry. Furthermore, the very use of the website might itself be a signal that the company is modern and up-to-date with the latest developments in information technology rather than old fashioned and conservative.

It is also argued that managers of profitable companies increase the level of disclosure to signal to investors that the company is profitable and to support their continuation and compensation (Oyelere et. al, 2003). The signal of the company would be a testimonial in terms of getting potential and prospective investors and creditors. For example, the profitable company, with good leverage and level of liquidity would disclose more than the others (i.e. loss-making companies, poor liquidity and debt to equity ratio levels). Voluntary corporate website financial disclosure is one of the signaling means, where companies would disclose more information than the mandatory ones required by laws and regulations in order to signal that they are performing better than their competitors. This will also convince the external users of the company's information that managers are acting in an optimal way. This will help the managers of the company to distinguish itself from others.

2.1.3. Information Cost-Benefit Analysis Theory

According to the theory of information cost-benefit analysis theory, a company must compare the potential benefits against the costs that follow from information disclosure before deciding whether or not to voluntarily publish information. When the benefits due to disclosure exceed its costs, voluntary disclosure would be more profitable for managers (Leuz & Verrecchia, 2000).

Websites provides useful communication tool for corporate organisations. One of such gains is the fact that technological advancement has made the website usage a useful, timely and cost-effective tool for the communication of information to stakeholders. The internet permits companies to reach a much wider group and diversity of stakeholders at relatively lower costs, with reduction in incidental requests from non-stakeholder financial statement users (Khadaroo, 2005). Companies are able to achieve more equitable information dissemination among stakeholders as a result of improved accessibility to information. With the website, users can choose to access information that meets their specific needs as the internet allows non-sequential access to information through the use of hyperlinks and interactive search engines.

Voluntary website disclosures provide an opportunity for going beyond what is available in hard copy corporate financial statements to communicate additional information to users, mostly on real-time and interactive bases (Debreceny, Gray & Rahman, 2002). For instance, companies are able to extend financial disclosure beyond the reproduction of a hard copy annual report and improve on the timeliness, scope, and interactivity of financial reporting, with multimedia, such as sound, animation and video, being used to potentially increase the comprehension of information. Furthermore, companies could extend their financial information disclosure ability through the use of electronic communication languages such as Extensible Business Reporting Language (XBRL). These developments have a great prospective impact on users (Gowthorpe & Flynn, 2001).

On the other hand, voluntary website disclosures have some challenges as identified in the literature. There is the possibility that the dividing line between current financial information used by management and historical audited financial information made available to public users of financial information could be erased by real-time reporting (Oyelere et al., 2003). Perhaps the utmost challenge faced with website financial disclosure is that of ensuring the security and integrity of the financial information published on these websites.

Apart from likely inaccuracies in the publishing process, materials published on the website are vulnerable to all manner of security risks (Oyelere & Kuruppu, 2012). There is a real risk that serious decisions could be made by users of financial information based on erroneous financial information gleaned from corporate websites. The degree to which these problems are dealt with is likely to determine the long-term usefulness of the website as a medium of corporate financial information disclosure.

2.2. Empirical Review

The bulk of internet reporting studies are focused on US and European Union countries (Oyelere et. al., 2003; Xiao et. al., 2004; Marston & Polei, 2004). Few other studies have been carried out in emerging and developing economies Thailand (Davey & Homkajohn, 2004), China (Xiao et. al., 2004), Egypt (Desoky, 2009) and United Arab Emirates (Oyelere & Kuruppu, 2012).

In Ghana, not many studies have been conducted so far on the determinants of corporate website financial disclosures. A work done by Agyei-Mensah (2011) examined firms listed on the Ghana Stock Exchange (GSE) in terms of their ability to communicate financial and non-financial information using the internet as a medium. The result from the research showed that twenty-seven (77.14%) had websites and eight (22.86%) did not have websites or the websites were not accessible. The result of a multiple regression analysis showed that profitability and leverage are important determinants of website financial reporting whiles company size, liquidity and auditor size did not give significant explanatory variables.

It is evident from the above discussions that the factors that drive firms to use websites for financial disclosure were not identical. Researchers identified one or two firm characteristics (i.e. firm size, profitability, industry type, foreign listing, liquidity, leverage and audit type) as determinants of voluntary website disclosure. This indicates that, the outcomes of these researches are often mixed. In addition, the findings of these studies may not be generalizable to different countries at different stages of development, or with different business environments and cultures, thus the need to identify those specific factors which determine voluntary corporate website financial disclosure in the case of Ghana.

2.3. Determinants of Voluntary Disclosure and Hypotheses Development

This section explains the justification for the basis of the hypotheses which were arrived at for the study. Based on the literature, the following four hypotheses are developed. The hypotheses are about the relationship between some company characteristics which potentially affect disclosure decisions and the total score of disclosed items on corporate websites.

<u>2.3.1. Company Size</u>

According to Oyelere et. al. (2003) one of the most frequently identified determinants of corporate website disclosure is company size. Xiao et. al. (2004) opined that large companies are more likely than small ones to use Information Technology (IT) to improve financial reporting to meet the greater demand for information than smaller ones. This is because large companies benefit from the advantages of economies of scale. It is also viewed that larger companies usually have more products and more complex distribution networks, which require larger and more complex management information systems and databases for management control purposes (Marston, 2003). Moreover, larger companies tend to attract more analysts' followings than smaller ones, and may therefore be subjected to greater demand by analysts for private information. As a result, disclosure cost per cedi may be generally lower for larger companies than smaller ones.

It is further argued that pressure from stock markets forces large companies to disclose more information on their websites to support them in increasing their outside capital to enhance their performance. As a result, large companies are more able to access financial markets through disclosing more information online (Bonson & Escobar, 2002). Big firms can disclose information on the internet for lower costs as they have the resources to do so. Smaller firms on the other hand tend to hide their important information due to industrial competition (Marston, 2003). In addition, agency theory suggests that large companies display higher costs due to the information asymmetry between market participants (Mallin, 2010). To lessen this cost, larger firms disclose more corporate information.

Additionally, researchers propose that there may be a positive relationship between size and the extent of website disclosure, due to agency theory (Oyelere et al., 2003; Martson & Polei, 2004). Increased disclosures are expected to decrease agency cost, which can arise from the opposing interests of shareholders, managers and debt holders (Marston, 2003). Furthermore, voluntary disclosures are likely to decrease political costs that are higher for bigger companies compared to smaller companies. Hence, based on this background, the first hypothesis is stated as follows:

- H1: There is a positive relationship between company size and voluntary disclosure (VD).

In testing this hypothesis, a logarithm of total sales will be used as a measure of firm size.

<u>2.3.2. Profitability</u>

Profitability is another factor which has been explored in terms of its association with corporate reporting on the website (Marston, 2003; Oyelere et. al., 2003). Marston (2003) argues that the more profitable the companies, the more likely it is for them to disclose financial information. Hence, profitable companies have extra financial resources to disseminate financial information voluntarily and be more motivated to disclose to both the stakeholders and public that they are more profitable than their counterparts in the same industry.

Also, "good news" firms are encouraged to screen themselves out from other firms (Marston & Polei, 2004). This is suggested by signaling theory. The theory recommends that profitable companies have an incentive to disclose more

information to signal the company's profitability to investors and to raise capital at the lowest price (Oyelere et. al., 2003). Furthermore, the agency theory explains the reason why managers of highly profitable companies will disseminate more information on their company's website. Such voluntary disclosure will inform investors to support management persistent stay in their positions and increase in the levels of compensation (Oyelere et. al.). This good indicator will also have the potential to boost the compensation of management.

Profitability as a determinant of voluntary corporate website disclosure has yielded contrasting results. Some researchers found that profitability influences voluntary disclosures whiles others showed that there is no association between profitability and voluntary disclosures. For example, Marston and Polei (2004) found that profitability is not associated with internet reporting. Conversely, Agyei-Mensah (2011) established that profitability significantly determines a company's disclosure of financial information on its website. Ismail (2002) identified that profitability may increase the likelihood of a company publishing financial information via the website when this variable is within a specific range. If it increases beyond this range, the likelihood of firms publishing financial information on the website decreases. This provides the basis for the following hypothesis:

- H2: There is a positive relationship between profitability and voluntary disclosures (VD).

In testing this hypothesis Return on Equity (ROE) is used as a measure of profitability.

2.3.3. Leverage

It is debated that when a firm is making a large use of debt, a monitoring problem arises between stockholders and creditors. As a result, the involved firms may solve this challenge by increasing the level of voluntary disclosure. This can be justified by the agency theory where the agency costs of loan capital depend on the nature of claims held by outsiders. The costs are higher for firms with comparably more debt in the capital structure (Ismail, 2002).

Voluntary disclosure can reduce the agency costs by facilitating a supplier's assessment of a firm's ability to meet its debts (Mallin, 2010). It is thus advised that firms that are highly leveraged are more inclined to try and satisfy debt suppliers by transmitting reliable information on the website to make these creditors more confident about the ability of the companies to pay their debts. Though this dissemination results in extra disclosure costs, providing reliable information to debt providers reduces agency costs (Xiao et. al., 2004).

Furthermore, empirical evidence regarding the association between leverage and the extent of corporate website disclosure is also inconclusive. A positive association was found in Ismail (2002) and Agyei-Mensah (2011) while a negative association was found in Xiao et. al. (2004) and Aly, Simon and Hussainey (2010).

The relationship between leverage and corporate disclosure has been explained by several authors using the agency theory. Increased disclosure can reduce debt holders' tendencies to price-protect against transfers from themselves to shareholders (Xiao et. al. 2004). Debrency et. al. (2002) observed that increases in the debt-equity ratio create agency costs. Management could voluntarily disclose on the website to allow creditors to monitor regularly the affairs of the company and help them evaluate the ability of the company to pay its liability on time. Ismail (2002) added that although there are extra costs associated with circulation of corporate information on the website, this dissemination might provide more up-to-date reliable information to creditors and would in return decrease agency costs.

In contrast, Oyelere et. al. (2003) found that leverage does not explain the decision to use internet for corporate financial reporting. They expounded that this may be due to differences between internet reporting and the traditional print-based financial reporting environment and culture, demonstrated in the differences of costs, benefits, demand and supply structures of the two environments. This provides the bases of the hypothesis:

- H3: There is a positive relationship between company leverage and voluntary disclosures (VD).

Leverage is measured as the ratio of total debt to total equity.

2.3.4. Liquidity

According to signaling theory, companies will disclose more information if their liquidity ratio is high, to differentiate themselves from other companies with less satisfactory liquidity (Shehata, 2014). Agency theory suggests that companies with a low-liquidity ratio may provide more information to satisfy the information requirements of shareholders and creditors (Cheung et. al., 2010). By disclosing more information, companies are likely to minimize information asymmetry and hence attract liquidity in the company's shares, which will lead to lower cost of capital (Verrecchia, 1991).

Several studies have examined the relationship between liquidity and the extent of disclosure. However, again the results are inconclusive. For instance, Oyelere et. al. (2003) found that liquidity is considered one of the primary determinants of internet financial reporting among New Zealand companies, and found a positive relationship between company liquidity and voluntary use of website reporting. On the other hand, Aly et. al. (2010) analyzing the determinants of corporate internet reporting in Egypt, concluded that liquidity does not explain corporate website reporting. Based on these discussions, the fourth hypothesis is stated as:

- H4: There is a positive relationship between liquidity and voluntary disclosures (VD).

Liquidity is measured as the ratio of cash and cash equivalent to current liability.

3. Research Methods

The study employs a deductive approach since the sequence of the research is from theory to hypotheses to data. The study adopted a quantitative research approach due to the information that is elicited by the study.

The study adopted a cross-sectional design. Cross-sectional designs attempt to statistically control for all confounding influences that may affect the relationship between the independent variable and the dependent variable

(Saunders, Lewis & Thornhill, 2009). It also allows researchers to compare many different variables at the same time. However, cross-sectional studies may not provide definite information about cause-and-effect relationships. This is because such studies offer a snapshot of a single moment in time; they do not consider what happens before or after the snapshot is taken.

The study examines the determinants of voluntary disclosure for the 2015 financial year. A cross-sectional design best suit such a study since it is based on observations made at one point in time. It is used when the data collection strategy is broader in scope and involves systematic data collection (Bagnoli, Wang & Watts, 2014). The number of companies considered for the study 61 is broad enough.

The study is focused on companies in Ghana which have their financial reports posted on functioning websites for the period of the study. The companies selected for the study included companies listed on the Ghana Stock Exchange (GSE), companies on the Ghana Club 100 listing and other companies which met the requisite criteria for inclusion in the study.

3.1. Population

The population for this research study comprises all companies listed on the Ghana Stock Exchange and the Ghana Club 100. However, the research identified 61 companies as the population of interest (i.e. the target population). Nevertheless, there are other companies which met the selection criteria but are not in these two major categories. Table 1 shows the composition of the study population.

Category	Number of Companies
Ghana Stock Exchange (GSE)	27
Ghana Club 100 (GC 100)	31
Others	16
GSE & GC 100	13
Total	61

Table 1: Composition of the Study Population
Source: Field Survey (2016)

3.2. Sampling Procedure

Companies which were selected for the study had to meet the following criteria: possess a corporate website; disclose financial information for 2015 on the website; and the reporting currency should be Ghana Cedis.

The dependent variable that is the information on the voluntary disclosures, were gathered from the websites of the sampled companies. Similarly, the independent variables which consist of company size, profitability, leverage and liquidity were manually extracted from firms' annual reports on the websites of these companies using content analysis. In all, 61 annual reports were collected directly from the aforementioned source.

Data for a study of this nature can be extracted using a checklist or an index. The current study adapts the checklist of Xiao et. al. (2004) to collect data on the dependent variable. The disclosure checklist was compiled to facilitate the collection of the relevant data from the companies' websites and annual reports. The checklist was complied on the basis of the existing literature by Xiao et al. (2004). The checklist that was used for the study is on Appendix 1. This checklist was used to collect data on the dependent variable, voluntary disclosure (VD). The checklist was further categorised into five sections namely: the general and strategic information, investor related information, financial information, user friendly information and corporate governance information (Bagnoli et. al., 2014). The collection of data according to the above classification will enable descriptive analysis on the basis of industry or economic sector to be carried out successfully.

The developed disclosure index is composed of a comprehensive checklist of 59 items computed for all the 61 companies. The disclosure items for the dependent variables were grouped as shown in Table 2.

	Disclosure Item	Items Disclosed
A	General and strategic information disclosure	12
B	Investor related information disclosure	9
C	Financial information disclosure	13
D	User friendly information disclosure	15
E	Corporate governance information disclosure	10
	Total	59

Table 2: Classification of the Dependent Variable (Voluntary Website Disclosure)
Source: Field Survey (2016)

Content analysis methodology was used to collect data on the dependent variables (voluntary disclosures) and the independent variables (company size, profitability, leverage and liquidity).

3.3. Data Collection Procedure

The websites of the sampled companies were browsed for the required information using the checklist. The first task was to find out whether all these companies have a corporate website and if so to find out whether they disseminate

financial and non-financial information on their websites. To locate the corporate websites, the official websites of the Ghana Stock Exchange (GSE) and the Ghana Investment Promotion Center (GIPC) were browsed to identify the list of their membership respectively.

Subsequently, GOOGLE Search engine was used to confirm the existence and functioning of all the websites. The annual reports of the companies which were located on their respective website were downloaded. Subsequently, information on the dependent variable and independent variables were extracted over a period of two months from September to October, 2016. In all, information on 61 companies was extracted.

3.3.1. The Scoring Procedure for Disclosure Index

The complete audited annual report and website for each company was reviewed in order to understand the nature and complexity of each company's operation and to form an opinion about the company before scoring the items. If the assessed company has a website, which has the latest annual report then the company is regarded as website financial reporting compliant and is awarded a mark of 1. On the other hand, if the company has a website and does not provide full annual report or disclose only financial highlights, it is regarded as website financial disclosure non-compliant and was awarded a mark of zero (0). The company that has no website is also regarded as non-website financial reporting compliant and is awarded a zero (0) mark.

To avoid multiple counting, an item is assigned only one point even if the item appears more than once on the firm's website. This dichotomous basis has been used in prior studies by Cook, Heath and Thompson (2000). After that, an overall unweighted voluntary disclosure score was assigned from the number of items disclosed on the companies' website and annual report. The voluntary disclosure index for each firm was calculated as a ratio of the total voluntary disclosure score to the maximum voluntary disclosure score possible by the firm. The disclosure index for each firm was then expressed as a percentage. Below is a mathematical representation of the voluntary disclosure index:

$$VDi = \frac{Totalnumberofitemsdisclosed}{Totalpossiblenumberofitemstobedisclosed}$$

Where: VDi = Voluntary Corporate Website Financial Reporting Disclosure Index;

Proxies usually used for company size in previous studies include the total assets, number of shareholders and total sales (Oyelere et al., 2003; Martson & Polei, 2004). This study, however, adopted log of total sales as the proxy for company size. This choice is consistent with previous studies (Marston & Polei, 2004; Agyei-Mensah, 2011). Sales is measured in millions of Ghana Cedis. The specific accounting measure used for measuring performance in this study is return on equity (ROE). Furthermore, leverage is measured as the percentage of total debt to total assets. This choice is consistent with the study by Barako (2007). Lastly, liquidity is measured as the percentage of cash and cash equivalent to current liabilities. Table 3 presents the formulas for the calculation of the independent variables.

Variable	Measurement
Company size	Log x total sales
Return on equity (ROE)	$\frac{NetProfitaftertax}{TotalEquity}$ X 100
Leverage	$\frac{TotalDebt}{TotalAssets}$
Liquidity	$\frac{Cashandcashequivalent}{CurrentLiabilities}$

Table 3: Formulas for Calculating the Independent Variables
Source: Field Survey (2016)

A multiple regression analysis was used to determine the combined importance of the independent variables to the dissemination of financial information on the internet. The regression equation is:

$$VD_i = \alpha + \beta_1 SZE + \beta_2 PROF + \beta_3 LIQ + \beta_4 LEV + \varepsilon$$

Expected sign (+) (+) (+) (+)

Where: VDi is voluntary disclosure Index; α is constant; SZE is company size; PROF is profitability; LIQ is liquidity; LEV is leverage; ε is error term.

4. Results and Discussion

4.1. The Level of Voluntary Disclosures

From the study, the level of voluntary disclosures in Ghana which is represented by the average VD index is 76.2 percent. A similar study conducted by Agyei-Mensah (2011) to analyse all the firms listed on the Ghana Stock Exchange revealed that 77.14 per cent had websites and 22.86 percent did not have websites. In comparison with results of similar studies around the world, it is evident that the level of average total VD is greater than Ettredge, Richardson& Scholz (2002)37 per cent, and Xiao et. al. (2004) in China 31.2 per cent. However, the result is consistent with Marston and Polei (2004) in Germany 68 per cent in 2003. The VD of 76.2 per cent, indicates that most of the firms significantly disclosed financial information on their corporate websites.

4.2. The Type of Information Mostly Disclosed

Out of the actual total VD score of 2742, UFID had the highest disclosure score of 766 (27.9%). This was followed by FID with a disclosure score of 653 (23.8%). GSID was third with a disclosure score of 524 (19.1%) followed by CGID with a disclosure score of 407 (14.9%). IRID had the least score of 392 (14.3%).

Davey and Homkajohn (2004) using four disclosure categories, content, timelines, technology and user support, concluded that, user support and content scored higher than timeliness and technology information disclosure on the Thai companies' websites. Furthermore, Bowrin (2015) found a significant disclosure of general content and timeliness information for companies listed on the Caribbean Stock Exchange.

Figure 1 gives a graphical presentation of information disclosure among the components of VD.

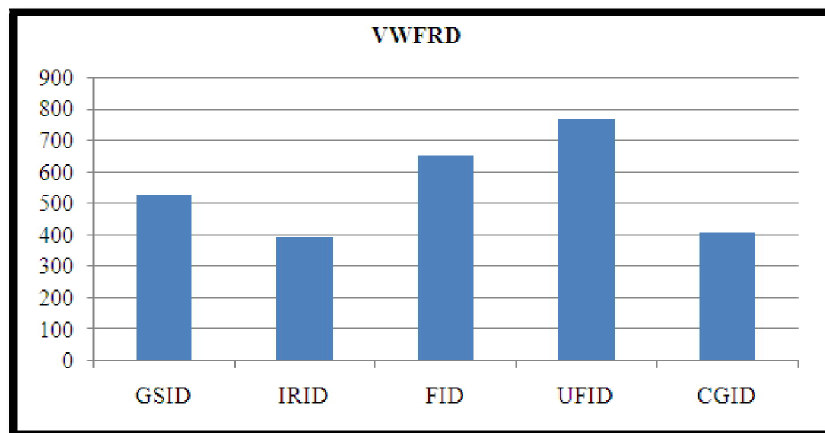

Figure 1: Disclosure of Information among VD Components
Source: Field Survey (2016)

With respect to the existence of general and strategic information disclosure, some items have high appearance on websites, whiles others have low. For example, all companies under study provided information on company's vision, mission, core values, corporate profile and history. List and description of major goods or services produced, information relating to the general outlook of the economy and core social responsibility had appearances between 98.4 to 73.8 per cent. This corroborates with results of Davey and Homkajohn (2004) where the research had high score for content information disclosure. Company's contribution to the national economy, agenda and invitation to Annual General Meeting, proxy voting form, company's current business strategy and its effects, disclosure relating to competition in the industry and organisational structure or chart had scores below average (43.7%).

Under the investor relations disclosure component, it was observed that 98.4 per cent of companies provided director's report, 93.4 per cent of the companies provided forecast information for the coming year, and 91.8 per cent of companies also provided information on key industry ratios. This agrees with the results of Boubaker et. al. (2011) where the most disclosed items were current year material events (77.9%) and news summary (77.25%). However, only 23 companies representing 37.7 per cent of the companies had links to investor relations. This is an indication that most of the companies did not provide information for potential investors.

In the financial information disclosure component, it was observed that all the companies under study provided information on auditor's report, financial statements and notes. Furthermore, all the companies also prepared their financial statements in compliance with International Financial Reporting Standards (IFRS) or International Accounting Standards (IAS). They also used comparative figures in the presentation of the financial statements. In addition, 93.4 percent of the companies had archives of financial statements, 85.9 per cent of the companies provided excerpts of financial reports, and 75.4 per cent of the companies reported on historical summary of financial data for the past three years. Seven companies had quarterly report and two companies had semi-annual report.

Boubaker et. al. (2011) generally recorded lower scores for financial information disclosure. In all complete current year annual reports were found in 69 percent of the websites while only 25.9 percent of the websites contain excerpts from these reports. Quarterly reports were provided in only 9.6 percent of the cases. Disclosures of current financial statements were more frequently available on firms' websites than any other accounting item (70.8%).

The user-friendly information disclosure component showed that websites of all the 61 companies used for the study had their annual reports in printable PDF format with clear boundaries. They also had download buttons, quick links, and site maps. In addition, all the companies also provided information on customer services. Out of the total number of companies, 98.4 per cent had graphic images, 96.7 per cent had links to social media (Twitter, Facebook), and 83.6 per cent had links to other financial sites. On the other hand, Davey and Homkajohn (2004) recorded significant disclosure of user support information but low scores for timeliness and technology information disclosure.

Under corporate governance information component, the most frequently disclosed items were the list of executive and non-executive board members. It was also observed that 91.8 per cent of the companies showed a separation of Chairman of the Board of Directors from the CEO. It is also significant to note that 88.5 per cent of the companies provided director's biographies or profiles. However, 65.6 per cent of the companies provided corporate governance report on their websites, 55.7 per cent of the companies had board committees (audit, appointment,

remuneration), and 52.5 per cent of the companies reported on shareholder distribution and ranking. Out of the total number of companies for the study, only twenty companies reported on code of ethics.

Conversely, Boubaker et. al. (2011) recorded low scores for corporate governance information disclosure on the websites. Only 28.3 percent of the sample firms provided a report on environmental issues on their websites.

4.3. Relationship between Firm-Specific Characteristics and VD

To establish the relationship between the firm specific characteristics and VD, the research first ascertained the descriptive statistics of the independent variables, then the correlation between the dependent and independent variables were established and finally, the regression analysis was carried out.

The independent variables which were used for the study were: company size, leverage, profitability and liquidity. Size was measured as log total sales. This was expressed in millions of Ghana Cedis. Profitability was measured as return on equity, leverage was measured as the ratio of total debt to total equity, and liquidity was measured as the ratio of cash and cash equivalent to current liabilities. The descriptive statistics of the independent variables are presented in Table 5 below.

	N	Min	Max	Mean	SD
SZE	61	0.4	6696.01	406.457	1163.87
LEV	61	0.02	103.04	7.433	14.2118
PROF	61	-193.38	258.57	12.108	54.6054
LIQ	61	0.18	1605	55.4403	206.072

Table 5: Descriptive Statistics of the Independent Variables
Source: Field Survey (2016)

The descriptive analysis shows an average size of GHS 407 million (SD = 1,163). This shows that there is very great variation in the size across the companies in the sample. This is further confirmed by the minimum of GHS 0.4 million and maximum amount of GHS 6,696 million. The mean leverage ratio is 7.43 (SD = 14.2). This means that the companies were low leveraged because the minimum value is 0.02 and the maximum value is 103. Furthermore, the low standard deviation values explain that there are fewer differences between the companies used for the study.

The mean value of profitability is 12.1 (SD = 54.6). The firm's profitability ratio was low because the minimum value is -193 and the maximum is 258. Besides, there are great differences between the values of profitability ratio because of the high standard deviation. The mean liquidity ratio is 55.4 (SD = 206). The minimum liquidity ratio of 0.18 and the maximum liquidity ratio of 1605 could mean that there are great differences between the liquidity ratios of the sampled companies. In addition, the standard deviation is high.

4.4. Correlation Analysis among the Dependent and Independent Variables

Table 6 presents the correlation results among the dependent variable (VD) and the independent variables (size, leverage, profitability, and liquidity). It reveals a number of significant correlations between the dependent and independent variables. These suggest that some of the hypotheses can potentially be supported. The significant correlation that occurred among the independent variables was the correlation between firm size and liquidity. The correlation between these two independent variables showed a statistically weak positive relationship ($r = .4888$, $p < .01$). Although there was a weak negative relationship between firm size and leverage, it was not statistically significant ($r = .164$, $p > .05$). There is a non-significant weak positive relationship between firm size and profitability (r = .01, p = n.s). Furthermore, there is a non-significant weak negative relationship between profitability and leverage (r = .12, p = n.s). There is a non-significant weak negative relationship between leverage and liquidity (r= .16, p = n.s). There was a non-significant weak negative relationship between profitability and liquidity (r=.11, p=n. s).

	SZE	LEV	PROF	LIQ	VD
SZE	1.000				
LEV	-0.164	1.000			
	0.207				
PROF	0.012	-0.119	1.000		
	0.925	0.360			
LIQ	0.4888**	-0.157	0.112	1.000	
	0.000	0.226	0.391		
VD	0.6044**	-0.029	-0.227	0.4489**	1.000
	0.000	0.827	0.079	0.000	

Table 6: Pearson Product-Moment Correlation Matrix
** Correlation Is Significant at the 0.05 Level (2-Tailed)*
*** Correlation Is Significant at the 0.01 Level (2-Tailed)*
Source: Field Survey (2016)

Cooper and Schindler (2008) explained that multi-collinearity could have damaging effects on regression as the estimated regression coefficients could fluctuate widely from sample to sample making is risky to consider it as a predictor

variable. They believed that a variance inflation factor (VIF) of 10.0 or larger indicated collinearity. Hence, a test for multi-collinearity was done using the VIF values. The VIF for all the variables were under the threshold. Therefore, there were no multi-collinearity problems in the analysis.

4.4. Regression Analysis

A multiple linear regression analysis was conducted to test the hypothesis. Data was transformed before performing the multiple regressions to avoid the problems of linearity, normality, homoscedasticity, independence of observation and outliers. Following similar prior studies such as Barako (2007), Agyei-Mensah (2011), and Bowrin (2015), an ordinary least squares (OLS) regression is used in this study.

The result of the regression analysis largely confirms the associations established from the correlation analysis. Table 7 presents the results of the regression model.

	VD
SZE	0.07
	(4.43)**
PROF	-0.06
	(2.55)*
LEV	0.09324
LIQ	(0.61) 0.32
	(2.15)*
Constant	-0.14
	(0.64)
Adj R^2	0.43
N	61

Table 7: Regression Results
** P<0.05; ** P<0.01*
Source: Field Survey (2016)

Where: SZE is company size; PROF is profitability; LIQ is liquidity; LEV is leverage; Adj R^2 is Adjusted R^2 and N is number of companies

According to the regression results, the adjusted R^2= 0.43. This means that in general, the independent variables explain 43% of the variation in the dependent variable (VD). Thus, the model has good explanatory power. The adjusted R^2 is indicative of a medium effect size, according to Cohen's classification (Cohen, 1992). The R^2 in the research conducted by Aly, et. al. (2010) of 0.614 and Agyei-Mensah (2011) of 0.562 were slightly greater than what was arrived in this research.

Furthermore, Field (2005) clarified that the F-ratio is used to test the overall fit of the model; a good model should have an F-ratio greater than 1. The regression model is therefore statistically significant, $F(4, 56) = 12.22$, $p < .0001$.This implies that, the model applied can statistically significantly predict the dependent variable.

4.4.1. Company Size

Hypothesis (H_1) tested the relationship between company size and the voluntary website disclosure. Company size accounted for 7% of the explained variability in VD and is statistically significant at $p < .0001$ holding the effect of the other independent variables constant. This implies that company size is a significant determinant of voluntary financial disclosure on the websites of companies in Ghana. Hence, the research rejects the null hypothesis.

Size has a positive coefficient. This means the larger the company, the more likely it is to disclose information on the corporate websites. This relationship can further be explained as the big firms have desire to need more financial resources. Therefore, they disclose more information in a bid to satisfy the information needs of potential investors. It is also possible for larger companies to have more diverse distribution of ownership. They therefore use the website to disclose more information in order to reach all their investors. A wider disclosure of voluntary information on the website also has the ability to attract more potential investors. Thus, the bigger the company, the more information they are likely to disclose on their website (Oyelere et. al., 2003; Martson & Polei, 2004; Uyar et. al., 2013; Bowrin, 2015).

This result is consistent with the agency theory. It is debated that voluntary disclosures lower agency costs (Marston &Polei, 2004). This will be the same for larger companies in terms of size, because if the larger company would use higher debt due to tax advantages then they will disclose more to satisfy the creditors. That is, by disclosing more information, the managers will reduce the agency cost to be trustworthy to the shareholders. Furthermore, Watson, Shrives and Marston (2002) stated that agents will act optimally because they know that shareholders seek to control their behaviour through bounding and monitoring activities. Therefore, one way of reducing agency costs is to increase the levels of corporate disclosure.

The results also confirm the signaling theory (Healy & Palepu, 2001; Oyelere et. al., 2003; Hossain &Hammami, 2009). The signaling theory challenges companies to try to implement the same level of disclosure as other companies within the same industry. This helps to prevent the perception that it is hiding bad news. Therefore, large size companies are faced with disclosing more voluntary information on their websites in other to be at par with companies of similar sizes.

Some prior studies have tested the hypothesis about the association between company size and VD, and they proved that disclosure on the website was significantly positively associated with company size. A study conducted by Uyar et. al. (2013) showed that larger companies disclosed more information online than smaller companies. In addition, Oyelere et. al. (2003) also showed that company size has a significant and positive impact on internet financial reporting practice, and therefore, larger firms are more likely to engage in internet financial reporting. Martson and Polei (2004) proved that company size is a significant explanatory variable for the amount of financial and other investor related information presented at companies' websites. On the other hand, the results of the research of Aly et. al. (2010) and Agyei-Mensah (2011) showed that company size is not a significant explanatory variable for VD.

4.4.2. Profitability

Hypothesis (H_2) examined the relationship between profitability and VD. Profitability accounted for (-9%) of the explained variability in VD and is statistically significant at $p = .013$ holding the effect of the other independent variables constant. This implies that profitability is a significant determinate of VD. Therefore, H_2 is supported; there is a significant relationship between VD and profitability.

Profitability has a negative coefficient. This implies that as companies make more profits, they turn to disclose less voluntary information on their corporate websites. Conversely, companies rather disclose more information on their website when they are less profitable.

This outcome is supported by the stakeholder theory (Agyei-Mensah, 2011). A possible explanation for this phenomenon is that poor performing companies will disclose more voluntary information on its website to satisfy its stakeholders that they are more inclined to turn things around. In addition, although the performance of the company may not be good, management will voluntarily disclose more information on the website to allow stakeholders to monitor regularly the affairs of the company and help them evaluate the ability of the company to restore performance.

This result corroborates that of Aqel (2014) where profitability variable was statistically significant ($p < .05$) but positive. Earlier research by Ismail (2002), Marston and Polei (2004), Aly et. al. (2010), and Agyei-Mensah (2011) also showed a positive significant relationship between profitability and voluntary internet disclosure. Besides, in several earlier studies such as Arussi, Selamat, and Hanefah (2009) and Uyar et. al., (2013) profitability did not explain the variability in voluntary disclosure.

4.4.3. Liquidity

Hypothesis (H_4) examined the relationship between liquidity and VD. Liquidity accounted for 32% of the explained variability in VD and is statistically significant at $p = .036$ holding the effect of the other independent variables constant. The statistically significant relationship between VD and liquidity holding all other independent variables constant indicates that liquidity is a significant determinant of VD. Therefore, H_4 is supported; there is a statistically significant relationship between VD and liquidity.

Liquidity has a positive coefficient. This implies that liquid companies are likely to undertake voluntary website disclosure. This is because according to signaling theory, voluntary disclosure is one of the means available for companies or managers to differentiate themselves from others on such measurements as quality and performance (Healy & Palepu, 2001). Companies will therefore disclose more information if their liquidity ratio is high, in other to differentiate themselves from other companies with less satisfactory liquidity. In addition, signaling theory challenges companies to try to implement the same level of disclosure as other companies within the same industry do because if a company does not keep-up with the same level of disclosure as others, it may be perceived by stakeholders that it is hiding bad news (Craven & Marston, 1999). Therefore, liquid companies may use website disclosure to keep pace with other liquid companies.

Furthermore, the agency theory suggests that companies with a low-liquidity ratio will voluntarily provide more information on its websites to satisfy the information requirements of shareholders and creditors. The disclosure of more voluntary information is likely to minimize information asymmetry and hence attract liquidity in the company's shares, which has the potential to lead to lower cost of capital.

This result is in tandem with that of some previous studies. For instance, Oyelere et. al. (2003) found that liquidity is considered one of the primary determinants of internet financial reporting among New Zealand companies, and found a positive relationship between company liquidity and voluntary use of internet reporting. On the contrary, the results of a similar research by Aqel (2014) showed a positive but statistically insignificant association between and internet financial reporting among companies listed on the Turkish stock exchange. Moreover, Aly et. al. (2010) analyzing the determinants of corporate internet reporting in Egypt, concluded that liquidity does not explain corporate website reporting.

4.4.4. Leverage

Hypothesis H_3 examined the relationship between leverage and VD. Leverage accounted for 9% of the explained variability in VD holding the effect of the other independent variables constant. However, the coefficient of variation is not statistically significant ($p > .05$). This outcome implies that leverage is not a significant determinant of VD. Therefore, the research rejects the hypothesis (H_2) that there is an association between VD and leverage. A plausible explanation for this result would be that, highly leveraged firms may satisfy its debt holders and other creditors by disclosing voluntary information via other media and not through their website.

This conclusion contradicts results from the research conducted by Oyelere et. al. (2003), Arussi et. al. (2009), and Agyei-Mensah (2011). On the other hand, this result corroborates that of Tsamenyi et. al. (2007), Aly et. al. (2010) and Aqel (2014). This result is however not consistent with the expectation of signaling theory.

5. Conclusions and Recommendation

The study sought to determine the level of voluntary disclosures (VD) of companies in Ghana. Even though there is no authoritative benchmark to compare, the percentage of the number of items disclosed to the expected items to be disclosed, 76.2 per cent of the 61 companies studied in this research had and reported a significant portion of information on their website. Hence, the VD of Ghanaian companies can be generally described as above average.

Additionally, the level of VD is highly driven by the user-friendly information disclosure component of VD. Financial information disclosure was the second most disclosed information in the VD. This could be probably due to the mandatory requirement to disclose certain financial information. Companies, however, recorded the lowest score for investor related information disclosure (IRID).

Among the four firm-specific characteristics variables used in this study, company size, profitability and liquidity had significant association with voluntary website disclosure. This means as firms grow in size, they are more likely to disseminate more information at relatively lower cost; hence it leads to an increased voluntary website disclosure. Nevertheless, profitability showed a negative relationship with VD.

The failure of the current study to predict leverage as a significant determinant of voluntary disclosure underscores the empirical inconclusiveness of the relationship between leverage and voluntary website disclosure.

The study offers certain implications for corporations, regulators and market participants. Based on the findings of the study, the following recommendations are put forth:

- Management of Ghanaian firms should embrace the use of website as a tool for not only communicating with stakeholders, but as a means of business growth through proper utilization of the competitive edge that Information and Communication Technology (ICT) provide to businesses.
- Companies should be encouraged to put more easily accessible investor and financial related information on their websites. This will enable potential and non-resident investors to easily inform themselves about the performance of companies they wish to invest. Increase in investments in these companies will contribute to the fast expansion of these companies.
- Availability of financial reports on websites has the potential to increase their audience. As the population of users becomes more diverse, traditional methods of circulation of financial statements may be challenged. Accounting professionals should carefully consider the use and presentation of financial information at websites with which they are associated.
- In addition to the current requirement of publishing financial statements in newspapers, regulators can bring on board the need for companies to keep websites to disclose more information.

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xlv.

Appendix

General and strategic information disclosure (GSID)	**Score**
Agenda and invitation to AGM	
Company's contribution to the national economy	
Company's current business strategy and its effects	
Company's vision, mission and core values	
Corporate profile and history	
Corporate social responsibility (education, culture, sport)	
Description of major goods/ services produced	
Disclosure relating to competition in the industry	
Information relating to the general outlook of the economy	
List of major goods / services produced	
Organisational structure/ chart	
Proxy voting form	
Investor-related information disclosure (IRID)	
Chairman's message	
Current share price	
Director's report	
Forecast information for the coming year	
Investor relations (e.g. email, phone number, fax, address etc.)	
Key industry ratios (e.g. ROA, LR, GR, EPS etc.)	
MD/CEOs message	
News summary or link to news summary (e.g. press releases and general news)	
Text of speeches and presentations ("road shows", AGM, EGM, etc.)	
Financial information disclosure (FID)	
Archive of financial statements	
Auditor's report	
Expects of financial reports	
Historical summary of financial data for the past three (3) years	
IFRS/ IAS basis	
Notes to annual report	
Quarterly report	
Semi-annual financial report	
Statement of cash flow	
Statement of changes in equity	
Statement of financial position	
Statement of income	
Usage of comparative figures	
User friendly information disclosure (UFID)	
Annual accounts on different websites	
Annual accounts on website	
Clear boundaries for annual reports	
Customer service	
Downloads (e.g. financial statements, reports, etc.)	
Financial data in other formats (e.g. Excel, ASCII, HTML, Word etc.)	
Financial data in PDF format	
Frequently asked questions (FAQs)	
Graphic images	
Internal search engine	
Legal disclaimer, terms and conditions, privacy statement	
Links into other financial sites	
Links to the social media (e.g. twitter, Facebook etc.)	
Print in friendly format	
Quick links, Next/ previous bottoms and site map	
Corporate governance information disclosure (CGID)	
Board Committees (e.g. audit, appointment, remuneration etc.)	
Code of ethics	
Corporate governance compliance report	
Director's biographies / profile	
Directors shareholding	
List of Executive Board members	
List of Non-Executive Board member	
Separation of chairman of BOD from CEO	
Shareholder distribution and ranking	
Top five shareholders ownership and voting rights	

Table 8: Disclosure Checklist