

Full Length Research Paper

Corporate financial reporting: Firm characteristics and the use of internet as a medium of communication by listed firms in Ghana

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The internet is playing great roles in the dissemination of information by companies. This study was conducted to analyze all the firms listed on the Ghana stock exchange (GSE) in terms of its ability to communicate both financial and non financial information using the internet as the medium. The results show that twenty seven (77.14%) had web sites and eight (22.86%) did not have web sites or the web sites were not accessible. The results of the multiple regression analysis show that profitability and leverage are important determinants of internet financial reporting. Thus, the hypotheses; H_1 : there is a positive association between internet financial reporting (IFR) index and firm's profitability and H_4 : there is a positive association between internet reporting index and leverage, were upheld. Firm size, liquidity and auditor size are not significant explanatory variables for the internet reporting index.

Key words: Web communication, voluntary internet disclosure, Ghana stock exchange, technology.

INTRODUCTION

Publicly, traded companies (that is, companies listed on the stock market) are required to make more financial statement disclosure (compared to privately held companies) for the benefit of not only existing but also for potential investors. Corporate financial reporting, and in particular, annual reports are important avenues for communicating companies financial and non-financial information. The main objective of financial reporting is to supply useful information to stakeholders. The International accounting standards board's (IASB) framework states that; "The objective of financial statements is to provide information about the financial position, performance and changes in financial position of an entity that is useful to a wide range of users in making economic decisions". The statements prepared also show the results of the management's stewardship.

Listed companies in Ghana must report certain financial information as required by International financial reporting standards (IFRS) and the Securities and Exchange Commission (SEC). But firms often provide information through news releases, and annual reports that goes beyond what is required. Besides traditional methods of reporting, firms now also use their websites to make these disclosures.

One advantage of a website is that information can be distributed to a large audience at a fairly low cost. Also, fewer constraints are imposed on the size and form that disclosures can take on the Internet. For example, firms can include audio and video content, which is impossible in a typical annual report. It is not surprising that corporate disclosure on the Internet is widespread.

To promote confidence and encourage shareholders and potential investors, it is important that Ghanaian companies should meet stakeholders' demands for greater speed and volume of transparent and timely financial information.

Certainly, the Internet can provide better and more

Abbreviations: IFR, Internet financial reporting; GSE, Ghana stock exchange; VIF, variable inflation factor.

effective ways of communicating financial and non-financial information. Internet financial reporting (IFR) is a recent but fast-growing phenomenon and many companies worldwide are taking advantage of the opportunity provided by the worldwide web (WWW), (Oyelere et al., 2003). Khadaroo (2005) also reports that internet usage has significantly impacted on corporate reporting practices. Notwithstanding the growing 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 the internet in the disclosure of financial and non-financial information in Ghana in order to find out how that role may be enhanced.

The study focuses on finding and briefly describing the explanatory factors influencing the voluntary IFR and disclosure. For measuring the level of voluntary disclosure, the content of annual reports of sample companies have been analyzed.

Annual reports are the main annual source of communication between the company and its stakeholders, existing and potential investors, through these means the company publishes investment related information. The use of the internet as a communication device will help clarify the ability of stakeholders to use contemporary communication devices to acquire timely information on listed firms in Ghana.

The annual reports examined in this paper are based on the 2008 and 2009 financial years. It must be noted that the financial year for all companies in Ghana run from January 1 to December 31.

LITERATURE REVIEW

Researchers throughout the years have praised the role that literature reviews play in the research process and this study support this appraisal. According to Saunders et al. (2007), reviewing the literature critically provides the foundation on which the research is built. "The main purpose is to help develop a good understanding and insight into relevant previous research and the trends that have emerged".

According to Jankowicz (2005); cited in Saunders et al. (2007),

"There is little point in reinventing the wheel ... the work that you do is not done in a vacuum, but builds on the ideas of other people who have studied the field before you. This requires you describe what has been published, and to marshal the information in relevant and critical way".

In a similar vein, Kumar (1999) found that undertaking such a review allows the researcher to place his or her study in the context of previous research. He also noted that reviewing the literature shows the researcher what type of research methodologies have previously been

used in the area and this will assist the researcher in eventual selection of an appropriate methodology (Kumar, 1999).

According to Saunders et al. (2007), a review of the literature does not only provide the foundation on which a research is built but will also assist the researcher in settling on a precise research question. If a researcher poses a question that has already been addressed in other studies, he or she betrays his or her ignorance of the literature. The study's research hypotheses derived out of the research questions are outlined below.

The main purpose of this section is to discuss the theories and studies that provide explanatory grounds for voluntary IFR and disclosure. The accounting disclosure literature appears to offer the greatest opportunity for large increases in our understanding of the role of accounting information in firm valuation and corporate finance (Core, 2001).

The first study conducted on disclosures was done by Cerf (1961) when he examined 527 corporate annual reports against a disclosure index comprising thirty one information items. He found that level of disclosure was positively associated with corporate size and listing status but not with profitability.

Following closely after Cerf (1961), Singhvi (1967) also found that disclosure quality was associated with asset size, number of stockholders, rate of return, earnings margin, security price fluctuations, listing status and auditing firm.

Disclosures in excess of those required by accounting standards or stock exchange listing requirement regulations, namely voluntary disclosures, have been an area of interest to researchers for many years. Companies continue to disclose voluntary information despite ever increasing mandatory requirements and so the motivation for such behavior has been the focus of much attention (Watson et al., 2002). It is often argued that companies might find it advantageous to provide additional pieces of information to investors and analysts through the annual report. This statement is based on the fact that information asymmetry between companies and potential investors, due to a low level of disclosure, increases cost of capital by introducing adverse selection between buyers and sellers of the company's shares (Bushman and Smith, 2001; Healy and Palepu, 2001). Lower information asymmetry would also lead to lower costs in issuing equity capital (Diamond and Verrecchia, 1991).

Kurtzman et al. (2004) also found that the level of voluntary disclosure is affected by the legal system, government economic policy, accounting standards and governance rules, the regulatory structure of the financial system, and the business environment. If a company operates in an unstable environment, these high risk factors become part of its operational costs, thus, making it difficult to predict the future. It will also slow down the company growth rate and performance. Other empirical studies have found that firms that have boards with a

higher proportion of inside directors result in less management of earnings (Chtourou et al., 2001; Klein, 2002; Peasnell et al., 2000; Xie et al., 2001) and exhibit greater reporting conservatism (Beekes et al., 2002). Hence, it is hypothesized that a higher level of voluntary disclosure will lead to better performance and voluntary disclosure is a key way to improve investor confidence.

The development of internet as a medium for the distribution of corporate financial information creates a new corporate reporting environment that may be different from the traditional paper-based one. A lot of scholars analyzed voluntary disclosure practices using variables derived from two economics-based theories (agency and signaling theory).

Researchers like Verrecchia (2001) have demonstrated that through greater disclosure companies attempt to reduce the cost of capital by reducing investor uncertainty. Therefore, one way of reducing agency costs is to increase the amount of information included in the annual reports.

As Diamond and Verrecchia (2001) showed, by disclosing more information companies are likely to reduce information asymmetry and hence attract liquidity in the company's shares, which lead to lower cost of capital. Information asymmetry occurs when two parties to a transaction one of the parties has more information than the other. When there is a divorce of ownership from control, there is bound to be evidence of information asymmetry as the agent is likely to have access to superior information than the principal. When these things happen as the principal has difficulty in observing the behavior of the agent, the possibility is that the agent will use the superior information to his own advantage. One of the ways by which the adverse effects of the information asymmetry can be checked is through voluntary disclosures (Hanafi et al., 2009). Voluntary disclosures can take several forms: press releases, conversations with financial analysts, letters to shareholders and the provision of additional information in annual reports.

This study is not only interested in the presence of disclosure but also in its form.

Signaling is a reaction to informational asymmetry in markets. In such a case, companies have information that investors do not have. Asymmetries can be reduced if the part with more information signals to others. Signaling theory was mainly developed by Spencer (1973) to explain behavior in the labor markets but can also help explain voluntary disclosures.

Companies will try to adopt the same level of disclosure as other companies within the same industry because if a company does not keep up with the same level of disclosure as others, it may be perceived by stakeholders that is hiding bad news. Therefore, companies may use internet disclosure to keep up with other companies in the same industry. Craven and Marston (1999) stated that...."the very use of the Internet might itself be a signal

of high quality. It implies that the company is modern and up to date with the latest technology rather than old fashioned and conservative".

A number of studies discuss the benefits of providing financial information on the Internet (Louwers et al., 1996; Green and Spaul, 1997; Trites and Sheehy, 1997; Trites, 1999). Cost savings from the reduction of production and distribution associated with paper-based annual reports and incidental requests from non shareholder financial statement users like the Internal revenue service and the Registrar general is one of the main benefits from providing financial reports on the internet. Internet reporting improves users' access to information by providing information that meets their specific needs, allowing non-sequential access to information through the use of hyperlinks, interactive and search facilities, and allowing the opportunity for providing more information than available in annual reports. This improved accessibility of information results in more equitable information dissemination among stakeholders.

Despite these advantages Green and Spaul (1997) cautions that internet reporting blurs the distinction between the financial information used by management and the audited information made available to the public.

It should also be noted that the security and integrity of corporate financial information on the internet may be compromised either intentionally or unintentionally. It is therefore, the responsibility of the companies using them to ensure the security and integrity of financial information before they place them on the internet (Hussey and Sowinska, 1999).

Several studies have reported that increasing number of companies is using the internet for communicating financial information (see, for example, Lymer and Tallberg, 1997; Marston and Leow, 1998; Brennan and Hourigan, 1998).

In their study on companies listed on the New Zealand stock exchange, Fisher et al. (1999) found that many of the firms use the web for the dissemination of their financial information. Williams and Ho (1999) compared corporate social disclosure on companies' websites and annual reports in Australia, Singapore, Malaysia and Hong Kong. They find that Australian and Singaporean companies provide more corporate social disclosures on websites than in annual reports while companies in Malaysia and Hong Kong are reporting similar information in the two media.

Hypotheses development

There is no law in Ghana which forces listed companies to disclose financial information through the internet. Thus, companies who disclose information through the internet do so voluntarily. Based on the literature reviewed in the previous section the following hypotheses can be developed.

Profitability

In studies conducted by Wallace et al. (1994), and Raffournier (1995) they tested the association between company specific determinants (that is, sector type, size and profitability) and the level of annual report disclosure in United Arab Emirate (UAE). Cooke (1992) in his study found that manufacturing firms in Japan disclosed more information than other types of sectors, while McNally et al. (1982) had earlier on found that there were no differences in the extent of disclosure by New Zealand companies across eleven industry groups. Craven and Marston (1999) examined the extent of financial information disclosure on the internet by the largest companies in the UK in 1998 and whether such practice is associated with firm size and industry type. They found that the extent financial disclosure on the internet is positively associated with firm size but not associated with industry type.

Signaling theory suggests that companies with superior performance use financial information to send signals to the market. Thus, signaling theory can be used to predict that higher quality firms will use the internet to disseminate accounting information (Almilia et al., 2009).

H₁: There is a positive association between internet financial reporting index and firm's profitability.

Company size

Firm size is an important determinant of corporate disclosure (Almilia and Surabaya, 2009). Studies conducted by Ahmed and Courtis, (1999) and Barako et al. (2006) lend credence to this assertion. Oyelere et al. (2003) in their study based on New Zealand companies found that size, liquidity, industry type and shareholder dispersion influence the voluntary utilization of internet for financial reporting.

From the numerous studies conducted on the disclosure of corporate information one of the prominent hypothesis has been that larger firms will tend to disclose more information than smaller ones. The arguments that have been produced to support this hypothesis is that large firms are more visible in the economy and thus more likely to attract the attention of regulatory agencies and the pressure to disclose larger amounts of information (Watts and Zimmerman, 1978).

Oyelere et al. (2003) in the study which examined the voluntary adoption of the internet as a medium of communicating financial information found that some of the determinants of such reporting practices as; firm size, liquidity, industrial sector and spread of shareholding.

From the aforementioned literature the following hypothesis is developed;

H₂: There is a positive association between internet financial reporting index and firm size.

Liquidity

Oyelere et al. (2003) in their study based on New Zealand companies found that size, liquidity, industry type and shareholder dispersion influence the voluntary utilization of internet for financial reporting. According to them, management may use the internet to provide financial information as an expression of their confidence in the company's solvency and future prospects. Based on this the following hypothesis will be tested;

H₃: There is a positive association between internet reporting index and liquidity.

Leverage

Agency theory suggests that agents will increase disclosure to their principals to reduce information asymmetry and thus, agency costs. In relation to this, Al-Shimmiri (2008) argued that the firms with higher debt in their capital structure are prone to higher agency costs; hence, they will be more likely to disclose additional information in order to reduce agency costs and information asymmetry with shareholders. According to Debreceeny et al. (2002) highly levered firms have an incentive to voluntarily increase the level of corporate disclosure to their stakeholders through traditional financial statements, and other media, such as the internet. On the basis of the above literature the following hypothesis will be tested:

H₄: There is a positive association between internet reporting index and leverage

Audit firm size

Several studies have tested the relationship between the size of audit firm and the level of disclosure. Wallace et al. (1994) postulate that bigger accounting firms are "backed by the expertise of the international firms to which they affiliated" and that a "theory of association" exists, suggesting that the contents of annual reports "are not only audited but also influenced by auditors". However, different results reported by Marston and Robson (1997) and Owusu-Ansah (1998) that auditor size is not significant associated with level of disclosure. This leads to the fifth hypothesis of this study:

H₅: Firms that employ audit firms that have international affiliation are likely to disseminate financial and non financial information using the internet.

RESEARCH DESIGN AND METHODOLOGY

The study covers all the companies listed on the Ghana stock exchange (GSE). The sample consists of all the 35 listed

companies divided into 6 sectors. As regards to their industry sector, the listed companies are classified as follows: finance and insurance (11), paper conversion and information technology (IT) (5), manufacturing and trading (6), agric and agro-processing (4), metals and oils (4), and pharmaceuticals and beverages (5). Secondary data were employed in the analysis and were sourced from GSE year book, annual financial statements and relevant journal articles. The websites of the sampled companies were browsed for collecting data relating to financial reporting on the internet. 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 in their web sites. To locate the corporate web sites the GSE fact book 2009 and GSE official web site were used.

Data analysis

Dependent variable

The dependent variable, IFR disclosure index was measured by assessing the websites of each of the 35 selected companies listed on the GSE. All the companies were assessed using GOOGLE between September, 2010 and October, 2010. If the assessed company has a web site, which has the latest annual report this company is regarded as IFR compliant and is awarded a mark of 1. On the other hand, if the company does have a website but does not provide full annual report or disclose only financial highlights it is regarded as IFR non compliant and was awarded 0 mark. The company that has no web site is also regarded as non-IFR compliant, and also awarded 0 mark. Twenty-seven companies met the IFR compliant criteria and thus, were included in the study's sample. The eight companies that did not meet the requirements, hence were regarded as IFR non compliant, were deleted.

Measurement of the variables

The dependent variables in this study are the extent of internet reporting made by the listed firms. This variable captures the amount of voluntary disclosures in the annual reports on the company's web site. The study adopted the internet reporting index checklist used by Almilia and Surabaya (2008). A dichotomous scoring scheme was utilized whereby an item is scored 1 if it is disclosed and 0 if otherwise. The checklist used for the study is shown in Appendix 1. The internet reporting index can be mathematically shown as follows;

$$IRI = TD/M = \frac{\sum_{i=1}^m d_i}{\sum_{i=1}^n d_i}$$

Where IRI is Internet reporting index; TD is total disclosure score; M is maximum disclosure score for each company; d_i is disclosure item i ; m is actual number of relevant disclosure items ($m \leq n$); n is number of items expected to be disclosed.

Alternatively can be expressed as:

$$IRI = \frac{\text{Total number of items disclosed}}{\text{Total possible number of items to be disclosed}}$$

Where IRI = Internet reporting index.

Independent variables

The determinant factors of IFR used for this study comprises of both accounting and non accounting variables including firm size,

profitability, leverage, liquidity, and auditor size. Data for the variables were collected from corporate GSE Fact Book 2009 and corporate annual reports. The detailed measurements of the independent variables are:

Firm size: The natural log of total assets were used to represent firm size.

Liquidity: Cash divided by total assets.

Profitability: The return on net assets (RONA) was used to represent profitability.

Leverage: This measured by the ratio of total debt divided by total assets.

Auditor size: This is measured by the relationship that the audit firm has with the 4 internationally recognized audit firms.

Research model

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

$$Y = a + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + e$$

Where Y is IFR index; a is constant; X_1 is company size (Log of the book value of total assets); X_2 is leverage / Debt ratio (total liabilities divided by total assets); X_3 is profitability/ return on equity (net profit divided by equity); X_4 is liquidity (Cash divided by total assets); X_5 is a dummy variable for audit firm size (a Big 4 audit firm = 1 and 0 =small audit firm); e is error term.

RESULTS AND DISCUSSION

Table 1 displays the industry classification of firms listed on the GSE. 31.4% are from the Finance/Insurance category; 17.2% are from Manufacturing/Trading category; 14.3% are from Paper conversion/Information technology and pharmacy/Beverages categories. 11.4% are from Agric./Agro processing and metals, and Oils categories. From Table 2, all the thirty-five listed companies were contained in the sample. Twenty-seven (77.14%) had web site and eight (22.86%) did not have a web site or the web site was not accessible. These eight firms were therefore excluded from the study sample. Also, 83% of the firms listed on the GSE are being audited by Audit firms with international affiliations.

Correlation analysis

Before running the regression analysis, there was the need to verify the correlation between the variables.

Table 3 reports on the Spearman's rho correlation indices for all the test variables. The Spearman's rho is very commonly used by researchers. This has been used because of the small sample size and the Spearman's rho will help in getting a clear result. It has been suggested by Bryman and Cramer (2007) that Spearman's rho is a powerful non-parametric method dealing with data, which means they can be used in a wide variety of contexts since they make fewer assumptions about variables.

Table 1. Industry classification of Ghana listed companies.

Industry type	Frequency	Percentage
Finance / insurance	11	31.4
Paper conversion / IT	5	14.3
Manufacturing / trading	6	17.2
Agric / agro processing	4	11.4
Metals / oils	4	11.4
Pharmacy / beverages	5	14.3
Total	35	100

Table 2. Companies with and without web sites by industrial sector.

Industry	Companies with websites		Companies without web sites		Total
	Frequency	Percent	Frequency	Percent	
Finance and insurance	11	31.43	-		11
Paper conversion/ IT	4	11.43	1	2.86	5
Manufacturing/trading	4	11.43	2	5.71	6
Agric/agro processing	2	5.71	2	5.71	4
Metals/oils	4	11.43	-		4
Pharmacy/Beverages	2	5.71	3	8.57	5
TOTAL	27	77.14	8	22.86	35

Table 3. Auditor affiliation by industrial sector.

Industry	Auditor affiliated with international auditing firm		Auditor not affiliated with international auditing firm		Total	
	Frequency	Percent	Frequency	Percent	Frequency	Percent
Finance and insurance	11		-		11	
Paper conversion/ IT	2		3		5	
Manufacturing/trading	6		-		6	
Agric/agro processing	1		3		4	
Metals/oils	4		-		4	
Pharmacy/beverages	5		-		5	
Total	29	(83)	6	(7)	35	(100)

The analysis shows that net assets has a significant relationship with disclosure index at 10% level ($p=0.010$). Auditor type also has a significant relationship with net assets at 5% level ($p=0.034$), whilst liquidity also has a significant relationship with return on equity at 5% level ($p= 0.013$).

The other variables do not seem to have relationship among each other. This results indicate the need to pay attention to possible multi-co linearity problem in the regression analysis. Based on the descriptive analysis as summarized in Table 4. Based on the descriptive analysis as summarised in Table 5 above, the mean value of firm size which is represented by the logarithm of net assets is $\text{€}33,351$ with a standard deviation of $\text{€}45,409$. This

shows that there is a little variation in the size across the companies in the sample.

The mean value of profitability (ROE) is 12.43% which means that the firms' profitability ratio were low because the minimum value is -93% and the maximum is 82.66%. Besides, there are great differences between values of profitability ratio because the standard deviation (32.43%) is high. The mean debt equity ratio is 23.67% with a standard deviation of 23%. It can thus, be said that sample firms in this study are lowly levered. The mean value of disclosure index is 0.6696 with a standard deviation of 0.1044. The maximum is 0.8519 with a minimum of 0.4815. The results of the internet reporting index mean of 66.96%, indicate that most of the firms

Table 4. Spearman's rho correlation.

		Net asset	Return on equity	Debt equity ratio	Internet reporting index	Auditor	Liquidity
Net assets	Correlation coefficient	1	0.069	-0.216	-0.430**	0.360*	0.132
	Sig. (2-tailed)	.	0.692	0.214	0.010	0.034	0.451
	N	35	35	35	35	35	35
Return on equity	Correlation coefficient	0.069	1	-0.268	-0.093	0.101	0.417*
	Sig. (2-tailed)	0.692	.	0.119	0.595	0.563	0.013
	N	35	35	35	35	35	35
Debt equity ratio	Correlation coefficient	-0.216	-0.268	1	0.202	0.121	0.291
	Sig. (2-tailed)	0.214	0.119	.	0.246	0.488	0.090
	N	35	35	35	35	35	35
Internet reporting index	Correlation coefficient	-0.430**	-0.093	0.202	1	-0.033	-0.058
	Sig. (2-tailed)	0.010	0.595	0.246	.	0.851	0.739
	N	35	35	35	35	35	35
Auditor	Correlation coefficient	0.360*	0.101	0.121	-0.033	1	0.251
	Sig. (2-tailed)	0.034	0.563	0.488	0.851	.	0.146
	N	35	35	35	35	35	35
Liquidity	Correlation Coefficient	0.132	0.417*	0.291	-0.058	0.251	1
	Sig. (2-tailed)	0.451	0.013	0.090	0.739	0.146	.
	N	35	35	35	35	35	35

**Correlation is significant at the 0.01 level (2-tailed). *Correlation is significant at the 0.05 level (2-tailed).

Table 5. Descriptive statistics – IFRC.

	N	Minimum	Maximum	Mean	Standard deviation
Net assets	27	240.0000	207749.0	33351.88	45409.868
Return on equity	27	-93.1244	82.6622	12.43398	32.436242
Debt equity ratio	27	.0043	6.3635	1.337856	1.7976018
Internet reporting index	27	4815	8519	669644	1044007
Auditor	27	1	1	1.00	.000
Liquidity	27	.0687	1.4825	.701648	.3165409
Valid N (listwise)	27				

listed on the GSE did not overwhelmingly disclose the information that users need to make investment decisions.

Regression analysis

A regression analysis was performed on the dependent and independent variables to check on the existence of the multi-co linearity and serial or autocorrelation problems. In a multiple regression model, multi-co linearity exists when two independent variables are perfectly correlated with each other. Drury (2007) sums up the

multi-co linearity in multiple regression analysis as follows:

"Multiple regression analysis is based on the assumption that the independent variables are not correlated with each other. When the independent variables are highly correlated with each other, it is very difficult, and sometimes impossible, to separate the effects of each of these variables on the dependent variable. This occurs when there is a simultaneous movement of two or more independent variables in the same direction and at approximately the same rate" Methods for correcting multi-co linearity include computing variable inflation

Table 6. Model summary.

Model	R	R Square	Adjusted R square	Standard error of the estimate
1	0.607 ^a	0.369	0.299	2.77776
2	0.806 ^b	0.649	0.562	2.19615

^aPredictors (constant), return on equity; ^bpredictors (constant), return on equity, debt equity ratio.

Table 7 Analysis of variance (ANOVA).

Model		Sum of squares	df	Mean square	F	Sig.
1	Regression	40.556	1	40.556	5.256	0.048 ^a
	Residual	69.444	9	7.716		
	Total	110.000	10			
2	Regression	71.415	2	35.708	7.404	0.015 ^b
	Residual	38.585	8	4.823		
	Total	110.000	10			

^aPredictors (constant), return on equity; ^bpredictors: (constant), return on equity, debt equity ratio; dependent variable: Internet financial report compliant.

Table 8. Regression analysis result.

Variable	Unstandardized coefficients		Standardized coefficients	T	Significant
	B	Standard error	Beta		
(Constant)	3.54	1.472		2.405	0.043
Return on equity	0.197	0.061	0.685	3.237	0.012
Debt/ equity ratio	-1.84	0.728	-0.535	-2.529	0.035

factor (VIF), dropping one or more of the independent variables from the model or enlarging the sample size. Since it is not possible to increase the sample size at this stage of the research, the first two methods were adopted. As a rule of thumb a VIF in excess of 5 is considered an indication of harmful multi-co linearity (Zikmund et al., 2010). All the VIF are less than 5 and the average VIF is 1.1796, therefore, it can be said that there is no multi-co linearity problem for the model. The results of the regression analysis can therefore be interpreted with a greater degree of confidence.

The Durbin -Watson statistic was also used to test for autocorrelation. The Durbin-Watson value of 1.675 indicates that the data has no serial correlation or autocorrelation problem.

The regression results are presented in Tables 6, 7, and 8. The Goodness of fit test reveals an adjusted R^2 of 0.562 indicating that 56.2% of the variance in the dependent variable is explained by the independent variables. Thus the model has good explanatory power. The F test is significant at the one percent level.

Table 7 reports the regression coefficients. Profitability is significantly positively related to IFR thus, H_1 is accepted. Return on equity as a proxy for profitability has

has a significant impact on IFR. This implies that more profitable firms tend to use the internet to disclose more information on their web sites. Debt equity ratio also is significantly positively related with IFR. Thus, hypothesis 4 is also accepted. This implies that leverage has a significant impact on IFR. According to Agency theory, highly leveraged firms have an incentive to voluntarily increase the level of corporate disclosure and this study has just supported that explanation. Firm size, liquidity and auditor size are not significant explanatory variables for the internet reporting index.

The findings regarding profitability is consistent with Almilia and Surabaya (2008) and Singhvi and Desai (1997). The findings regarding leverage are also consistent with Oyelere (2009).

Conclusion

The internet has revolutionized the dissemination of information and has significantly impacted on accounting disclosures. Many firms in the world over are now utilizing the internet to disseminating financial information. Both firms and users benefit from the use of the internet as

it broadens coverage for the reporting firms and easy access of financial information to the users.

The purpose of this study was to measure the use of the internet as a medium of disseminating financial information by firms listed on the GSE. The findings of the study show that not all the listed firms have web sites. Information and communications technology is changing the face of financial reporting and Ghanaian firms cannot afford to miss this opportunity. Thus, companies that do not have web sites and those whose web sites are not accessible should try to improve on them to take advantage of the benefits that internet provides. Thus, the internet can assist all firms both large and small communicate timely information to their stakeholders. One advantage of a website is that information can be distributed to a large audience at a fairly low cost. Also, fewer constraints are imposed on the size and form that disclosures can take on the Internet. For example, firms can include audio and video content, which is impossible in a typical annual report. Management of Ghanaian listed firms should therefore embrace the internet 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 business. The findings also indicate that profitability and leverage are important determinants of IFR, which is consistent with research conducted in developed economies.

This study is restricted to the 35 listed firms on the GSE. Thus, the extent to which these findings can be generalized to all the firms in Ghana is not clear. There is the need therefore, to conduct further research using more firms, both public and private.

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APPENDIX

Appendix 1. The content of index of IFR disclosure instruments (adapted from Almlia and Surabaya (2008).

Index Item		Explanation	Score	Multiplier	Maximum
Component of financial information:					
Statement of financial position	Pdf	1= Yes, 0= No	1	1	1
	HTML	1= Yes, 0= No	1	2	2
Statement of financial position	Pdf	1= Yes, 0= No	1	1	1
	HTML	1= Yes, 0= No	1	2	2
Statement of cash flows	Pdf	1= Yes, 0= No	1	1	1
	HTML	1= Yes, 0= No	1	2	2
Statement of changes in equity	Pdf	1= Yes, 0= No	1	1	1
	HTML	1= Yes, 0= No	1	2	2
Notes to the financial statement	Pdf	1= Yes, 0= No	1	1	1
	HTML	1= Yes, 0= No	1	2	2
Disclosure of quarterly results	Pdf	1= Yes, 0= No	1	1	1
	HTML	1= Yes, 0= No	1	2	2
Financial highlight/year-in-review	Pdf	1= Yes, 0= No	1	1	1
	HTML	1= Yes, 0= No	1	2	2
	Growth rate, ratios, charts	1= Yes, 0= No	1	2	2
Chairman's report	Pdf	1= Yes, 0= No	1	1	1
	HTML	1= Yes, 0= No	1	2	2
Auditors' report	Pdf	1= Yes, 0= No	1	1	1
	HTML	1= Yes, 0= No	1	2	2
Stakeholder information	Pdf	1= Yes, 0= No	1	1	1
	HTML	1= Yes, 0= No	1	2	2
Corporate information	Pdf	1= Yes, 0= No	1	1	1
	HTML	1= Yes, 0= No	1	2	2
Social responsibility	Pdf	1= Yes, 0= No	1	1	1
	HTML	1= Yes, 0= No	1	2	2
Number of years/quarters shown	Annual report	No. of years	1	0.5	2
	Quarterly report	No. of quarters	1	0.5	2
Past information (HTML only)	Annual report	1= Yes, 0= No	1	1	1
	Quarterly report	1= Yes, 0= No	1	1	1
	Graph of share price	1= Yes, 0= No		2	2
Address (HTML only)	Company address	1= Yes, 0= No	1	1	1

