

Determinants of Web-Based Corporate Reporting Among Top Public Listed Companies in Malaysia

Saeid Homayoun, Universiti Teknologi MARA, Shah Alam, Malaysia
Rashidah Abdul Rahman, Universiti Teknologi MARA, Shah Alam, Malaysia

Abstract: The main objective of this paper is to examine the extent of Internet corporate disclosure among a sample of 100 top companies listed on Bursa Malaysia (based on Market capitalization) for the year 2009. Using a disclosure score checklist, the result shows the average raw score for all companies is 49.04 (or 56%) of the total possible 87 points, and 70% of the firms obtain a score ranging from 50-70% of the total score. The result indicates that there is still room for Malaysian companies to improve their Internet corporate reporting (ICR). Further, the result indicates that among firm characteristics variables only profitability (proxy by return of equity) is significantly associated with the extent of Internet corporate reporting. The result supports the signaling theory that argues profitable companies have strong incentives to disclose information in order to stand out from their competitors and avoid an incorrect assessment of their performance. In addition, the study also finds that among corporate governance mechanisms only board size influence a firm's internet disclosure behavior, presumably in response to the information asymmetry between management and investors and that a larger board is more likely to be vigilant for agency problems simply because a greater number of people will be reviewing management actions to disclose more information via the internet.

Keywords: Internet corporate reporting, corporate governance, board size

Introduction

The Internet has been progressively employed for corporate reporting (Lymer and Tallberg, 1997). Many of the largest corporations in developed countries now have an Internet website for financial reporting (Craven & Marston, 1999; Ettredge, Richardson & Scolz, 2001). Compared with traditional printed reports, the Internet offers many more opportunities to communicate corporate information and allows a wealth of up-to-date, unofficial, critical and alternative channels of accounting information to compete with the official channels. The Internet may serve as an important tool to facilitate a better functioning of financial markets by enhancing companies' ability to prepare investors with up-to-date, timely information (Abdelsalam and Street, 2007). Through enhanced disclosure on the Internet, agency risk that results from information asymmetries would be reduced.

According to Jensen and Meckling (1976), firms disclose additional information about the managers' actions and the economic reality of the company in order to reduce agency conflicts between managers (the agent) and owners (the principal). Apart from the importance of reducing information asymmetry to the capital market, sufficient

information is also essential for the shareholders to monitor the behaviour of the management. Information on the firm's performance and the firms' future prospects is likely to reflect how management runs the company. With regards to the directors, the information on the directors such as their independence, shareholding qualification and related party transactions will enable the shareholders to assess the directors' performance and to monitor their behavior. Further, the disclosure of information does not only serve as a mechanism for control on behalf of companies' shareholders, but also as a mechanism of legitimacy for managers (Alvarez, Sanchez and Dominguez, 2008). Under signaling theory, adequate and quality disclosure is said to stem from management's desire to disclose its superior performance because, good performance will enhance the management's reputation and position in the market for management services, and good reporting is considered as one aspect of good governance.

Despite the growing use of the Internet in financial markets by companies, academic research into the use of the Internet in financial disclosure is still in its infancy in developing countries such as Malaysia (Hassan , Jaffer and Johi, 1999; Noor Azizi, Mahamad and Adon, 2000; Mitchell and Ho , 2000; Khadaroo , 2005). In fact, previous studies in Malaysia have concentrated more on website design features and contents and Internet reporting for private sector organizations (Rosli, Amdan and Mudzmir, 2003 and Othman, Said and Nasir., 2001), and others have examined factors that led to the adoption of ICR in private (such as Noor and Mohamad, 2000; Khadaroo, 2005) and public sector (Othman et al., 2001). Studies that were conducted on Internet reporting, however, have not looked into developing a technology that could assist preparers for future implementation of effective ICR. This study aims to examine this issue by developing a disclosure check-list index in determining the level of ICR practices among public listed companies in Malaysia. The score sheet is categorized into two main sections, namely content and presentation that includes 87 items: 61 items of disclosure content (financial, corporate governance and corporate social responsibility) and 26 items of presentation format. Much of the past research on disclosure quality on the Internet has focused on financial statement and investor relation information. However, this study adopts a comprehensive set of reporting and disclosure on the Internet choices for both financial and non-financial information (corporate governance and corporate social responsibility).

The study further analysed the determinants that will influence the utilization of Internet to disclose corporate information. The new requirements under the revised listing rules for Bursa Malaysia's new Main Market requires listed companies in Malaysia to disclose their corporate information publicly on their websites effective 3 August 2009 (The Edge Malaysia, 2009). Thus it is beneficial to examine what factors motivate companies to adopt ICR before the new regulation comes into effect.

Willman (2007) argued that companies nowadays are failing to exploit the enhancement of web technologies in disseminating the financial reports, which makes the presentation of financial reporting via Internet similar to paper-based reporting except for its much

greater speed of distribution. The quality of ICR is said to be affected by the firm's characteristics and corporate governance mechanisms in a particular country. The question arises as to whether these predictors give a positive significant effect on the quality of ICR in Malaysia. Therefore, this study particularly examines the relationship between ICR practices and firm-specific characteristics and corporate governance mechanisms in view of the need for greater transparency in the Malaysian market. As the ICR can be considered as voluntary disclosure, the current study has selected five firm-specific attributes based on the prior disclosure literature, which include: firm size, profitability, leverage, liquidity, and industrial sector. Moreover, the study examines the impact of corporate governance characteristics drawn from previous literature which include: board size, board independence, and role duality on ICR disclosure. Since most of the previous studies only focus on several aspects of firm-characteristics in a single study, this research is aimed to extend existing research by examining the contribution of corporate governance mechanisms on the effect of Internet corporate reporting.

The study reveals that many Malaysian listed companies are ignoring the views of Financial Accounting Standard Board (FASB), International Federation of Accountants (IFAC), and the new requirement of Bursa Malaysia which was recently published in August 2009 and hence, have a long way to go with respect to enhancing disclosure on their websites. Out of 100 sample firms analysed in 2007, 78 companies have websites while 6 companies did not have a website and another 16 companies had a website but they did not publish annual reports in the company's website or on the Bursa Malaysia website. Specifically, many Malaysian listed companies clearly have not implemented policies to ensure that the drivers of quality investor communication are incorporated in their websites reporting. Therefore, the findings in this study may promote Malaysian regulators to specify the means by which Malaysian listed companies are to disclose transparent, credible information. Further, this study found that only profitability (ROE) and board size have a strong impact on the quality of reporting on the Internet. The results support the signaling theory that profitable companies disseminate more corporate information on their website to stand out from their competitors and that greater number of directors on board may decrease the likelihood of information asymmetry. Further the result is consistent with the agency theory that posits that a larger board is more likely to be vigilant for agency problem simply because a greater number of people will be reviewing management actions.

The remainder of this paper is organized as follows. The next section reviews the relevant literature on ICR which leads to the hypotheses development. The research methodology is discussed in the third section followed by the discussion of the results in the fourth section. Finally, in the fifth section conclusions are drawn and suggestions are made.

Literature Review and Hypotheses Development

The International Accounting Standards Committee (IASC) has predicted that in the near future:

[. . . Business reporting to stakeholders will move almost entirely from the current primarily print-based mode to using the Web as the primary information dissemination channel, with the print-based mode as secondary channel] (Lymer., 1999, p. 4).

The Internet is a new median which is able to reduce the distortion in communication channel and diminish the tradeoff between reach and richness of information (Perera, Rahman and Cahan, 2003). OECD (2004) principles of corporate governance suggest that the use of the Internet and other information technology improves information dissemination, resulting in more equal, timely and cost efficient access to relevant information by investors. In examining the similarities and differences in Internet financial reporting among 250 corporations across five countries (USA, Canada, UK, Hong Kong and Australia), Allam and Lymer (2003) found that US firms had higher levels of Internet financial reporting and Hong Kong had the lowest level of Internet financial reporting. In a survey of top UK companies by market capitalization, Lymer (1997) found that 46 companies (92%) had websites of which 26 (52%) had financial information disclosed on their websites, such as preliminary statement, interim statement, summary statement and financial highlights. However, only 12 (24%) had a full account (annual report). Other studies by Lymer and Tallberg (1997) on Finnish companies; Marston and Polei (2004) on 99 Japanese companies; Spanos (2006) on 136 companies listed on the Athens Exchange; Davey and Homkajohn (2004) on the top 40 Thai listed companies; Khan (2006) and Dutta and Bose (2007) on Bangladeshi firms, claimed that there was room for enhancement to employ the full potential of the Internet.

As regards to ICR in Malaysia, studies by Rosli, Amdan and Mudzamir (2003) and Khadaroo (2005a) provide evidence that majority of the firms do not fully utilize internet technologies to enhance the communication of financial information. It was found that the majority of the company websites provided financial information resembling the traditional paper-based reporting. Although there has been an expansion in both the number of firms and the types of information prepared on the Internet, the quality of Internet reporting information to users was not much enhanced. Khadaroo (2005a) found that Singaporean public listed companies had greater web presence than their Malaysian counterparts. Further, Hamid (2005) found that merely 70 out of 100 companies in his sample prepared investor-related materials on their web sites. The highest-ranking investor-relations item on web sites was the background of the firms. Al Arussi et al. (2009) found that 64 percent of sample (201 Malaysian companies) disclosed more than two financial items out of 24 items that were used to measure the extent of financial disclosures. In addition, 25.4 percent disclosed only one or two financial items, and almost 10 percent did not disclose any financial information on their websites. Additionally, they found that 58.7 percent of their sample companies in Malaysia disclosed at least one environmental item out of 34 items that were used to measure the

extent of environmental disclosure. However, 41.3 percent did not disclose any environmental information on their web sites.

Based on agency theory and signaling theory many studies have tested the determinants of corporate reporting via Internet in developed countries. Most researchers discovered that corporate characteristics related to Internet corporate reporting include firm size, leverage, liquidity, profitability, industry type (Debreceeny et al., 2002; Xiao et al., 2004; Zhang et al., 2007; and Gandia, 2008). Consistent with the predictions of agency theory, this study also examines the association between corporate governance monitoring mechanisms (board size, board independence and role duality) and the company's overall information disclosure policy.

Firm Characteristics

Firm Size

An analysis of firm-specific variables has shown that larger firms have an inclination for greater information asymmetry; therefore these firms prefer a higher level of information disclosure. This situation can also be explained through agency theory and signaling theory (Marston, 2003). Agency theory suggests that large firms have higher agency costs due to their broad-based ownership, which would require more comprehensive and detailed disclosure to meet the information needs of diverse groups of investors (Jensen and Meckling, 1976; Leftwich, Watts and Zimmerman, 1981).

For larger organizations, increased disclosures will reduce agency costs and information asymmetries. Improved disclosures may also signal improved quality for larger firms and they may have relatively smaller costs of collection and dissemination of information. Second, large firms are generally well established and they can afford to provide detailed comprehensive information without the fear of their information being misinterpreted that could result in negative investor reaction. Further, agency cost theory supports the idea that increased disclosure reduces the firm's cost of capital (Jensen and Meckling, 1976). Increased disclosure tends to reduce uncertainty regarding a firm's present and future financial performance. This would then reduce investors' uncertainties which will induce them to accept lower rates of return and hence results in lower cost of capital.

Many studies have discovered a positive association between firm size and the scope of Internet corporate reporting (Ashbaugh et al., 1999; Debreceeny et al., 2002; Marston and Polei, 2004; Xiao et al., 2004; Ezat and El-Masry., 2008). Ezat and El-Masry (2008) found larger companies were more likely to disclose financial information on their web sites. Ashbaugh et al. (1999), Craven and Marston (1999) and Ettredge et al. (2001) found that larger American and British firms were more probably to prepare financial information on the Internet. Laswad, Fisher, and Oyelere (2001) found positive relationship between size, council type, and press visibility, with local authorities' choice to report financial information on the Internet. Based on the above argument, the current

study hypothesized that there is a significant positive relationship between company size (total assets and total sales) and the use of ICR.

Profitability

Based on agency theory, managers of highly profitable firms are prone to disseminate more corporate information on the web site of the firm to obtain personal benefits such as the continuance of their positions and compensation justification (Haniffa and Cooke, 2002 ; Wallace et al., 1994). Similarly, with reference to signaling theory, Singhvi and Desai (1971), Oyeler, Laswad & Fisher (2003) and Marston and Polei (2004) argued that managers of profitable companies enhance the level of disclosure to signal to investors that the company is profitable and that they should retain the management, possibly with increased compensation, and also to increase capital at the lowest price.

As argued by Alsaeed (2006) promoting a positive sense of performance can be done through releasing more information to the public. Profitability may be considered an indicator of the quality of the investment. Accordingly, if a high level of profitability is achieved, there will be a greater incentive to disclose information and reduce the risk of being viewed negatively by markets. In other words, profitable companies reveal information in order to stand out from other less successful corporations, to obtain funds at the lowest cost and to avoid any decrease in stock price (Alvarez et al., 2008). Haniffa and Cooke (2005) suggested that profitability ratio in Malaysia plays a significant role in determining the amount of corporate social disclosure. It means that the more profitable a company is the greater the amount of disclosure they have on their social activities. Based on agency theory and signaling theory the present study hypothesized that profitable companies (based on return on assets and return on equity) disseminate more corporate information on their website.

Leverage

Leverage (gearing) refers to the use of financial resources such as borrowed funds and debt to enhance the return on equity. The level of leverage constitutes another factor associated with greater disclosure of information from the agency theory perspective, especially as a result of conflicts stemming from leverage. According to Jensen and Meckling (1976), agency cost is higher for a firm with proportionally more debt in their capital structure. This is because companies with more debt have greater agency costs due to possibility of transferring wealth from debtholders to shareholders. By increasing the amount of information disclosed, corporations can reduce their agency costs and any possible conflicts of interest between owners and creditors (Alvarez et al., 2008). Further, highly leveraged firms will also be responsible for satisfying the creditors' need by disseminating reliable online information to make creditors more confident about the ability of the firms to pay their debts. Likewise, the shareholders would demand more information to monitor management and to appraise the company's financial health, given

that the risk of financial distress increases with rising leverage (Xiao et al., 2004; Ezat and El-Masry, 2008). Therefore, a highly geared firm may be obliged to provide more detailed information in its annual report and accounts to meet the needs of long-term creditors for information, than a low geared firm.

Ettredge et al. (2002) and Ismail (2002) found an association between a company's leverage and the scope of Internet financial reporting. Based on the agency theory (Jensen and Meckling, 1976), the current study posits that increased leverage in the capital structure would create agency conflicts and costs. It is argued that when a company is making a large use of debt, a monitoring problem arises among creditors and shareholders. In consequence the involved company may solve this problem by expanding the level of voluntary disclosure such as Internet reporting to reduce the agency cost of debt. Thus, we hypothesized that there is a significant positive relationship between leverage (ratio of total debt/ owners' equity and ratio of long term debt/ total assets) and use of ICR.

Liquidity

Liquidity refers to the capability of firms to change their assets into cash with minimum loss of value. Wallace and Naser (1995) stated that the concern regulators, investors, and other users have regarding companies' status as going concerns may motivate highly liquid companies to make their high levels of liquidity known through voluntary disclosures on the Internet. Hence, the use of the Internet for preparing corporate information may be an expression of management's confidence in a firm's solvency and future prospects. Accordingly the signaling theory argues that companies will disclose more if their liquidity ratio is high, to distinguish themselves from other companies with lower liquidity.

Some researchers have tested the association between liquidity and scope of disclosure but the results have been mixed. For example, Oyeler, Laswad & Fisher (2003) who examined liquidity as one of the determinants of Internet financial reporting by New Zealand firms discovered a positive relationship between company liquidity and voluntary use of Internet financial reporting. Abdelsalam and El-Masr (2008), however, discovered no relation between liquidity and disclosure. Ezat and El-Masry (2008) found a significant relationship between the liquidity and the level of disclosure on the Internet. Based on the signaling theory, the current study posits that companies with high liquidity will disclose more on the Internet to meet the requirements of shareholders and creditors and also to express the firms' confidence in their solvency and future prospects.

Industrial Sector

Differences in disclosure levels between industries could also be attributed to the high level of voluntary disclosure by a dominant firm within an industry, which leads to a bandwagon effect (Cooke, 1989). According to the signaling theory, if a company fails

to adopt the same disclosure strategy as other corporations in the same industry, the market could interpret this as bad news (Watts and Zimmerman, 1978; Alvarez et al., 2008). Hence, companies may employ Internet disclosure to keep pace with other companies in the same industry.

The results of empirical studies using type of business activity to explain its associations with disclosure on the Internet are mixed. Some studies have indicated that there is a significant association between type of business activity and disclosure on the Internet (García-Borbolla et al., 2005; Oyelere et al., 2003; Debreceeny et al. (2002); Ismail, 2002;) whereas others found an insignificant association (Trabelsi and Labelle, 2006; Debreceeny and Rahman, 2005; Larrán and Giner, 2002). In a recent study, Ezat and El-Masry (2008) found an association between industry type and the level of disclosure on the Internet. Based on the signaling theory that firms within the same industry are likely to accept an identical level of disclosure so as not to be interpreted as hiding bad news lead to our hypothesis that there is an association between industry type and the use of ICR.

Corporate Governance Mechanisms

Board size

From the agency theory perspective, larger firms will require a greater number of directors to monitor and control a firm's activities. Thus, board size is seen to be an effective mechanism to monitor top management on behalf of dispersed shareholders for corporate performance (Ghosh, 2006) and thus influences the disclosure transparency. The majority of good governance codes consider that the board must be formed by a "reasonable" number of members, since the optimal number depends on their efficiency in the fulfillment of their supervisory functions. Similarly, the Malaysian Code of Corporate Governance (MCCG) (2001, revised 2007) also argues that the number of directors constituting a board is an important factor in determining the effectiveness of the board.

Agency theory argues that a larger board is more likely to be vigilant of agency problem simply because a greater number of people will be reviewing management actions. Larger boards tend to provide more expertise, experience and judgment (John and Kent, 1992). Singh et al. (2004) and Yermack (1996) argue that a large board assists in: performing more monitoring, providing firms with the variety that helps them to provide critical resources and to eliminate environmental uncertainties, alleviating the dominance of the CEO, and increasing the pool of expertise that derives from the diversity of the board. Birnbaum (1984) suggests that uncertainty and the lack of information may be minimised by a larger board. Chen and Jaggi (2000) also argued that a greater number of directors on the board may reduce the likelihood of information asymmetry. Ezat and El-Masry (2008) found a significant positively association between board size and the level of disclosure on the Internet.

While a small concentration of board positions can induce a lack of transparency, a large number of board members, in spite of increasing the supervisory capacity, can harm the company by lengthening the decision-making process and communication procedures (Jensen, 1993). Some studies show that a large board could produce more conflict between the members of the board which may delay critical decisions or cancel them. Example, studies by John and Senbet (1998) and Huther (1997) found that large board causes poorer communication and processing of information.

This study anticipates a positive association between the size of board of directors and disclosure on the Internet, as a consequence of the variety of the board's membership and their desire to disclose more corporate information on their company's web site to attract more investors and satisfy the shareholders' needs. Therefore we hypothesized that there is a significant positive relationship between board size and level of ICR.

Board Independence

Agency theory suggests that a greater proportion of outside directors will be able to monitor any self-interest actions by managers and so will minimize the agency costs (Fama and Jensen, 1983). According to Kelton and Yang (2008), a high percentage of independent directors on board enhances the monitoring of managerial opportunism and reduces management's chance of withholding information. Thus, board independence is an important element in monitoring the corporate financial accounting process (Klein, 2002) and affects the reliability of financial reports (Anderson et al., 2004).

Chen and Jaggi (2000) found a positive co-relation between the proportion of outside directors and disclosure levels. Beasley (1996) similarly found that the proportion of independent directors on board was positively related to the board's ability to influence disclosure decisions. Kelton and Yang (2008) found that having a high percentage of independent directors on the board increased the monitoring of managerial opportunism and decrease management's chance of withholding information. Meanwhile, Haniffa and Cooke, 2002; and Ho and Wong (2001) did not find any significant association between the two variables. Based on agency theory, the current study argues that a board dominated by independent non-executive directors who are free from management interests would improve a firm's compliance with disclosure requirements, hence may lead to an increased in Internet reporting. In safeguarding the interest of different investors, who need more accurate information, the study hypothesized that there is a positive association between the proportion of independent non-executive directors on board and the level of ICR.

CEO Role Duality

Jensen and Meckling (1976) believe that managers will not act in the best interest of shareholders unless an appropriate mechanism is used to control their behavior.

Accordingly the relation between the CEO and the chairman is of particular concern. According to agency theory, vesting the power of the CEO and the chairman of the board in one person (role duality) creates a strong individual power base, which could impair board independence and erode the board's ability to execute its oversight and governance roles (Fama and Jensen, 1983; Finkelstein and D'Aveni, 1994). This concentration of power can prejudice the corporate governance disclosure of the company, generating information of a low quality (Forker, 1992).

The results of previous studies on the relationship between role duality and internet disclosure are mixed. Some studies found that role duality had an insignificant relationship with the level of disclosure (Ghazali and Weetman, 2006), while others found that role duality was significantly related with a lower level of voluntary disclosure (Gul and Leung, 2004; Haniffa and Cooke, 2002) and less timely ICR (Abdelsalam and Street, 2007). As recommended by MCCG (2001, revised 2007) and agency theory, the current study argues that a separation of the positions of CEO and Chairman will ensure a balance of power and authority to ensure good governance in promoting greater transparency. We hypothesised that role duality poses as a threat to monitoring quality which will lead to lower Internet reporting, thus there is a negative association between role duality and the level of ICR.

Research Methodology

The present study examines the top 100 companies listed on Bursa Malaysia, ranked according to their market capitalization values as of 31st December 2006. This sample was used for two reasons: First, in line with previous studies, it was anticipated that large firms are more likely to have the resources to implement financial reporting on websites, such that their failure to do so would more likely indicate the consequence of conscious choice. Finally, a sample size of 100 companies provides a balance among acquiring sufficient variance for reliable statistical conclusion, and the resources available for data collection. The year 2007 was chosen for selection of the annual reports of the 100 top companies because it was the most up-to-date source of information available at the time the study was initially conducted. Moreover, most companies were expected to be more stable and familiar with Malaysia code of corporate governance (2000) and Bursa Listing Requirements (2001) after 5 years of their implementation. Therefore, year 2007 was seen to be an appropriate right time to measure the impact of firm characteristics and corporate governance mechanisms in enhancing firms' internet corporate disclosure in Malaysia.

This research made use of online search for the website survey and content analysis by physical observation of the websites of listed companies in Bursa Malaysia. Two websites namely, the Bursa Malaysia website (<http://www.klse.com.my>) and the Star online website (<http://www.bizstar.com>) were referred to for information to establish web presence and to acquire the web addresses of the relevant corporations. If the hyperlink was unavailable, the firms' ICR was searched by using search engines such as Google

Finance and Yahoo Finance. The online search was conducted during four months between January to April 2009. Data related to independent variables including firm characteristics were collected from Thompson DataStream. Table 1 provides a summary of the operationalisation of the dependent and independent variables selected in this study, as well as their sources of information. Data were collected for the period ending 2007.

Similar to previous studies (example Wallace and Naser, 1995; Cooke, 1993; Kelton and Yang, 2008), a disclosure checklist is developed to evaluate the extent and/or quality of internet corporate reporting (ICR). The final checklist instrument contained 87 attributes (61 attributes by content and 26 attributes by format), categorized into six major groups, namely; (1) accounting and financial information (24 attributes); (2) corporate governance (24 attributes); (3) corporate social responsibility (CSR) and human resources information (8 attributes); (4) contact details of investor relations (IR) and related conveniences (6 attributes); (5) Technological features (15 attributes); and (6) Convenience and usability of website Navigation support (11 attributes). The first four attribute groups were connected with disclosure of content, while the remaining two groups were associated with presentation format. The ICR scores of the companies are computed based on a dichotomous scale of “Yes=1” and “No=0”, where a “1-point” score denotes the existence of disclosure whilst a “0-point” score represents no disclosure. Similar to Akhtaruddin et al. (2009), this study employed an unweighted approach as it avoids the subjectivity inherent in any weighting, and does not favor a particular set of users (Marston and Leow, 2004). This method assumes that each item of information or item is equally important to all users of annual reports. As such, the maximum possible ICR score that could be allotted to each company analysed is 87 points (100%).

Table 1: Operationalisation of the Independent and Dependent Variables
 Selected variables and Sources of Information

Variables	Operationalisation	Source of Information
Firm Size	Log Total assets Log Total sales	Datastream
Profitability	return on assets (net profit /total assets) return on equity (net profit / equity)	Datastream
Leverage	Total debt /total assets Long term debt /owners' equity	Datastream
Liquidity	Current ratio (Current assets /current liability)	Datastream
Industrial sector	Dummy variables, from 1 to 9 were used to represent the sectors based	Datastream
Board Size	Total number of member board of directors	Companies' annual reports for financial year ended 2007

Board Independence	percentage of independent directors on the board	Companies' annual reports for financial year ended 2007
Role Duality	Role duality is coded as "1" if the CEO is also the chair of the board of directors. Otherwise, it is coded as "0".	Companies' annual reports for financial year ended 2007
Content and Presentation	Survey of 87 items for quality of corporate reporting. Item is coded as "1" if disclosed and "0" if undisclosed	Companies' annual reports for financial year ended 2007 and Website survey

RESULTS

Descriptive Statistics

Based on the result of descriptive statistics in Table 2, this study found the following mean scores for ICR: mean of 42 (69%) for 61 content items; mean of 14 (58%) for 24 CG items; mean of 5 (63%) for 8 CSR items; mean of 8 (31%) for 26 presentation format items. The total ICR score for the sample firms are widely ranged. Of a possible TOTAL score of 87, the highest score was 61 (or 70%), the lowest score was 34 (or 39%) and on average the sample firms obtained a score of 56%, indicating there is still room for improvement among Malaysian firms to disclose information on the internet. Further analysis reveals that a large proportion (70%) of the sample companies scored within the range of 53 percent to 70 percent of the marks. Based on the definition of Davey and Homkajohn (2004) who used the term "well-developed sites" for those companies that scored above 50 percent, a large number of public listed companies in the sample can be considered as having well-developed sites.

Table 2 also shows the descriptive statistics on the characteristics of the sample firms. Size of the company measured in terms of log total assets ranged from 5.67 to 8.41, with a mean of 6.73; while log total sales ranged from 5.09 to 7.45, with a mean of 6.35. On average return on assets (ROA) has a mean of 9% while the average return of equity (ROE) for all the companies is 19%. Leverage measured by total debt to total assets varies from 0.00% to 64 %, while leverage measured by long term debt to owners' equity varies from 0.00% to 68%. Current ratio measured by current asset to current liability has a mean of 2 %.

The result in Table 2 also indicates that the average size of board of directors among sample companies is 9 members with minimum of 5 members and a maximum of 15 members. The result indicates that the number of directors on board is sufficient and complies with the regulation of corporate governance in Malaysia. This is consistent with Akhtaruddin et al. (2009) who found that in Malaysia the average board size is 7.9 with maximum and minimum sizes of 14 and 4 respectively.

Table 2: Descriptive Statistics *

	Minimum	Maximum	Mean	Median	Std. Deviation	Skewness	Kurtosis
INDEPENDENT VARIABLES							
LOG TOTAL ASSETS	5.67	8.41	6.73	6.46	0.61	0.69	0.05
LOG TOTAL SALES	5.09	7.45	6.35	6.36	0.51	0.00	-0.35
ROA	-0.24	0.58	0.09	0.07	0.10	2.07	9.92
ROE	-0.52	1.63	0.19	0.15	0.23	3.34	21.46
TOTAL DEBT/TOTAL ASSETS	0.00	0.64	0.22	0.19	0.17	0.78	-0.01
LONG TERM DEBT/OWNER'S EQUITY	0.00	0.68	0.22	0.18	0.18	0.99	0.32
CURRENT RATIO	0.54	21.17	2.78	1.91	3.01	3.93	19.24
BOARD SIZE (No)	5.00	15.00	8.91	9.00	2.31	0.47	-0.20
INDEPENDENT DIRECTORS	0.25	0.67	0.42	0.40	0.10	0.88	0.32
DEPENDENT VARIABLES**							
	%	%	%	%			
CG SCORE	42.00	71.00	58.00	58.00	1.34	0.12	0.41
CSR SCORE	0.00	88.00	63.00	63.00	1.62	-0.76	0.21
CONTENT SCORE	50.00	85.00	69.00	69.00	4.75	-0.25	-0.15
PRESENTATION SCORE	0.00	62.00	31.00	31.00	3.18	-0.21	0.73
TOTAL SCORE	39.00	70.00	56.00	56.00	6.56	-0.34	-0.66

** The maximum possible scores for CONTENT, CG, CSR, PRESENTATION FORMAT, and TOTAL are 61, 24, 8, 26 and 87 respectively.

As shown in Table 2, the average number of independent director on board in Malaysian companies is 42 percent. This result indicates that on average Malaysian listed companies have complied with the listing requirement of Bursa Malaysia to have at least one third (33%) of directors as independent directors. This result is consistent with the study by Abdul Rahman and Mohamed Ali (2006) and Akhtaruddin et al. (2009) who found that at least 33% of the total number of directors among Malaysian companies is independent.

The result in Table 2 also shows that 66 firms or 85 percent of Malaysian companies in the sample separate the positions of CEO and Chairman. This result indicates that the majority of Malaysian companies are implementing the best practice of corporate governance in Malaysia that requires a separation of CEO and Chairman positions. The result is consistent with Abdullah (2004) and Abdul Rahman and Haniffa (2005). The introduction of the Malaysia Code on Corporate Governance (2000) recommends that the roles of Chairman and CEO should be held by different person in order to improve governance.

Univariate Analysis

The results of the univariate analysis are shown in Table 3. Of firm characteristics only ROE is significantly correlated with ICR and for corporate governance mechanisms only board size has a significant correlation with ICR. The results imply that profitability and the presence of larger size of the board may lead to better corporate reporting on the Internet and possibly also contribute to the enhancement of ICR. Hence the result provides a strong basis for interpreting the results of multiple regression analysis to examine the impact of firm characteristics' and corporate governance mechanism on ICR.

Table 3: Spearman's Correlation

	CG	CSR	CONTENT	PERESENTATION FORMAT	TOTAL (ICR)
LOG TA	-0.050	0.040	0.063	.246(*)	0.042
LOG TS	-0.052	0.080	0.128	.206(*)	0.104
ROA	0.023	0.152	0.050	0.024	0.021
ROE	0.126	.205(*)	0.153	0.127	.230(*)
TD/TA	-0.052	-0.080	-0.026	0.154	0.000
LTD/OE	0.000	-0.080	0.026	0.051	-0.052
CR	-0.103	-0.080	-0.026	0.000	0.000
BSIZE	-0.007	0.119	.229(*)	.202(*)	.304(**)
IDIRECT	.223(*)	-0.127	-0.107	0.020	-0.040
DUAL	0.055	0.040	0.022	-0.038	0.006

** . Correlation is significant at the 0.01 level (1-tailed).

* . Correlation is significant at the 0.05 level (1-tailed).

Note: **LOG TA**= Natural logarithm of total assets. **LOG TS**=Natural Logarithm of total sales. **ROA**=Return of asset (Net profit / Total assets). **ROE**=Return of equity (Net profit/ Equity). **TD/TA**=Total debt /Total assets. **LTD/OE**=Long term debt / Owners' equity. **CR**=Current ratio (Current assets /Current liability). **BSIZE**=number of board of directors. **DIRECT**=Percentage of independent non-executive directors on the board. **DUAL**=One if the firm's CEO is also chairman of the board of directors, and zero otherwise. **CG**=Total score for corporate governance items obtained from the Internet disclosure index; the index has a possible range from 0 to 24. **CSR**=Total score corporate social responsibility items obtained from the Internet disclosure index; the index has a possible range from 0 to 8. **CONTENT**=Total score for content items obtained from the Internet disclosure index; the index has a possible range from 0 to 61. **PERESENTATION FORMAT**=Total scores for presentation format items obtained from the Internet disclosure index; the index has a possible range from 0 to 26. **TOTAL**=Total score for all ICR items obtained from the Internet disclosure index; the index has a possible range from 0 to 87.

Multiple Regressions Analysis

Multiple regression analysis is used in this study to analyze the relationship between one variable (dependent variable) and a set of variables (independent variables). The model used to test the hypotheses in the study is adopted from studies by Xiao et al. (2004), Marston and Polei (2004), Al-Htaybat (2005) and Kelton and Yang (2008).

TOTAL ICR = {CONTENT (CG, CSR) and PRESENTATION}.

$$\text{TOTAL ICR} = \beta_0 + \beta_1 \text{SIZE} + \beta_2 \text{PROFITABILITY} + \beta_3 \text{LEVERAGE} + \beta_4 \text{LIQUIDITY} + \beta_5\text{-}\beta_{14} \text{INDUSTRY (1-9)} + \beta_{15} \text{BSIZE} + \beta_{16} \text{IDIRECT} + \beta_{17} \text{DUALROLE} + e$$

Where,

β_0	-intercept
CONTENT	-total score of content items
CG	- total score of corporate governance disclosures
CSR	- total score of corporate social responsibility disclosures
PRESENTATION	-total score of presentation format items
TOTAL ICR	-total score for all ICR items
SIZE	- log of Total Assets or log of Total sale
PROFITABILITY	- return on total assets or return of equity
LEVERAGE	-Total dept /Total assets or Long term debt /Owners' equity
LIQUIDITY	- Current assets /current liability
INDUSTRY	- Dummy variables, from 1 to 9 are used to represent the sectors

Industry 1 is Trading and services sector (G01), 1 if yes and 0 otherwise ; Industry 2 is Finance sector (G02), 1 if yes and 0 otherwise; Industry 3 is Industrial Product (G03), 1 if yes and 0 otherwise; Industry 4 Consumer Product sector (G04), 1 if yes and 0 otherwise; Industry 5 is Plantation sector (G05) , 1 if yes and 0 otherwise ; Industry 6 is construction sector (G06) 1 if yes and 0 otherwise; Industry 7 is Infrastructure sector (G07), 1 if yes and 0 otherwise; Industry 8 is Property sector (G08), 1 if yes and 0 otherwise ; Industry 9 is Technology sector (G09), 1 if yes and 0 otherwise;

BSIZE	-number of board of directors
IDIRECT	-percentage of independent non-executive directors on the board
DUALROLE	-1 if Chairman of Board is also CEO, 0 otherwise
e	- Error term

Table 4 displays the results of 5 regression equation models. These models were derived from crossing five alternate measures of ICR {CONTENT (CG, CSR), PRESENTATION and TOTALSCORE}.

The regression results for the main model utilizing the ICR index (TOTAL) as the dependent variable are used to test all hypotheses and discussed in this section. The

results for other models will be discussed in the section on additional analysis. The empirical test based on multivariate analysis supports the hypothesis that there is a positive significant association among the disclosure of corporate information via the Internet and the return of equity of Malaysian public listed companies. The result is consistent with the signaling theory perspective which argues that companies disclose more information to signal their success and strength to potential investors and market participants, to strengthen their management position and in turn, to justify management's compensation. Further, healthy companies have strong incentives to disclose information in order to stand out from their competitors and avoid an incorrect assessment of their performance. Markets will punish companies that do not disclose by interpreting their failure to disclose as an attempt to hide information that is negative. The result is consistent with Al Arussi et al. (2009), Pervan (2006), Marston and Polei (2004), Aly and Simon (2007), Oyeler et al. (2003), and Ashbaugh et al. (1999), who found that profitability is related to Internet corporate reporting. Furthermore the result also supports the hypothesis that there is a significant positive relationship between board size and level of ICR. However, the remaining variables show no statistical significant relationship.

Focusing on firm characteristics and ICR, the results in Table 4 found no significant association between firm size & ICR, indicating that regardless of the firm size, Malaysian companies have similar level of corporate reporting on the Internet. The result contradicts with the agency theory that posits that larger companies (due to higher agency costs) are more likely than smaller companies to use Internet to improve corporate reporting to meet the greater demand for information. The results in this study also contradict with the agency theory that posits that companies with high level of debts will have higher voluntary disclosure such as Internet reporting, to facilitate the debt suppliers to better assess the firm's ability to meet its debts.

The results in Table 4 also found no significant relationship between liquidity and the amount of disclosure of corporate information via internet in Malaysian companies. A possible explanation is that high liquidity firms may believe that investors are pleased with the existing information. The result contradicts with the agency theory and signaling theory that posits that firms with high liquidity will disclose more on the Internet to meet the requirements of shareholders and creditors. The result is consistent with the results of Aly and Simon (2007), but inconsistent with the results of Oyeler et al. (2003) and Debreceeny et al. (2002).

The result found in this study also rejects the hypothesis that there is a significant relationship between the industry type and internet corporate reporting. This result is consistent with Marston (2003) Craven and Marston (1999), Marston and Leow (1998), who did not find a significant association between industry type and the extent of disclosure on the Internet. Industry membership may affect the political vulnerability of a company; therefore company in the same industry will tend to adopt the same levels of disclosure on the Internet. The results contradicts with the signaling theory that posits that

firms within the same industry are likely to accept an identical level of disclosure so as not to be interpreted as hiding bad news.

With reference to the corporate governance mechanisms, only board size is shown to be significantly related to the level of corporate reporting on the internet. The result indicates that board size is important to management in shaping the level of ICR. The result may be due to board's capability to influence managers to disclose more information on the Internet. Furthermore, greater number of directors on the board may decrease the likelihood of information asymmetry. The result is consistent with the agency theory that posits that a larger board is more likely to be vigilant for agency problem simply because a greater number of people will be reviewing management actions. The result is consistent with studies by Pfeffer (1972) and Akhtaruddin et al. (2009) who found that board size has positive significant association with the level of disclosure on the internet.

However, the study did not find any significant relationship between the proportion of independent members of the board of directors, and CEO Role Duality with corporate reporting on the internet. The insignificant result between board composition and ICR may be due to the fact that inside directors can contribute more to a company than outside directors due to their firm-specific knowledge and expertise. The results contradicts with the Agency theory that posits that a board dominated by independent non-executive directors who are free from management interests would improve a firm's compliance with disclosure requirements, which may lead to an increase in Internet reporting. Similar to the findings found by Abdelsalam and El-Masry (2008) and Abdelsalam and Street (2007), the insignificant result between CEO duality and ICR found in this study also contradicts with the Agency theory that posits that the separation of positions between CEO and Chairman will ensure a balance of power and authority to ensure good governance in promoting greater transparency.

Additional Analysis

The study further performs four other models for multiple regressions, as shown in Table 4. The total ICR is further subdivided into Content which consists of CG and CSR, and Presentation (Format). First, according to the regression model one (Content) in Table 4, the study found that only board size has positive significant association with Content items for disclosure index on the Internet. Second, in the regression model two (CG), the study found that firm size (proxy by total asset), industry (Infrastructure projects Cos industry), and non-executive independent directors have positive significant association between CG items and disclosure index on the Internet. Third, the result of model three (CSR) indicated that only firm size (proxy by total assets) has positive significant association between CSR items and disclosure index on the Internet. Fourth, the regression model four (Presentation) indicated that leverage (proxy by total debt/total assets), Industry (Industry firm), and board size is positively significant with Presentation format of reporting on the Internet.

	CONTENT			CG			CSR			PRESENTATION			TOTAL		
	Beta	t	sig.	Beta	t	sig.	Beta	t	sig.	Beta	t	sig.	B	t	sig.
(Constant)		1.070	0.289		1.661	0.102		2.003	0.050		0.773	0.443		1.552	0.126
LOG TA	0.086	0.546	0.587	-0.053	-0.350	0.727	0.107	0.693	0.491	0.159	1.082	0.284	-0.030	-0.199	0.843
LOG TS	-0.011	-0.067	0.947	0.014	0.087	0.931	0.004	0.023	0.981	0.141	0.917	0.363	0.040	0.257	0.798
ROA	0.017	0.091	0.928	-0.150	-0.814	0.419	0.073	0.387	0.701	0.034	0.189	0.850	-0.176	-0.971	0.336
ROE	0.188	1.179	0.243	0.181	1.175	0.245	0.206	1.307	0.196	0.130	0.872	0.387	0.373	2.470	0.016
TD/TA	-0.081	-0.484	0.630	-0.165	-1.023	0.311	-0.118	-0.716	0.477	0.305	1.944	0.057	0.081	0.515	0.609
LTD/OE	0.122	0.711	0.480	-0.022	-0.136	0.892	0.004	0.021	0.983	-0.232	-1.443	0.154	-0.167	-1.031	0.307
CR	0.011	0.076	0.939	-0.103	-0.724	0.472	-0.079	-0.545	0.588	0.125	0.902	0.371	0.133	0.955	0.344
IND-CON	-0.047	-0.357	0.723	0.073	0.569	0.571	-0.043	-0.325	0.746	0.059	0.475	0.637	0.008	0.066	0.948
IND-COP	0.147	0.971	0.335	0.037	0.254	0.800	-0.076	-0.506	0.614	-0.128	-0.903	0.370	0.021	0.145	0.885
IND-IND	0.074	0.521	0.604	0.042	0.310	0.757	0.010	0.072	0.943	-0.218	-1.645	0.105	-0.058	-0.435	0.665
IND-PLN	0.041	0.280	0.781	-0.160	-1.122	0.266	0.133	0.913	0.365	-0.157	-1.133	0.262	-0.115	-0.821	0.415
IND-PRP	-0.020	-0.142	0.888	0.085	0.614	0.542	-0.103	-0.728	0.469	-0.083	-0.620	0.538	-0.028	-0.207	0.836
IND-IPC	-0.052	-0.387	0.700	0.217	1.669	0.100	-0.028	-0.209	0.835	0.015	0.116	0.908	0.034	0.266	0.792
IND-FIN	-0.058	-0.368	0.714	-0.063	-0.409	0.684	-0.109	-0.691	0.493	-0.106	-0.712	0.479	-0.161	-1.066	0.291
IND-TEC	0.034	0.253	0.801	0.147	1.131	0.263	-0.016	-0.124	0.902	-0.039	-0.306	0.760	-0.086	-0.674	0.503
IND-FIN	-0.008	-0.068	0.946	-0.061	-0.534	0.595	0.074	0.643	0.522	0.085	0.742	0.461	0.014	0.125	0.901
BSIZE	0.236	1.725	0.090	0.068	0.518	0.606	0.100	0.737	0.464	0.278	2.168	0.034	0.397	3.062	0.003
IDIRECT	-0.112	-0.732	0.467	0.370	2.501	0.015	-0.202	-1.333	0.188	0.138	0.958	0.342	0.120	0.824	0.413
DUAL	-0.032	-0.243	0.809	0.021	0.162	0.872	0.074	0.567	0.573	-0.109	-0.879	0.383	-0.112	-0.892	0.376
R Square	0.136			0.194			0.155			0.239			0.225		
F-value	0.517			0.791			0.603			1.027			0.951		

Table 4: Regression Result for 5 Equation Models

***Five sets of regression are reported for each dependent variable. The coefficients among explanatory variables are in italics. Coefficients those are significant at p.10. **LOG TA**= Natural logarithm of total assets.**LOG TS**=Natural Logarithm of total sales.**ROA**=Return of asset (Net profit / Total assets)**ROE**=Return of equity (Net profit/ Equity).**TD/TA**=Total dept /Total assets.**LTD/OE**=Long term dept / Owners' equity.**CR**=Current ratio (Current assets /Current liability).**IND-CON**=one if company in construction industry, and zero otherwise. **IND-COP** =one if company in consumer products industry, and zero otherwise. **IND-IND** =one if company in Industrial Products industry, and zero otherwise. **IND-PLN** =one if company in plantation industry, and zero otherwise. **IND-PRP** =one if company in construction industry, and zero otherwise. **IND-IPC** =one if company in Infrastructure Project Cos industry, and zero otherwise. **IND-TA**= one if company in Trading and Services industry, and zero otherwise. **IND-FIN** =one if company in finance industry, and zero otherwise. **IND-TEC** =one if company in technology industry, and zero otherwise. **BSIZE**=number of board of directors. **DIRECT**=Percentage of independent non-executive directors on the board. **DUAL**=One if the firm's CEO is also chairman of the board of directors, and zero otherwise. **CONTENT**=Total score for content items obtained from the internet disclosure index; the index has a possible range from 0 to 61. **CG**=Total score for corporate governance items obtained from the internet disclosure index; the index has a possible range from 0 to 24. **CSR**=Total score corporate social responsibility items obtained from the internet disclosure index; the index has a possible range from 0 to 8. **PRESEPTATION**=Total scores for presentation format items obtained from the internet disclosure index; the index has a possible range from 0 to 26. **TOTAL**=Total score for all ICR items obtained from the internet disclosure index; the index has a possible range from 0 to 87.

It is interesting to note that the composition of the board is found to be positively significant with disclosure index of corporate governance on the internet. Consistent with agency theory, the result indicates that a high percentage of independent directors on a board enhances the monitoring of managerial opportunism and reduces management's chance of withholding information on corporate governance. This is also consistent with the guidelines of MCCG (2000, Revised 2007) and the requirement of Bursa Malaysia that requires the boards of all listed companies to have a ratio of at least 1:3 independent non-executive directors. A board dominated by independent non-executive directors leads to better monitoring and control of the actions of executive directors in safeguarding the interest of different investors, who need more timely and accurate information that will be provided by the management through timely disclosure.

Conclusion

In summary the purpose of this paper is twofold: first, it provides the extent of internet corporate reporting (ICR) among public listed companies in Malaysia. To achieve this objective, a score check-list (disclosure index) was used. The score sheet is categorized into two main sections, namely content and presentation and includes 87 items: 61 items of disclosure content and 26 items of presentation format. Second, this study considers how firm characteristics and corporate governance mechanisms is related with their disclosure degree of internet corporate reporting (content and presentation). Similar to earlier studies (Debreceeny et al., 2002; Xiao et al., 2004; Gandía et al., 2008; Ezat and El-Masry, 2008), the current study identified five variables of firm-characteristics, namely,

size, profitability, leverage, liquidity, industry type; and the three variables for corporate governance mechanisms are board size, board composition and role duality .

In summary the result indicates that profitability (proxy by return of equity) and board size have significant association with disclosure index on the Internet. The results support the signaling theory that posits profitable companies disseminate more corporate information on their website to stand out from their competitors and avoid an incorrect assessment of their performance. Consequently, the result shows that only board size has significant association with Content, Presentation, and Total ICR. Consistent with agency theory, the result shows that a larger board is more likely to be vigilant for agency problem simply because a greater number of people will be reviewing management actions to disclose more information to stakeholders via the internet.

Based on the finding of this study, it is recommended that regulatory bodies like Bursa Malaysia or the Securities Commission (SC) should establish standard guidelines on Internet reporting to streamline the Internet reporting activities among companies. The Malaysian Accounting Standard Board (MASB) should issue specific guidelines as to what items need to be disclosed in the annual report on websites, covering the entire standard specifically to include corporate governance and CSR and globalization matters. The research finding revealed weakness in enforcing the legal reforms (there is no statement in the MCCG regarding the use information technology to enhance transparency in Malaysia) that have been introduced to improve corporate governance practices on the Internet. Future study may investigate user's perception on ICR practices to identify the gap between user's expectations and current company practice. Future study can also cover a longer period to get an in-depth picture on the factors affecting disclosure level. The characteristics of the Internet have enabled user all around the world to access desired websites at any given time and at a more cost-effective rate. Therefore, future research needs to consider examining the level of ICR of firms in other developing countries.

References

Abdelsalam, O., El-Masry, L. (2008). The impact of board independence and ownership structure on the timeliness of corporate internet reporting of Irish-listed companies, *Journal of Managerial Finance*, Vol. 34, No. 12, 907-918.

Abdelsalam, O., Street, D. (2007). Corporate governance and the timeliness of corporate internet reporting by UK listed companies, *Journal of International Accounting, Auditing and Taxation*, Vol. 16, No.2, 111-30.

Abdul Rahman, R., Haniffa, R. M. (2005). The effect of role duality on corporate performance in Malaysia. *Corporate Ownership and Control*, Vol.2, No.2, 40–49.

Abdul Rahman, R., Mohamed Ali, F.H. (2006). Board, Audit Committee, Culture and Earnings Management: Malaysian Evidence, *Managerial Auditing Journal*, Vol.21, No.7, 783-803.

Abdullah, S.N. (2004). Board composition, CEO duality and performance among Malaysian listed companies. *Journal of Corporate Governance*, Vol. 4, No. 4, 47-61.

Al Arussi, A.S., Selamat, M.H. and Hanefah, M.M. (2009). Determinants of financial and environmental disclosures through the internet by Malaysian companies, *Asian Review of Accounting*.Vol. 17 No. 1, 59-76.

Al-Htaybat, K. (2005). Financial Disclosure Practices: Theoretical Foundation, and an Empirical Investigation on Jordanian Printed and Internet Formats. PhD. Thesis. Faculty of Law, Arts and Social Sciences School of Management, Southampton, University of Southampton.

Allam, A. & Lymer, A. (2003). Developments in Internet financial reporting: Review and analysis across five developed countries, *The International Journal of Digital Accounting Research*, 3 (6), 165-206.

Alsaeed, K. (2006). The Association between Firm-Specific Characteristics and Disclosure: The Case of Saudi Arabia, *Managerial Auditing Journal*, 21, 5, 476-496.

Alvarez, I., Sanchez, I., and Dominguez, L. (2008). Voluntary and compulsory information disclosed online: The effect of industry concentration and other explanatory factors. *Online Information Review*, Vol. 32 No. 5, 596-622.

Aly, D., Simon, J. (2007). Assessing the Development of Voluntary Internet Financial Reporting and Disclosure in Egypt, Master Thesis. Gloucestershire University Business School.

Akhtaruddin, M., Hossain, M.A., Hossain, M., Yao., L (2009). Corporate Governance and Voluntary Disclosure in Corporate Annual Reports of Malaysian Listed Firms. *Journal of Applied Management Accounting Research*, Vol. 7. Number 1.

Ashbaugh, H., Johnstone, K.M., Warfield, T.D. (1999). Corporate reporting on the internet, *Accounting Horizons*, Vol.13, 241-57.

Cooke, T. E. (1989). Disclosure in the Corporate Annual Reports of Swedish Companies, *Accounting and Business Research*, 19 (34), 113-124.

Cooke, T. E. (1993). Disclosure in Japanese corporate annual reports, *Journal of Business, Finance and Accounting*, 20 (4), 521-535.

Craven, B.M., Marston, C.L. (1999). Financial reporting on the internet by leading UK companies, *European Accounting Review*, Vol. 8, 321-33.

Davey, H., Homkajohn, K. (2004). Corporate internet reporting: an Asian example, *Problems and Perspectives in Management*, Vol. 2, 211-27.

Debreceeny, R., Rahman, A. (2005). Firm-specific determinants of continuous corporate disclosures, *The International Journal of Accounting*, Vol. 40 No.3, pp.249-78.

Debreceeny, R and Gray, G. ;Rahman, A. (2002). The Determinants of Internet Financial Reporting. *Journal of Accounting and Public Policy*, 21: 371-394.

Dutta, P and Bose, S. (2007). Corporate Social and Environmental Reporting on Corporate Websites: A Study on Listed Companies of Bangladesh”, *The Cost & Management*, 35(4), 31-49.

Ettredge, M., Richardson, V.J., Scholz, S. (2002). Dissemination of information for investors at corporate web sites, *Journal of Accounting and Public Policy*, Vol. 21 No.4-5, 357-69.

Ettredge, M., Richardson, V.J., Scholz, S. (2002). Timely financial reporting at corporate web sites? *Communications of the ACM*, Vol. 45, 67-71.

Ettredge, M., Richardson, V.J., Scholz, S. (2001). The presentation of financial information at corporate web sites, *International Journal of Accounting Information Systems*, Vol. 2, 149-68..

Ezat, A., El-Masry, A. (2008). The impact of corporate governance on the timeliness of corporate internet reporting by Egyptian listed companies, *Journal of Managerial Finance* Vol.34, No.12, 848-867

Fama, E., Jensen, M. (1983). Separation of ownership and control, *Journal of Law and Economics*, Vol. 26 No.2, 301-26.

Malaysian Code on Corporate Governance, Securities Commission. (Revised 2007).

Finkelstein, S., D'Aveni, R.A. (1994). CEO duality as a double-edged sword: how boards of directors balance entrenchment avoidance and unity of command, *Academy of Management Journal*, Vol. 37 No.5, 1079-108.

Forker, J. (1992). Corporate governance and disclosure quality, *Accounting and Business Research*, Vol. 22 No.86, 111-24.

Gandia, J.L. (2008). Determinants of internet-based corporate governance disclosure by Spanish listed companies, *Online Information Review*, Vol. 32 No.6, 791-817.

García-Borbolla, A., Larrán, M., López, R. (2005). Empirical evidence concerning SMEs' corporate websites: explaining factors, strategies and reporting, *The International Journal of Digital Accounting Research*, Vol. 5, 171-202.

Ghazali, N.A.M., Weetman, P. (2006). Perpetuating traditional influences: voluntary disclosure in Malaysia following the economic crisis, *Journal of International Accounting, Auditing and Taxation*, Vol. 15, 226-48.

Ghosh, S. (2006). Do board characteristics affect corporate performance? Firm-level evidence for India, *Applied Economic Letters*, Vol. 13 No.7, 435-43.

Hamid, F.Z.A. (2005). Malaysian companies' use the internet for investor relations, *Corporate Governance*, Vol. 5 No.1, 5-14.

Haniffa, R. M., & Cooke, T. E. (2002). Culture, corporate governance and disclosure in Malaysian corporations. *ABACUS*, 38(3), 317-348.

Hanniffa, R.M., and Cooke, T.E. (2005). The impact of culture and governance on corporate social reporting, *Journal of Accounting and Public Polic.*4:391-430.

Hassan, A., Jaffer, N. and Johi, S.K. (1999). Financial reporting on the internet by Malaysian companies: perceptions and practices, *Asia-Pacific Journal of Accounting*, Vol. 6 No. 2, 299-319.

Ismail, T.H. (2002). An empirical investigation of factors influencing voluntary disclosure of financial information on the internet in the GCC countries, working paper
Jensen, M. (1993). The modern industrial revolution, exit and the failure of internal control systems, *The Journal of Finance*, Vol. 48 No.3, 831-80.

Jensen, M.C., Meckling, W.H. (1976). Theory of the firm: managerial behavior, agency costs and ownership structure, *Journal of Financial Economics*, Vol. 3 No.3, 305-60.

John, W.B. & Kent, A.H., (1992). Do Outside Directors Monitor Managers? Evidence from Tender Offer, *Journal of Financial Economics*, Vol.32, 195-221.

Kelton, A.S., Yang, Y. (2008). The impact of corporate governance on internet financial reporting, *Journal of Accounting and Public Policy*, Vol. 27 No.1, 62-87.

Khadaroo, I. (2005a). Business reporting on the internet in Malaysia and Singapore- A comparative study, *Corporate Communications: An International Journal*, 10(1): 58-68.

Khadaroo, I. (2005). Corporate reporting on the internet: some implications for the auditing profession, School of Management and Economics, Queen's University Belfast, Ireland, *Managerial Auditing Journal*, 20(6), 578-591.

Khan, T. (2006). Financial reporting disclosure on the internet: An international perspective, A thesis for the degree of Doctor of Philosophy Faculty of Business and Law School of Accounting Victoria University, Footscray Park, Victoria, Australia.

Larrán, M., Giner, B. (2002). The use of the internet for corporate reporting by Spanish companies, *The International Journal of Digital Accounting Research*, Vol. 2, 53-82.

Laswad , F., Oyelere, P., Fisher, R (2001). Finance letter internet financial reporting, opportunities and challenges, Lincoln University , New Zealand.

Leftwich, R.W., Watss, R., Zimmerman, J.L. (1981). Voluntary corporate disclosure: the case of interim reporting, *Journal of Accounting Research*, Vol. 19, 50-77.

Lymer, A. (1997). Corporate reporting via the Internet- A survey of current usage in the UK and discussion of issues, First Financial Reporting and Business Communication Conference, Cardiff.

Lymer, A. & Tallberg, A. (1997). Corporate reporting and the internet - a survey and commentary on the use of the WWW in corporate reporting in the UK and Finland, Paper presented at EAA' 97. Graz, Austria.

Lymer, A. (1999). The Internet and the Future of Corporate Reporting in Europe, *The European Accounting Review*, Vol. 8 No. 2, 289–301.

Marston, C., Polei, A. (2004). Corporate reporting on the internet by German companies, *International Journal of Accounting Information Systems*, Vol. 5, 285-311.

Marston, C. & Leow, C. Y. (1998). Financial Reporting on the Internet by Leading UK Companies. The 21st Annual Congress of the European Accounting Association, Antwerp.

Marston, C. (2003). Financial reporting on the Internet by leading Japanese companies, *Corporate Communications: An International Journal*, Vol. 8 No.1, 23-34.

Mitchell, W. and Ho, C.W.P. (2000). Corporate Social Disclosures by Listed Companies on Their Websites: An International Comparison, Hong Kong Polytechnic University, Kowloon.

Noor, A.I. & Mohamad, T. (2000). Financial reporting disclosure on in the internet by Malaysian public-listed companies. *Akauntan Nasional*, 13(9), 28-33.

Noor Azizi, A.I., Mahamad, T. and Adon, I. (2000). Financial reporting disclosure on the internet by Malaysian listed companies, *Akauantan Nasional*, Vol. 1, No. 1, pp. 28-33.

OECD. (2004). *OECD Information Technology Outlook, A Report of Information and Communications Technologies*.

Othman, R., Said, Jamaliah., and Nasir, N. (2001). *Internet Reporting By Local Authorities in Malaysia*, Universiti Teknologi Mara, Unpublished paper.

Oyelere, P., Laswad, F., Fisher, R. (2003). Determinants of internet financial reporting by New Zealand companies, *Journal of International Financial Management and Accounting*, Vol. 14, 26-63.

Perera, H.B., Rahman, A.R., & Cahan, S.F. (2003). Globalization and the Major Accounting Firms, *Australian Accounting Review*, Vol. 13, Iss. 1, 27 – 38.

Pervan, I. (2006). Voluntary Financial Reporting on the Internet- Analysis of the Practice of Stock-Market Listed Croatian and Slovene Joint Stock Companies, *Financial Theory and Practice*, 30 (1):1-27.

Pfeffer , J. (1972). Size and composition of corporate boards of directors: the organization and its environment. *Administrative Science Quarterly*, vpl.17, 218-228.

Rosli, M., Amdan, M., and Mudzamir, M. (2003). *Internet Financial Reporting in Malaysia*, University Utara Malaysia, Unpublished.

Singh, M., Mathur, I., Gleason, K.C. (2004). Governance and performance implications of diversification strategies: evidence from large US firms, *Financial Review*, Vol. 39, 489-526.

Singhvi, S.S. & Desai, H.B. (1971). An Empirical Analysis of the Quality of the Corporate Financial Disclosure, *The Accounting Review*, Vol. 46, No. 1, January, 120–138.

Spanos, L. (2006). *Corporate Reporting on the Internet in a European Emerging Capital Market: The Greek Case*. Retrieved 3 July from <http://ssrn.com/abstract=914468>.

The Edge Malaysia (2009). *Investor Relations Corner: Keeping up with the online medium*. 22 June 2009

Trabelsi, S., Labelle, R. (2006). Evidence that corporate websites is a part of the firm's overall disclosure package, Brock University, St Catherines, working paper.

Wallace, R. S. O., Nasser, K. & Mora, A. (1994). The relationship between the comprehensive of corporate annual reports and firm characteristics in Spain. *Accounting and Business Research*, 25 (97), 41-53.

Wallace, R.S.O., Naser, K. (1995). Firm-specific determinants of the comprehensiveness of mandatory disclosure in the corporate annual reports of firms listed on the Stock Exchange of Hong Kong, *Journal of Accounting and Public Policy*, Vol. 14, 311-68.

Watts, R.L. and Zimmerman, J.L. (1986). *Positive Accounting Theory*, Prentice-Hall International.

Willman J. (2007). Companies failing to exploit internet, *Financial Times*. Retrived july 20, 2008, from ABI/INFORMATION Global

Xiao, J.Z., Yang, H., Chow, C.W. (2004). The determinants and characteristics of voluntary internet-based disclosures by Chinese listed companies, *Journal of Accounting and Public Policy*, Vol. 23, 191-225.

Yermack, D. (1996). Higher market valuation of companies with a small board of directors", *Journal of Financial Economics*, Vol. 40, 185-211.

Zhang, T., He, Y. & Gao, S. S. (2007). The determinants of Internet financial reporting: Empirical evidence from China. BAA Annual Conference. Royal Holloway, University of London.