CHAPTER 4: RESEARCH FRAMEWORK

4.1 Introduction

In Section 4.2 of this chapter the researcher considers some theoretical perspectives on reasons why corporate management might chose to voluntarily disclose specific information to outsiders.

This chapter discusses various theories used by previous research, with reference to the trends of Internet financial reporting (IFR). Section 4.3 discusses the development of a research framework and formulation of hypotheses to achieve the objectives of this study. This study proposes multiple regression analysis to analyse the relationship between a dependent (criterion) variable and several independent (predictor) variables. The chapter ends with a conclusion in Section 4.4.

4.2 Theoretical Perspectives

Theory is a conception of the relationship between things (i.e. ideas, behaviours, observations, etc) (Gray, 2007). It may be a causal relationship, something that explains and predicts, or just heuristic to help researchers think about something. All human activity uses theory and all intellectual activity must use theory. Theory helps the researcher to see the world. The researcher constructs and helps to formalise the way in which he/she perceives the world. Theories also help to explain why organisations voluntarily disclose information and why increased disclosure might be a good or a bad thing.

Theories are abstracted from reality and, therefore, theories are not expected to give a full description or account of specific behaviour (Deegan and Unerman, 2006).

Consequently, it may be useful to consider alternative theories from other perspectives. Researchers might adopt alternative theoretical perspectives under the same phenomenon for study. The choice of a theoretical perspective in preference may be influenced by the value judgements of the researcher (Section 4.2). In the next section, the researcher discusses various theories, which are normally applied in accounting research.

4.2.1 Economics-Based Theories

4.2.1.1 Agency Theory

There are many relationships between the various organisation resources providers and how accounting is used to manage the functioning of these relationships. Examples include the relationships between the equity owners and the managers, or between the managers and the firm's debt financier. These relationships involve the delegation of decision-making from the principal to the agent, which is referred to as an agency relationship (Deegan and Unerman, 2006). This delegation of decision-making can lead to some inefficiency and consequential costs. If there is any potential loss brought about by the under performing manager, it is called an agency cost that results from the delegation of decision-making within this agency relationship. Jensen and Meckling (1976, p.308) defined the agency relationship as "a contract under which one or more (principals) engage another person (the agent) to perform some service on their behalf which involves delegating some decision-making authority to the agent".

Traditional economics literature includes the assumption that all parties desire to maximise their own wealth. Conflicts between principals and agents, and how to minimise the firm's cost in these potential conflicts under various contractual mechanisms and efficient markets are considered by Jensen and Meckling (1976).

Within agency theory, one that minimises its agency costs is considered to be a well-functioning firm. The agent or manager will be assumed to have an incentive to consume many perquisites if there is no mechanism to make them pay. In order to make personal gains, agents may use confidential information at the expense of the principals or owners. It is the incentive problems that are at the heart of agency theory, as Lambert (2001, p.5) says:

> Agency theory models are constructed based on the philosophy that it is important to examine incentive problems and their 'resolution' in an economic setting, in which the potential incentive problem actually exists. Typical reasons for conflict of interest include (1) effort aversion by the agent, (2) the agent can divert resources for his private consumption or use, (3) differential time horizons, e.g. the agent is less concerned about the future period effects of his current period actions, because he does not expect to be with the firm, or the agent is concerned about how his actions will affect others' assessments of his skill, which will affect compensation in the future, or (4) differential risk aversion on the part of the agent.

Within agency theory, principals will anticipate that the self-interested driven agents, will undertake self-serving activities that could be detrimental to the economic welfare of the principals, unless the agents are restricted from doing otherwise. Therefore, the principal will pay a lower amount of wages to the agent in anticipation of potential opportunistic action of agents, in the absence of any contractual mechanisms to limit such opportunistic behaviour of agents. The lower wages will compensate the adverse actions of the agents to the principals, which is referred to as price protection (Deegan and Unerman, 2006). Therefore, the perspective is that it is generally the agents who pay for the principals' expectations of their opportunistic behaviour. If the agents prefer to be paid a higher wage, they will be more willing to enter into contractual agreements to minimise their ability to undertake any detrimental activities to the interests of the principals. The agents will be motivated to provide information to show that they are not acting in self-serving activities that are detrimental to the economic welfare of the principals.

If agents are offered incentives that are linked to the share value of the organisation, and become owners themselves, they might work in the interests of principals. Indeed, if managers are the equity holders, then this may encourage them to disclose more information via the traditional paper-based (annual statement) and Internet-based reporting. Managers might be motivated to withhold information from shareholders and other interested stakeholders, if they do not have an equity interest in the organisation. As Nagar et al. (2003, p.284) say:

> Managers avoid disclosing private information because such disclosure reduces their private control benefits. For instance, a lack of information disclosure limits the ability of capital and labour markets to effectively monitor and discipline the managers (Shleifer and Vishny, 1989). The disclosure agency problem can thus be regarded as a fundamental agency problem underlying other agency problems. Practitioners also echo the view that managers exhibit an inherent tendency to withhold information from investors, even in the 'high disclosure' environmental of U.S. capital markets.

A panellist at the STERN Stewart Executive Roundtable states (Stern Stewart, 2001, p.37),

> …all things equal, the managers of most companies would rather not disclose things if they do not have to. They do not want you to see exactly what they are doing; to see the little bets they are taking.

Nagar et al. (2003, p.284) suggest that providing managers with equity interests in the organisation will act to reduce the 'non-disclosure tendency'. They specifically say:

> Stock (share) price-based incentives elicit both good news and bad news disclosures from managers. They have incentives to release good news and bad news because it boosts stock price. On the other hand, the potential negative investor interpretations of silence (Verrecchia, 1983; Milgrom, 1981), and litigation costs (which reduce the value of the managers' ownership interest) are incentives to release bad news. Therefore, we argue that managerial stock price-based incentives, both as periodic compensation and aggregate shareholdings, help align long-run managerial and investor disclosure preferences and mitigate disclosure agency problems… Our basic premise is that stock price-based incentives are

> contractual mechanisms that align managerial disclosure preferences with those of shareholders.

The above considered the contractual relationship between principals and agents, and how accounting can be used to reduce the costs associated with potential conflict, thereby enabling an organisation to attract funds at a lower cost than might otherwise be possible.

Firm characteristics such as firm size, international listing status, leverage and country of incorporation were found to be associated with voluntary disclosure (Meek et al., 1995). Eng and Mak (2003) found that firm size and leverage are related to non-mandatory strategic, non-financial and financial information. Size, profitability, multiple listing and type of industry are significantly related to corporate social disclosure (Haniffa and Cooke, 2005). The above discussion and findings provide evidence that the agency theory explains most of the voluntary disclosure. Others such as Marston and Polei (2004); Xiao et al. (2004); Debreceny and Rahman (2005) have shed lights into the factors influencing companies disclosure via the Internet in both developed and developing countries. All studies (Marston and Polei, 2004; Debreceny and Rahman, 2005; Bonson and Escobar, 2006) demonstrate that larger firms disclose more information via the Internet to reduce agency costs so that the better-informed shareholders impose fewer monitoring measures to control companies.

A company's overall voluntary disclosure policy may be monitored and determined by corporate governance mechanisms (Kelton and Yang, 2008). Agency theory, according to Jensen and Meckling (1976), provides a framework relating the corporate governance mechanisms to disclosure behaviours. In most market situations, the management and shareholders reap the economic benefits of any decrease in agency costs (Pratt and

Zeckhauser, 1985). This results in managers voluntarily discloses more information in submission to monitoring. Consistent with the predictions of agency theory, this study extends this notion by examining the relationship between corporate governance factors and voluntary disclosure via the Internet.

4.2.1.2 Concept of Information Asymmetry

Berle and Means (1932) espoused the notion of information asymmetry between management and ownership. Indeed, they stress that the level of information asymmetry is the main driver of investor uncertainty. In order to mitigate the adverse effect of information asymmetry, companies adopt various mechanisms including voluntary disclosure. Past studies suggest that managers voluntarily enhance their financial profiles to: (1) decrease contracting costs or agency costs (Chow and Wong-Boren, 1987); (2) decrease capital costs (Botosan, 1997; Sengupta, 1998), and (3) enhance firm value (Yeo and Ziebart, 1995; Frankel et al., 1999). These studies found specific firm characteristics can increase or decrease firm costs. Disclosure activities incurred costs although it can reduce the adverse effects of information asymmetry. There are limitations and associated costs for traditional paper-based disclosure, as this kind of reporting is becoming costly and limited in capacity to reach wider information users. In contrast, Internet disclosure is cheaper, faster, with a flexible format and is accessible by all users within and beyond geographical boundaries (Debreceny et al., 2002). IFR is also likely to enhance the disclosure quality as outlined in FASB (1980).

Many researchers argue that the Asian financial crisis was not only caused by the loss of investor confidence, but more likely because of the weak governance mechanisms in many companies in the region (Tan, 2000; Mishra et al., 2001; Mitton, 2002; Akhtaruddin, 2009). The lower level of transparency in the region increased the information asymmetry, and thus, reduced firm value (Jensen and Meckling, 1976). The disclosure policy and governance mechanisms largely influence the firm value (Akhtaruddin et al., 2009). Firms may increase their value by disclosing comprehensive information (Lobo and Zhou, 2001). Mitton (2002) stresses that investors are ready to pay a higher premium for more disclosure.

Various measures by Bursa Malaysia, as discussed in Chapter 3 (Section 3.2.3.2), are likely to induce more corporate disclosures via the Internet. This study argues that Malaysian companies would adopt more sophisticated means of disclosure such as the Internet, as they do not want to pay higher capital costs and agency costs.

4.2.1.3 Proprietary Cost

Verrecchia (1983) analysed a model in which a manager of a risky asset exercises discretion in the disclosure of information in the presence of traders who have rational expectation about his motivation. The information is a signal which reveals the true liquidating value of the risky asset perturbed by some noise. The manager decides to either release or withhold this signal on the basis of the information's effect on the asset's market price. Manager exercises discretion by choosing the point, or the degree of the information quality, above which he discloses what he observes, and below which he withholds his information. This point is a threshold level of disclosure (Verrecchia, 1983). Traders are fully aware of the existence, but not the content of the information possessed by the manager. Thus, a manager's choice of a threshold level of disclosure has to be determined in conjunction with trader's expectations.

'Good news' has come to be known in the accounting literature (Ball & Brown, 1968) as a positive difference between the actual earnings reported and the market's expectation of earnings and similarly ‘bad news’ as a negative difference. Givoly and Palmon (1982) found that the delay of ‘bad news’ is robust to alternative definitions of timeliness and models of expected earnings. Patell and Wolfson (1982) found that ‘good news’ tends to be reported prior to the close of trading, whereas ‘bad news’ tends to be released after the close of trading. Chambers and Penman (1984) concluded that missing an expected report date is a signal of forthcoming ‘bad news’ which is reflected in security price on the date of expected release. The explanation for why a manager delays the reporting of ‘bad news’ is that he hopes that during the interim some ‘good news’ will occur to offset what he has to say (Verrecchia, 1983).

The disclosure-related cost included the cost of preparing and disseminating information for traders’ inspection. Additionally, the cost associated with disclosing information which may be proprietary in nature; and therefore potentially damaging refers as proprietary cost (Verrecchia 1983). There would be a proprietary cost associated with releasing information which is unfavourable to a firm. However, the release of a variety of accounting statistics about a firm may be useful to competitors, shareholders or employees in a way which is harmful to a firm’s prospects even if the information is favourable.

If the proprietary cost exists and information is withheld, traders are unsure whether it was withheld because the information represents ‘bad news’ or ‘good news’, but not sufficiently good news to warrant incurring the proprietary cost. Traders’ inability to interpret withheld information as unambiguously ‘bad news’ is sufficient to support a threshold level of disclosure whereby for certain observations a manager is motivated to withhold information. Indeed, Grossman (1981) and Milgrom (1981) argue that in the absence of a proprietary cost, a manager follows a policy of full disclosure. The existence of a threshold level of disclosure suggests that as the proprietary cost increases, so does the threshold level. This is because as the proprietary cost increases, the range of possible favourable interpretations of withheld information increases, thereby allowing the manager greater discretion. In the next section, the researcher will consider how political process expectation can impact the managers' choice of accounting methods.

4.2.1.4 Political Cost

Larger firm is an indication of market power and this itself can attract the attention of regulatory bodies (Deegan and Unerman, 2006). Government, employees, consumers and environmental lobby groups may view that typically large firm is generating excessive profits and not distributing its fair share to them. Watts and Zimmerman (1978) argued that large politically sensitive firms should adopt accounting methods that lead to a lower reported profit; however, this view assumes that the parties involved in political process are unable or not prepared to unravel the implications of the managers' accounting choice. Gray et al. (1984) and Dunning (1993) suggest additional disclosures are associated with the relationship between multi-national corporations and host country governments, because multi-national corporations are motivated to establish and maintain good reputation. Corporations operating in a similar industry that are vulnerable politically may voluntarily disclose information to reduce the political cost (Bonson and Escobar, 2006). Highly visible companies are under greater political pressure to disclose more information (Watts and Zimmerman, 1986; Lopes and Rodrigues, 2007) in order to heighten the professional reputation of the managers (Skinner, 1994).

East Asia Financial Crisis in 1997 raise questions about corporate governance, transparency and the disclosure environments in producing reliable and relevant information (Akhtaruddin et al., 2009). Many countries in the world have introduced corporate governance codes, including Malaysian government also adopted comprehensive disclosure requirements, the MCCG (2000; Revised 2007) to improve the quality of disclosure. The objective of this effective institutional mechanism, the corporate governance code is to supervise and monitor to uphold a firm's image and reputation to the public. Having considered economics-based theories, in the next section, the researcher discusses institutional theory, which is increasingly applied in accounting research.

4.2.2 Institutional Theory

Accounting scholarship is undergoing a reconceptualisation, partially due to the empirical failure of economics-based theories to provide rationales for developing accounting techniques and systems (Richardson, 1987). In order to gain a better understanding of how accounting influences, and is influenced by a "multiplicity of agents, agencies, institutions and processes" (Miller, 1994, p.1), accounting scholars need to refocus their efforts on organisational structures.

One of the dominant theoretical perspectives in organisation theory is institutional theory. Accounting researchers are increasingly using it to study the accounting practices in the organisations (Deegan and Unerman, 2006). This theory is a thinking way about formal organisation structures and how it develops from the nature of the historically grounded social processes (Dillard et al., 2004). A predominant factor underlying the rapid growth of institutional theory is its wide range of applicability in the literature of organisation theory. In the early days, the sociology institutional theorists anticipated that only institutionalised organisations are subjected to institutional ideas. However, today, "the institutional theory is used to analyse all organisation types because all are institutionalised organisations" (Scott, 1995, p.136). All organisations operate under the general and local governance structures that are subject to regulative processes. "All organisations are socially constituted and subject to institutional processes, that define what forms they can assume and how they may operate legitimately" (Scott, 1995, p.136).

An institution is bounded by rule, because all are established order comprising standardised social practices. Institutionalisation is the process whereby the expected practices of various social settings are learned and developed. The institutional theory is mainly concerned with the interaction between an organisation and the external institutional environment, the social expectations effects, and how the organisations incorporated these expectations, and reflected in their organisational characteristics and practices (Martinez, 1999). Because of the imperative legitimacy-seeking behaviour, the organisational activities are affected by the social constructed norms. In order to survive, organisations must interact with their environment in a manner that is perceived as being acceptable to the various constituents of their environment (Dillard et al., 2004). There is some collective understanding of what constitutes an appropriate behaviour.

Institutional theory is relevant to accounting researchers who investigate voluntary disclosure, as it provides a better understanding of how organisations respond to changing institutional, social, pressures and expectations. An organisation seeks to maintain organisational legitimacy through follows organisational practices such as corporate and accounting reporting of the society value.

Isomorphism is one of the main dimensions of institutional theory. It refers to the organisations' adaptation of an institutional practice. Since voluntary disclosure is an organisation's institutional practice, the processes by which such reporting changes and adapts in that organisation are isomorphic. One of the isomorphic processes is called normative isomorphism (DiMaggio and Powell, 1983). This links the adoption of particular institutional practices arising from the pressures of group norms. For company reporting, the professional ethic requires that accountants comply with the accounting standards. Therefore, it acts as the normative isomorphism forces of the organisations, to which accountants are attached to produce financial reports, which are shaped by accounting standards.

As for voluntary disclosure, normative isomorphic pressures could arise through the influences of both formal and informal groups, from the less formal group to which accountants are attached, for example, the development of working and cultural practices within their workplace (Deegan and Unerman, 2006). These could produce accountants' views in favour of or against certain reporting practices, such as collective views on the necessity or desirability of providing investors with Internet financial information, in order to comply with Bursa Malaysia's Investor Relations Put Into Practice (2006) and Best Practices in Corporate Disclosure (2004).

The objective of this study is to examine whether Malaysian listed companies disseminate information according to the initiatives by Bursa Malaysia towards voluntarily increasing the level of transparency via the Internet. Furthermore, it tests the ownership and corporate governance variables that could influence the amount of information disclosed via the Internet. This chapter discusses the research framework and hypotheses development in the next section.

4.3 Research Framework

As discussed in Section 4.2 above, it has been empirically proven that accounting practices and disclosures are a complex function of many factors; it depends on external factors related to the environmental context of the corporation, which include the legal system, culture and institutional background, as well as internal company-specific factors (Lopes and Rodrigues (2007). To explain companies' disclosure practices, many theories have been proposed, these include the agency theory (Watts and Zimmerman, 1986; 1990), political costs theory (Holthausen and Leftwich, 1983), signalling theory (Ross, 1977; Morris, 1987), proprietary costs theory (Verrecchia, 1983; Dye, 1985; Wagenhofer, 1990; Darrough and Stoughton, 1990); legitimacy and institutional theory (Mezias, 1990; Guthrie and Parker, 1990; Carpenter and Feroz, 1992, 2001); cultural relevance theory (Gray, 1988) and contingency theory (Fechner and Kilgore, 1994; Doupnik and Salter, 1995). These theories generally use intangible concepts that cannot be measured directly, such as "performance", "legitimacy", "culture", "visibility" and "transparency" (Lopes and Rodrigues, 2007).

This study uses multiple regression analysis to analyse the relationship between a dependent (criterion) variable and several independent (predictor) variables. Multiple regression analysis tests theoretical models, using the scientific method of hypothesis testing, to provide valuable insights into the relationship amongst variables.

The researcher develops several hypotheses in Section 4.3 that relates corporate governance; ownership structures; firm characteristics (control variables) and Internet visibility, to their ultimate influence on Internet disclosure. Figure 4.1 and 4.2 shows all the variables based on the models developed. Thus, the regression models can be shown as follows:

Model 1:

$AllAtt_{it} = \beta_0 + \beta_1 NED_{it} + \beta_2 IndD_{it} + \beta_3 Duality_{it} + \beta_4 DirAccB_{it} + \beta_5 BSize_{it} + \beta_6 FamDir_{it} + \beta_7 MultiDir_{it} + \beta_8 AcSize_{it} + \beta_9 AcInd_{it} + \beta_{10} AcFinEx_{it} + \beta_{11} AcMeet_{it} + \beta_{12} SHNo5_{it} + \beta_{13} Top5_{it} + \beta_{14} FamO_{it} + \beta_{15} InstO_{it} + \beta_{16} GovtO_{it} + \beta_{17} ForO_{it} + \beta_{18} DirO_{it} + \beta_{19} FactorIntVis_{it} + \beta_{20} Industry(Tech)_{it} + \beta_{21} FactorSize_{it} + \beta_{22} FactorProfit_{it} + \beta_{23} Beta_{it} + \beta_{24} Auditor_{it} + \varepsilon$

Model 2:

$FactorIntVis_{it} = \beta_0 + \beta_1 NED_{it} + \beta_2 IndD_{it} + \beta_3 Duality_{it} + \beta_4 DirAccB_{it} + \beta_5 BSize_{it} + \beta_6 FamDir_{it} + \beta_7 MultiDir_{it} + \beta_8 AcSize_{it} + \beta_9 AcInd_{it} + \beta_{10} AcFinEx_{it} + \beta_{11} AcMeet_{it} + \beta_{12} SHNo5_{it} + \beta_{13} Top5_{it} + \beta_{14} FamO_{it} + \beta_{15} InstO_{it} + \beta_{16} GovtO_{it} + \beta_{17} ForO_{it} + \beta_{18} DirO_{it} + \beta_{19} Industry(Tech)_{it} + \beta_{20} FactorSize_{it} + \beta_{21} FactorProfit_{it} + \beta_{22} Beta_{it} + \beta_{23} Auditor_{it} + \varepsilon$

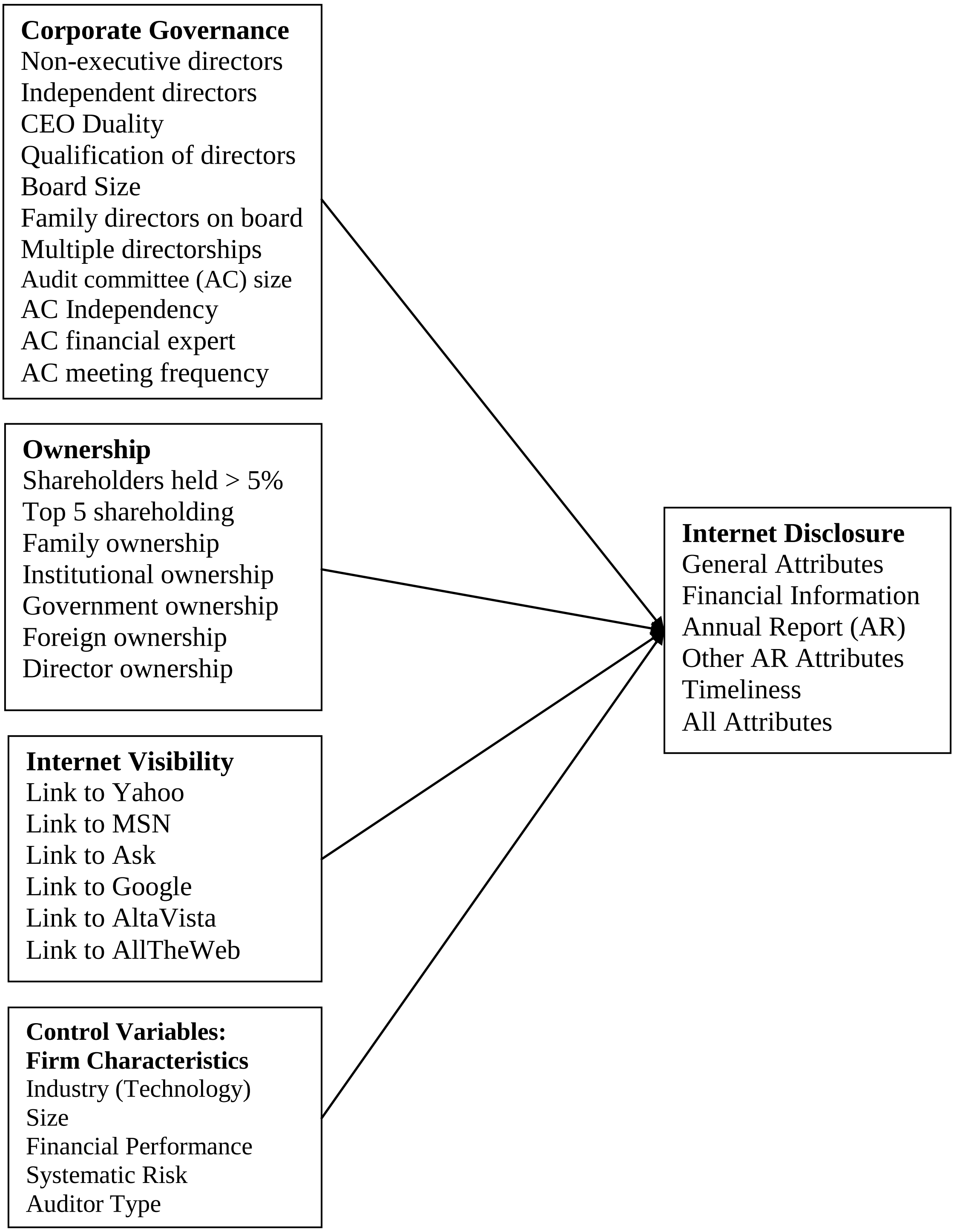

Figure 4.1 Factors Influencing Internet Disclosure

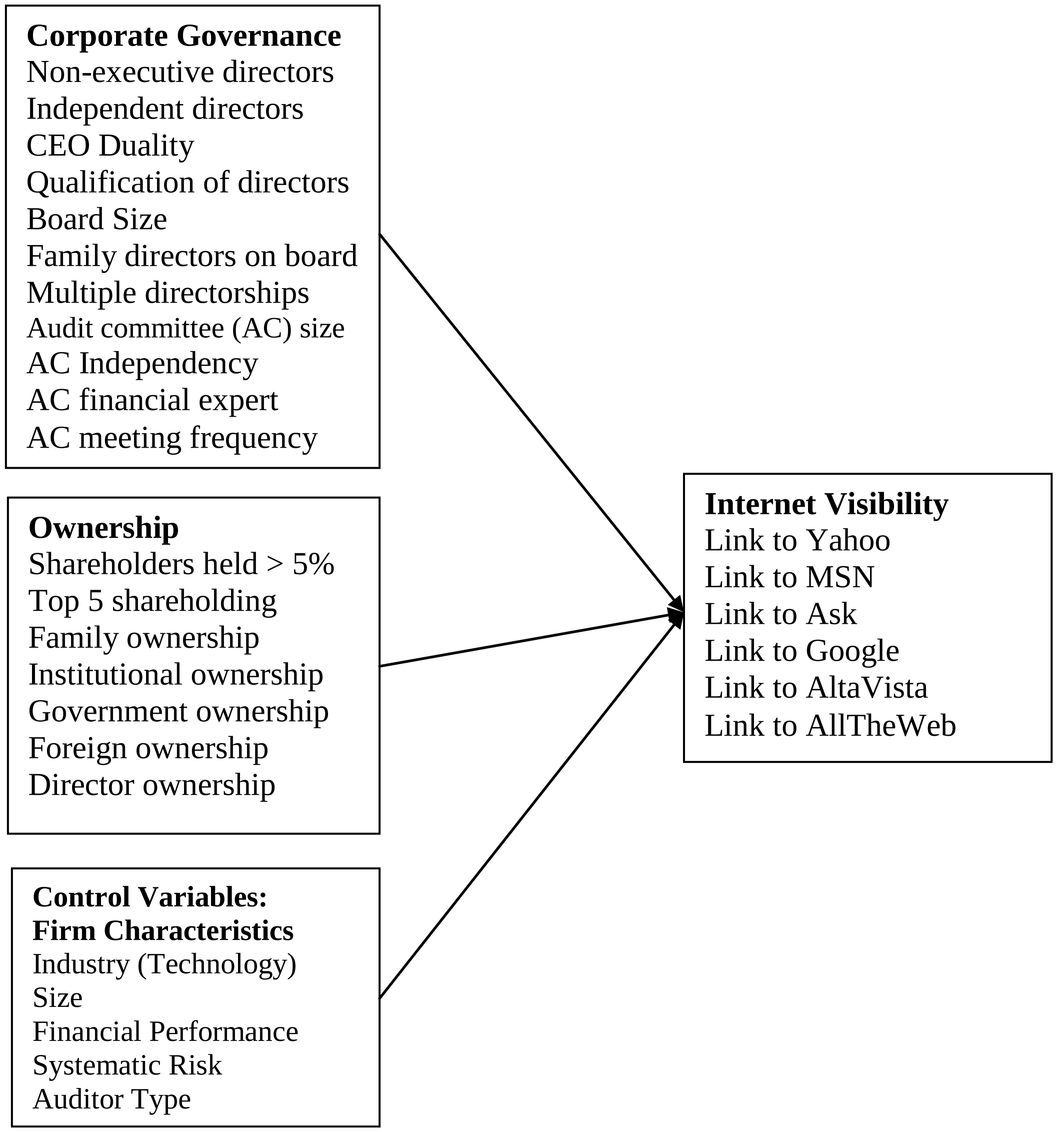

Figure 4.2 Factors Influencing Internet Visibility

4.3.1 Corporate Governance

In the aftermath of the 1997 Asian Financial Crisis, the Malaysian government has been the key driver in fostering "good" corporate governance. They recognise the need to restore market confidence by enhancing and improving corporate governance, transparency and accountability. The high-level Finance Committee on Good Governance (FCGG) constituted the main agenda for corporate governance reforms covering the entire corporate sector. Among the recommendations are maintaining the financial system's stability through more resilient institutions, an efficient infrastructure, and strong prudential supervision and regulations. They develop the best domestic institutions by increasing the domestic institutions' incentives to drive performance and building the domestic institutions' capabilities. Additionally, the Securities Commission and Bursa Malaysia also instituted a number of reforms for a higher level of transparency and better disclosure (Abdul Samad, 2004).

Corporate governance provides an internal control framework to reduce the agency problem (Akhtaruddin et al., 2009). Strong governance has long been considered important to enhance the long-term stakeholders' value in the business environment. During this new technology-driven information age, strong corporate governance is more than good business practice – it is an indispensable component of market discipline (Levitt, 2000). The investors and other stakeholders demand for greater accountability from corporate boards, this will likely further enhance the managerial stewardship quality and eventually lead to more efficient capital markets. Cohen and Hanno (2000, p.134) define corporate governance as "those oversight activities undertaken by the board of directors to ensure the integrity of the financial reporting process". Dalton and Daily (1999) posit positive governance occurs when the board members develop the corporate strategy and firm’s long-term direction. Otherwise, as Jensen (1993) points out, corporate governance only being consider during the crisis.

The accounting, finance and management literature provides alternative views of corporate governance based on agency theory (Fama and Jensen, 1983; Baysinger and Hoskisson, 1990; Bathala and Rao, 1995). Under this view, various contractual mechanisms including corporate governance are designed to monitor management’s behaviour, because managers are assumed to act in their own self-interests even if it is detrimental to the shareholders (Jensen and Meckling, 1976). The agency perspective emphasises the board members’ monitoring function should be independent from those being monitored namely the management. Therefore, the board’s central mission is to ensure that management’s actions are aligned with stockholders’ interests under the agency perspective. The board’s focus is expected to be directed primarily toward monitoring and control, evaluation of corporate performance, global risk management and management recruiting and compensation.

In contrast to the agency perspective, another view is that governance largely serves to meet regulatory requirements (form) such as placing non-executives (independent members) on the board (Galbraith, 1967; Wolfson, 1984; Kosnik, 1987). However, in reality, corporate governance is often seen as ineffective in its duties (substance) and, therefore, largely symbolic in terms of providing oversight to management. In effect, senior management selects cronies and colleagues who will not curtail their actions (Patton and Baker, 1987) and are willing to be passively involved in the governance process. Therefore, the board’s functions are often limited to satisfying regulatory requirements, enhancing senior management compensation and ratifying management’s actions (Molz, 1995; Core et al., 1999).

A review of the literature shows mixed results on the association of Internet disclosure with various corporate governance characteristics, especially shareholder rights, proportion of independent directors on the board, CEO duality, audit committee financial expertise, and audit committee meeting frequency.

This study identifies the percentage of non-executive directors, percentage of independent directors on the board and CEO duality, ratio of directors qualified in accounting or business to total director, total number of directors on board, ratio of family directors to total directors, ratio of directors on the board with directorships in other companies to total directors, audit committee size, audit committee independence, audit committee financial expert and audit committee meeting frequency to represent the corporate governance construct.

4.3.1.1 Non-Executive Directors [NED]

Non-executive directors are seen as the mechanism for the check and balance to ensure that companies act in the best interests of shareholders and other stakeholders. They also provide 'additional windows on the world', advising the presentation of corporate activities and performance to the public (Tricker, 1984). However, Cheng and Courtenay (2006) provide evidence that boards dominated by a higher percentage of executive directors are related to a lower level of voluntary disclosure, and that the contribution of non-executive directors to enhance voluntary disclosure is only effective for diffused ownership firms (Leung and Horwitz, 2004). Haniffa and Cooke (2005) found a significant relationship between corporate social reporting of Malaysian corporations and boards nominated by executive directors.

Based on the argument of the check and balance role of non-executive directors', the researcher expects the nomination of boards by non-executive directors to have more influencing power on Internet financial disclosure, since they are representing all the stakeholders. Thus, the researcher hypothesises:

H1: Companies with boards dominated by non-executive directors are positively related to Internet disclosure level.

H1a: Boards dominated by non-executive directors are positively related to Internet visibility.

4.3.1.2 Independent Non-Executive Directors [IndD]

According to Fama and Jensen, (1983a), the existence of independent non-executive directors would limit managerial opportunism and result in more effective board monitoring, as such, it would expect to increase disclosure. However, Leftwich et al. (1981) stress such a relationship is unclear. A complementary relationship suggests a higher proportion of independent directors on the board would increase corporate disclosure. In contrast, a substitutive relationship would mean an inverse relationship between the proportion of independent directors and the level of voluntary disclosure, which means that independent directors are a cost-effective substitute for voluntary disclosure (Ghazali and Weetman, 2006). However, family and government-owned firms are owner dominated, making it difficult for genuine involvement of independent directors in the decision making process (Zinkin, 2009a).

The premise of agency theory is that the appointment of independent directors on the board is to control and monitor the other executive managers' actions (Haniffa and

Cooke, 2002). It is an important variable to study, since board composition will reflect the independent directors' role. Companies with a higher percentage of independent directors are expected to have more disclosure. In contrast, less disclosure can be expected if the board has a higher percentage of non-independent directors, since they can easily access the information. Ownership of Malaysian companies is highly concentrated, and has limited division between ownership and management. Therefore, if the board includes shareholders' representatives, since they have access to internal information; they do not have to rely extensively on public disclosure.

Adam and Hossain (1998); Chen and Jaggi (2000); Abdelsalam et al., (2007); Kelton and Yang (2008) found that disclosure is significantly positively related to the percentage of independent directors on the board for New Zealand, Hong Kong, London and U.S. companies. However, Eng and Mak (2003) found a significant inverse relationship for Singapore companies.

The Bursa Malaysia Listing Requirements specifically defines an independent director as a person who has no involvement in the company's management and does not have any interest either directly or indirectly in the company. The researcher expects with the MCCG introduction, independent directors will play a more proactive role in ensuring greater corporate accountability and transparency. More voluntary information disclosure through the Internet may be disseminated with the increase of such awareness. Therefore:

H2: The percentage of independent non-executive directors on the board is positively related to Internet disclosure level.

H2a: The percentage of independent non-executive directors on the board is positively related to Internet visibility.

4.3.1.3 Duality of Chairman and CEO [Duality]

The 'dominant personality' phenomenon has attracted increasing attention concerning the aspect of corporate governance, and it has been associated with poorer disclosure (Forker, 1992). This phenomenon includes role duality, when the CEO is also the board's chairman. Agency theory argues for the division of the two roles to provide important checks and balances over the performance of management, because this theory views executive managers as opportunistic shirkers (Haniffa and Cooke, 2002). In addition, when the CEO is also the chairman, the board's effectiveness in carrying out its governing function may not reach the standards set because he/she will be able to choose board members, choose agenda items and control board meetings (Haniffa and Cooke, 2002). Argenti (1976) and Blackburn (1994) advocate the need for a clear division of the two roles.

As a result of CEO duality, decision-making power is concentrated. It may constrain board independence and impair the board's governance and oversight roles including corporate disclosure policies, which are grounded in agency theory (Gul and Leung, 2004). This is because power vesting of the board's chairman and the CEO creates a stronger power base in an individual, which could erode the board's ability to exercise effective control. Indeed, Fama and Jensen (1983, p.303) stress CEO duality signals the separation of decision management and decision control is not in existence, and "the board is not an effective device for decision control unless it limits the decision discretion of individual top managers". The governance and oversight roles also extend to the communication of corporate information to outsiders. Gul and Leung (2004) found that CEO duality is negatively related to voluntary disclosure in the financial statements of Hong Kong companies. This suggests that firms that have lower levels of voluntary disclosures are more likely to be associated with CEO duality, since the board may be ineffective to monitor management and ensure a higher level of transparency.

In contrast, stewardship theory looks at duality from a more positive perspective, seeing directors as guardians of corporate assets and wanting to do their best for the company. Therefore, there is no concern with a combination of the two roles (Haniffa and Cooke, 2002). This alternative argument is that a clear division of roles is not essential, since many well-run companies have combined roles and adequate checks are fully provided by strong and capable boards. Moreover, when there is a combination of two roles, the CEO may be able to drive the company to attain the objectives stated, as there will be less interference. Eisenhardt (1989); Rechner and Dalton (1991); Donaldson and Davis (1991) and Dahya et al. (1996) advocate role duality, they argue that managers will act in the best interests of the shareholders and company, as well as enhance the boards' effectiveness based on stewardship theory.

The MCCG (Revised, 2007) recommends a clear division of roles for the Chair and the CEO. The MCCG (Revised, 2007) also highlights the Chair's critical role in encouraging board discussions for all issues brought to them and ensuring that resolutions are determined by votes. If the Chair is an independent director, it is supposed that those roles may be performed better. Thus, the researcher expects that if the roles of a chairman and a CEO are combined, there will be negatively related to Internet disclosure. The next hypothesis is:

H3: The duality of CEO and chairman on the board is negatively related to Internet disclosure level.

H3a: The duality of CEO and chairman on the board is negatively related to Internet visibility.

4.3.1.4 Education of the Directors [DirAccB]

Doupnik and Salter (1995) suggest the education level in a nation or in its accounting profession influences accounting practice. Since the education environmental constraints formed accounting practices, level of education can be considered as an intrusion on the accounting system. Educational background can be a main factor influencing disclosure practice, with better-educated managers being more likely to adopt innovative activities and accept ambiguity (Hambrick and Mason, 1984). However, Ralston et al. (1993) suggest that a ‘homogenising effect’ will occur when there is an industrialisation from developed to less developed countries. As there will be an increasing level of common education to provide technology support, this will further increase homogeneity across societies. In addition, managers who are under Western education may have changed some of the century old values to Western values, which could play a vital role in explaining their disclosure behaviour (Merchant et al., 1995).

Gray (1988) identified education as an institutional consequence affecting accounting practices and values. Wallace and Cooke (1990) suggest an increase in the national education level may increase demand for political awareness and corporate accountability. Grace et al. (1995) find the level of education should be investigated as a crude measure for professional status.

The MCCG (Revised, 2007) recommends all directors should have the knowledge, expertise, skill, experience, integrity and professionalism to discharge such functions/ responsibilities as expected. The researcher expects a board of directors consists of individuals having an academic background in accounting and business may choose to increase voluntary disclosure to demonstrate the credibility of the management team, to demonstrate accountability and also to promote the corporate image (Haniffa and Cooke, 2002). Therefore:

H4: The percentage of directors on the board trained in business and/or accounting is positively related to Internet disclosure level

H4a: The percentage of directors on the board trained in business and/or accounting is positively related to Internet visibility.

4.3.1.5 Board Size [BSize]

Board size may play an important role in directors' ability to monitor and control managers. Many researchers imply the capacity and benefits of the larger board to monitor and control may be contra off by the extra cost of poorer communication and inefficiencies in decision-making (Lipton and Lorsch, 1992; Jensen, 1993; John and Senbet, 1998). Therefore, with dispersed opinions and non-cohesiveness in viewpoints, a bigger board size may actually reduce the monitoring and controlling capacities. When the board size grows too big, it becomes more symbolic rather than playing an important role in the management process (Hermalin and Weisbach, 1991). Empirically, Yermack (1996) found that the board size is negatively related to firm valuation. The finding by Haniffa and Hudaib (2006) suggests a large board is seen as ineffective in monitoring and controlling performance.

Bigger boards may be good for some corporations because they provide diversity that would help firms to reduce uncertainties from the external environment and secure critical resources (Pfeffer, 1987; Pearce and Zahra, 1992; Goodstein et al., 1994). Board size increases the ability of the directors to ensure that managers disclose the information in a timely manner (Zahra et al., 2000; Akhtaruddin et al., 2009). It is viewed as an effective governing mechanism to increase the level of transparency. A board membership of between eight and nine is recommended (Lipton and Lorsch, 1992). Otherwise, any additional benefits from increased monitoring gained from additional membership may be less than the costs associated with easier control by the CEO, the effort problem and slow decision-making (Jensen, 1993).

There is no preponderant theory to suggest that board size is positively or negatively associated with disclosure level. Therefore, it remains an empirical issue, as there is mixed empirical evidence on the association with disclosure level as discussed above. The next hypothesis is:

H5: Board size is related to Internet disclosure level.

H5a: Board size is related to Internet visibility.

4.3.1.6 Family Members on the Board [FamDir]

The board's decision could be influenced by a strong force from a dominant group if there are a higher percentage of family members on the board. Wallace and Naser

(1995) argue owner-managed or closely held companies are less likely to voluntarily disclose more information in financial statements. Ghazali and Weetman (2006) argue the presence of a substantial shareholder is capable of protecting their interests by nominating family members to the board. Therefore, companies with a higher percentage of family board members are more likely to have concentrated ownership. Since there is a lower degree of a conflict of interests, it can be expected that the companies are not motivated to provide extensive information. Ho and Wong (2001), Haniffa and Cooke (2002), and Ghazali and Weetman (2006) found that the percentage of family board members is negatively significantly related to the extent of voluntary disclosure in Hong Kong and Malaysian listed companies.

A family relationship with any director must be disclosed in financial statements, as required by the Bursa Malaysia Listing Requirements. The definition of family members by the Malaysian Companies Act 1965 Section 122A includes "the spouse, parent, child, brother, sister and the spouse of such child, brother or sister". The researcher expects the percentage of family board members to be negatively related to the extent of Internet disclosure. Thus, the researcher hypothesises:

H6: The percentage of family board members is negatively related to Internet disclosure level.

H6a: The percentage of family board members is negatively related to Internet visibility.

4.3.1.7 Multiple Directorships [MultiDir]

When the directors sit on more than one board, it is referred to as multiple directorships. Directorship interlocks are often discussed in the literature (Haunschild, 1993; Zajac and Westpal, 1996). Directional interlocks are multiple directorships held by a non-executive who sits on other boards. Non-directional interlocks are multiple directorships held by a non-executive who sits on more than one board. The company may benefit in a number of ways under multiple directorships. Useem (1984) implies that interlocks operate as a communication channel for business practice, while Lorsch and MacIver (1989) assert that CEO interlocking is desirable because of their credibility and experience as peers from other companies. Additionally, a method to see how others are performing a similar thing to what you are performing is by “serving on a board” (Lorsch and MacIver, 1989). Therefore, in order to embed what the CEOs are performing, they join other boards to create an interlocking relationship (Davis, 1996). Dahya et al. (1996) argue another advantage of having interlocking directors is other board members can offer comparisons or insights derived from their personal understanding of other companies. Therefore, one board’s decisions become part of the input for other boards’ decisions. Board members may advocate changes in one board after the participation in different strategic/structural changes on another board (Bettenhausen and Murnighan, 1985; Mizruchi, 1992; Haunschild, 1993). A study by Haniffa and Cooke (2005) on Malaysian corporations confirms that an experienced chairman sitting on more than one board may be able to increase disclosure. Therefore:

H7: Multiple directorships on board are positively related to Internet disclosure level.

H7a: Multiple directorships on board are positively related to Internet visibility.

4.3.1.8 Audit Committee Size [AcSize]

Since August 1994, Bursa Malaysia requires that all Malaysian public listed companies establish an audit committee. Additionally, MCCG (Revised, 2007) requires an audit committee to include a minimum of three directors; the majority of them must be independent, with an independent non-executive chairman. The established audit committee must ensure ongoing communication between the board and external auditors, where they meet regularly to review internal control, audit processes, accounting systems and annual reports. A Malaysian study by Muhamad Sori et al. (2001) found that the audit committee chairman perceives that the committee plays an effective role in their monitoring of financial and audit functions.

The recommended audit committee size of at least three is consistent with the need to increase the audit committee organisational status (Braiotta, 2000). Kalbers and Fogarty (1993) also imply that larger audit committees are legitimised by strong board support, thus, the internal audit functions and external auditors are more likely to recognise the committee as an authoritative group. Therefore, audit committee size of at least three is consistent with the recommendation by the Blue Ribbon Committee (1999). This study argues that the Internet financial reporting quality is likely to be enhanced with larger audit committee size. Therefore:

H8: Audit committee size is positively related to Internet disclosure level.

H8a: Audit committee size is positively related to Internet visibility.

4.3.1.9 Audit Committee Independence [AcInd]

The audit committee must be independent of the company's management to fulfil its oversight role and to protect the shareholders' interest. MCCG (Revised, 2007) requires the board to establish an audit committee consisting of a minimum of three members; who are non-executive directors and majority of them must be independent. Past studies give two reasons as to why audit committee director independence relates greater monitoring. First, since independent directors do not have economic or psychological ties to the management, they may interfere with their ability to question management (Baysinger and Butler, 1985; Carcello and Neal, 2000, 2003). Second, independent audit committee members have unique motivation for better monitoring of reputational capital development and preservation. Specifically, Beasley (1996) stresses that outside directors use their relationships as decision agents to send a signal to external markets that they: (1) are experts in making decisions, (2) know the importance of control decisions; and (3) can operate under such control, which includes the accounting systems.

In addition, Abbott and Parker (2000) posit the appointment of independent directors as audit committee members may increase their reputation as a financial monitor. In contrast, it exacerbates the potential damage to their reputation if a financial misstatement occurs when the director serves as an audit committee member. Thus, it is posited that independent audit committee directors that are motivated to have greater monitoring results in better actual monitoring (Abbott and Parker, 2000; Lavelle, 2002). Klein (2002) found the level of abnormal accruals is significantly influenced by higher proportion of independent directors on the committee. Bedard et al. (2004) found the financial and governance expertise of audit committee members with independence indicators and with a clear mandate of defined responsibilities are negatively related to aggressive earnings management. Abbott et al. (2004) found firms with independent audit committee experts that meet regularly are less likely to restate earnings. Indeed, these findings provide evidence that independent audit committees can strengthen the structure of company internal control and increase the quality of financial reporting. Therefore, the researcher expects that a higher percentage of independent audit committee members will increase the level of Internet disclosure. The next hypothesis is:

H9: Audit committee independence is positively related to Internet disclosure level.

H9a: Audit committee independence is positively related to Internet visibility.

4.3.1.10Audit Committee Financial Expert [AcFinEx]

There is an increasing regulatory interest in the corporate governance mechanism, especially concerning the role of an audit committee. Past studies provide evidence that key characteristics of the audit committee, rather than the existence of the audit committee have a powerful effect on the ability of the audit committee to execute its duties effectively (Abbott et al., 2003; Carcello and Neal, 2003; Kelton and Yang, 2008). Consistent with past studies, the researcher focuses on the audit committee's financial expertise.

Empirical evidence shows that the financial expertise of audit committee increases the quality of financial reporting. The financial and governance expertise of the audit committee is positively related to perceived financial quality (Felo et al., 2003) and Internet financial reporting (Kelton and Yang, 2008), but is negatively related to aggressive earnings management (Bedard et al., 2004) and the occurrence of restatement (Abbott et al., 2004). These findings show that audit committee financial expertise affects financial disclosure.

The MCCG (Revised, 2007) recommends that all audit committee members should be financially literate, with a minimum of one audit committee member from an accounting body or association. Moreover, all members must have the necessary skills to read, analyse and interpret financial information, to enable them to discharge their function effectively. Thus, this study suggests that audit committee financial expertise is related to Internet disclosure; the next hypothesis is:

H10: Audit committee financial expertise is positively related to Internet disclosure level.

H10a: Audit committee financial expertise is positively related to Internet visibility.

4.3.1.11Audit Committee Meeting Frequency [AcMeet]

The frequency of audit committee meetings is often used to measure the diligence of audit committees. The importance of audit committee meeting frequency is supported by a recent research by Kelton and Yang (2008); they found that the average audit committee meeting frequency was 7.85 times annually. Beasley et al. (2000) found that audit committees of a non-fraud industry meet more often than audit committees of fraud firms. Abbott et al. (2003) found that firms are less likely to have restatement of audited annual reports when they have a minimum of four audit committee meetings annually. These findings suggest that audit committees are more diligent in performing their duties when they meet frequently. Bronson et al. (2006) found that the number of audit committee meetings is positively related to voluntary disclosure on internal controls in management reports.

The MCCG (Revised, 2007) recommends the finance director, as the internal audit head should regularly attend meetings with an external auditors' representative. Upon the audit committee's invitation, other board members may attend the meetings. However, the committee should meet the external auditors at least twice a year without the presence of executive board members. The Revised Code "increases the meeting frequency between the external auditor and the audit committee without the presence of executive board members. This encourages a greater exchange of free, honest views and opinions between both parties" (MCCG, Revised 2007, p.16).

Therefore, a more diligent audit committee appears to influence disclosure policy. The researcher expects a higher level of transparency to be related to a diligent audit committee; as a result, they will have more engagement concerning Internet financial disclosure. Accordingly, the following hypothesis tests:

H11: Audit committee meeting frequency is positively related to Internet disclosure level.

H11a: Audit committee meeting frequency is positively related to Internet visibility.

4.3.2 Ownership

Past studies provide evidence that higher management ownership reduces the conventional agency problem and enhances managers' incentives to disclose more, thus reducing information asymmetry and lowering the cost of capital. Consistent with this argument, Warfield et al. (1995) provide evidence that price informativeness of earnings is positively related to managerial ownership, and Nagar et al. (2003), found that there is a positive relationship between the weight of stock options in executive compensation plans and the level and quality of disclosure. Studies on firm performance show that, to some extent, as insider ownership increases, the firm value or performance tends to increase (Morck et al., 1988; McConnell and Servaes, 1990; Hermalin and Weisbach, 1991). However, when executive director ownership becomes concentrated, the executives' control, especially the voting power, the company's reporting and disclosure decisions are adversely affected. Consequently, the agency problem, including information asymmetry at higher ownership levels, shifts from the stockholder manager relation to conflicts between the minority stockholders and controlling owners (Fan and Wong, 2002). This study concludes that "concentrated ownership structure" in East Asia provides perverse incentives for managers to reduce accounting information quality. Shleifer and Vishny (1997, p.759) best described the problems associated with concentrated management ownership as follows:

> As ownership gets beyond a certain point, the large owners gain full control and use firms to generate private benefits of control that are not shared by minority shareholders. There are costs associated with high ownership and entrenchment, as well as with exceptionally dispersed ownership.

Based on these arguments, the researcher expects that due to conflict between controlling owners and minority shareholders, and the potential entrenchment problem, the controlling owners are motivated to reduce detailed voluntarily financial information that would attract close monitoring by outside shareholders. Because voluntary disclosure is a function of trade-offs, no presumption is made that more disclosure is better. One of which is the increased importance of not shared, private benefits as executive board ownership increases.

According to Lopes and Rodrigues (2007), the greater the amount of equity financing required by a firm, the greater the information shareholders need, which leads to greater monitoring costs. The same argument is applied to agency costs reduction. However, a similar problem exists regarding inside versus outside equity. Equity holder may be insider, since shareholders have easy access to inside information that also means disclosure is not important.

This study measures ownership by the number of shareholders held more than 5%, Top 5 shareholding for ownership concentration, family-controlled ownership, institutional ownership, government ownership, foreign ownership and director ownership.

4.3.2.1 Ownership Concentration - [SHNo5] and [Top5]

Minimum monitoring is required when share ownership is less diffused (Kelton and Yang, 2008). Past studies provide evidence that concentrated ownership is negatively related to voluntary disclosure (Chau and Gray, 2002; Eng and Mak, 2003; Leung and Horwitz, 2004; Kelton and Yang, 2008).

High ownership concentration is a distinct feature of Malaysian public limited companies (Ghazali and Weetman, 2006; Ku Ismail and Abdullah, 2009). Top five shareholders are the largest shareholder groups who register their shares under the nominee names owned by investment companies. This registration practice is a way of concealing the true identities of owners as a result of the government efforts to reallocate company shares to Bumiputra.

Abdul Samad (2002) found the average values for the largest shareholder and the five largest shareholders are about 30% and 60% respectively. Abdul Samad (2004) found that the top 5 largest shareholders-owned approximately 58.8% of Malaysia's total corporate equity, they owned approximately 60.4% of the outstanding shares in 50% of the publicly listed companies. In an extreme case, the top 5 largest shareholders held 92.3% of the outstanding shares of a company. Haniffa and Hudaib (2006) found top 5 substantial shareholdings to be significantly related to performance of Malaysian listed companies. Consistent with the study, this study uses the top 5 largest shareholders to measure the Malaysian companies' ownership concentration. The above studies provide evidence that listed companies on Bursa Malaysia are less diffused and controlled by companies with large shareholders who are family and government-owned or government-linked institutions (OECD, 1999a). Thus, the researcher expects the highly concentrated companies to be more likely to reduce voluntary information on the Web. Accordingly, the following hypothesis tests:

H12: Firms with shareholders holding more than 5% are negatively related to Internet disclosure level.

H12a: Firms with shareholders holding more than 5% are negatively related to Internet visibility.

H13: Concentrated Top 5 shareholding firms are negatively related to Internet disclosure level.

H13a: Concentrated Top 5 shareholding firms are negatively related to Internet visibility.

4.3.2.2 Family Ownership [FamO]

As stated earlier, family-controlled companies are common in Malaysia. Kaur (2008) shows that the bulk of Malaysia's wealth remains in the hands of the top 10 richest individuals. Together, they account for RM133.7 billion or some 82.2% of the combined wealth of the top 40 richest Malaysians.

A substantial number of Malaysian companies are family-owned or family-controlled (Tan, 2000). The role of family ownership on disclosure is largely unexplored and, therefore, needs research attention (Akhtaruddin al et., 2009). Family-controlled companies tend to be more secretive and conservative in disclosing information, and only adhere to rules and regulations (Tan, 2000). Family-controlled companies are more likely to disclose minimum information that meet mandatory requirements, because the demand for more voluntary disclosure is relatively low compared to diffused ownership firms. Ho and Wong (2001), Chau and Gray (2002) argued that the strong presence of family-controlled companies or "insiders" is likely to be related to a lower level of disclosure by Hong Kong listed companies. Accordingly, the next hypothesis can be stated as:

H14: Family-owned firms are negatively related to Internet disclosure level.

H14a: Family-owned firms are negatively related to Internet visibility.

4.3.2.3 Institutional Ownership [InstO]

Jensen (1993) and Shleifer and Vishny (1997) argue that large institutional investors have an important role in ensuring that the company has a well-functioning system. They can exercise their voting rights to pressure those self-serving management, as well as have the independence and financial interest to review company policies and monitor management impartially. According to Diamond and Verrecchia (1991), such substantial institutional investor shareholdings may also encourage higher disclosure to reduce informational asymmetry.

El-Gazzar (1998) stresses that companies whose institutional investors hold large equity may increase the companies' voluntary disclosure level. Institutional investors are motivated to gather company information and monitor management. Therefore, they are able to demand higher levels of transparency (Haniffa and Cooke, 2002; Wan-Hussin, 2009). However, based on a study concerning interim disclosures by Schadewitz and Blevins (1998) institutional ownership concentration was found to be negatively related to the disclosure by Finnish firms. Neither McKinnon and Dalimunthe (1993) nor Mitchell et al. (1995) found strong support for the hypothesis that widely held ownership positively influences segment information disclosure. Consistent with the argument by Haniffa and Cooke (2002); and Wan-Hussin (2009), the researcher expects that companies with a higher institutional ownership are more likely to increase the Internet disclosure. Thus, the researcher hypothesises:

H15: Institutional-owned firms are positively related to Internet disclosure level.

H15a: Institutional-owned firms are positively related to Internet visibility.

4.3.2.4 Government Ownership [GovtO]

A common feature of Malaysian companies is the government ownership in privatised companies (EMP, 2001). Government ownership may exert some form of force on companies to voluntarily disclose more information, since the government is held responsible to society in general. However, it can be implied that companies that are largely held by the government need not disclose information extensively, as the government has different monitoring system. Additionally, government-owned companies have easy access to government funding; hence, there is no need to obtain funds from external institutions. Moreover, government guarantees their returns and they are not likely to disseminate additional information (Naser and Nuseibeh, 2003).

Strongly politically connected government-controlled companies in Malaysia are expected to disseminate less information to hide the beneficial owner, to safeguard their political interests or linkages (Ghazali and Weetman, 2006). In Malaysia, big corporations seem to be strongly linked to influential politicians. Gomez and Jomo (2002) describe how the wealth concentration and accumulation in Malaysian business are affected by political patronage.

Consistent with Ghazali and Weetman (2006), the researcher measures government ownership as the amount of shares owned by government-controlled bodies or institutions in the list of 30 largest shareholders as a percentage of the total shares issued. The researcher expects that companies with a higher percentage of government ownership are less likely to disseminate voluntary disclosure via the Web. Thus, the researcher hypothesises:

H16: Government-owned firms are negatively related to Internet disclosure level.

H16a: Government-owned firms are negatively related to Internet visibility.

4.3.2.5 Foreign Ownership [ForO]

Empirical evidence suggests foreign ownership as an important influence on disclosure behaviour (Cooke, 1992; Ahmed and Nicholls, 1994). Foreign-owned and locally owned companies differ in disclosure levels, which may be due to meeting the reporting requirements of both the country in which its holding company is domiciled and the host country. Political cost arguments suggest additional disclosures are associated with the relationship between multi-national corporations and host country governments (Gray et al., 1984; Dunning, 1993).

Greater transparency in the form of extensive voluntary disclosure and a widened dissemination of financial information is especially important to foreign investors. The demand for disclosure is also higher when foreigners own higher equity, due to the geographical division between the owners and the management (Schipper, 1981; Bradbury, 1991; Craswell and Taylor, 1992). Haniffa and Cooke (2005) confirm that Malaysian companies dominated by foreign shareholders engage in corporate social reporting to attract funds from a wide range of sources. Higher disclosure may be expected because foreign investors contributed substantial funding in the capital market of Malaysia. Thus, the researcher hypothesises:

H17: Foreign-owned firms are positively related to Internet disclosure level.

H17a: Foreign-owned firms are positively related to Internet visibility.

4.3.2.6 Director Ownership [DirO]

Agency costs can be alleviated when a director who holds a large equity reaps the rewards, and bears the consequences of managerial behaviours that create and destroy value (Jensen and Meckling, 1976). A manager who owns a smaller fraction of the company shares is less motivated to maximise job performance but highly motivated to consume perquisites. Under such circumstances, outside shareholders may need to increase a manager's behaviour monitoring to decrease the associated high agency costs. However, it can be costly to the company to be monitored by outside shareholders. Therefore, the managers themselves volunteer to provide additional information through the Internet to reduce the costs associated with increased monitoring by outside shareholders. In Malaysia, owner-managed companies are common (Claessens et al., 2000). The study shows that families controlled 67.2% of Malaysian public listed companies and 85% had owner managers. Chau and Gray (2002) found that the proportion of outsiders' interests in annual reports is positively significantly related to the extent of voluntary disclosure of Hong Kong and Singapore listed companies. Both Eng and Mak (2003), and Ghazali and Weetman (2006) found that increased voluntary disclosure was associated with lower managerial ownership in Singapore and Malaysian listed companies. The above empirical evidence supports the argument that director ownership aligns the agent's interests, and minimises the need for shareholders to monitor through disclosure. Hence, the researcher expects a negative relationship for the directors' shareholding. Accordingly, the next hypothesis can be stated as:

H18: Director-owned firms are negatively related to Internet disclosure level.

H18a: Director-owned firms are negatively related to Internet visibility.

4.3.3 Internet Visibility [FactorIntVis]

Companies will gain greater visibility and disclose more and better information, when they make strategic decisions to preserve a successful Web existence. Technology is one of the most important determinants of online reporting (Debreceny et al., 2002). Xiao et al. (2004) found information technology companies are more likely to adopt Internet reporting as they have the resources to be the new technologies leader.

This argument is supported by the political cost theory. Accordingly, if the companies are more visible, they are under greater political pressure to disclose more information (Watts and Zimmerman, 1986) in order to heighten the professional reputation of the managers (Skinner, 1994).

Legitimacy theory states that an entity is more visible when it discloses more information due to the pressure it receives (Patten, 2002; Tilling, 2004). For listed companies that obtain funds from investors and financial markets, all stakeholders want to know whether the company is well managed and successful in carrying out its operations.

Aerts et al. (2006) measured legitimacy by analysing the amount of information published about a company in the media. They found a firm’s press coverage intensity is a proxy for stakeholders active monitoring. Therefore, it is assumed that companies with higher Internet visibility will disclose more financial and social information, because the shareholders, clients, financial analysts and other information users will push the companies to do so.

The “Internet visibility” variable attempts to capture the importance of an entity on the Internet (Serrano-Cinca et al., 2007). It is a non-financial construct, as it does not appear in annual reports. The researcher has to extract this indicator by calculating the number of incoming links to the Web sites of companies. With the rapid growth of the Web as an important medium of information, Internet visibility is becoming an important intangible asset for companies. The calculation for this indicator is based on the total amount of incoming links to the Web site of a company (Dreze and Zufryden, 2004; Brock and Zhou, 2005; Serrano-Cinca et al., 2007; Gutierrez-Nieto et al., 2008).

During this Internet age, bloggers and online users are demanding companies with higher Internet visibility to disclose more and better information. Therefore, the researcher proposes the following hypothesis:

H19: Internet visibility is positively related to Internet disclosure level.

4.3.4 Control Variables: Firm Characteristics

Industry type (level of technology), size, financial performance, systematic risk (beta) and auditor type are included in this study as control variables for firm characteristics.

A number of theoretical arguments, which include agency theory, political cost theory, proprietary costs (Watts and Zimmerman, 1990), signalling theory, capital market theory, cost-benefit theory, legitimacy and institutional theory (Lopes and Rodrigues (2007) explain the relationship between sector and disclosure. These have been used in extensive empirical work relating firm-specific characteristics to the voluntary disclosure level. The following sections discuss the hypotheses development relating to the firm-characteristics variables.

4.3.4.1 Industry [Industry (Tech)]

The design of internal accounting systems have long been recognised as being influenced by different types of production methods (Otley, 1980). Perrow (1967) conceptualised such production technologies as routine or non-routine. Technology is clearly routine in industries such as the construction industry, batch engineering and retailing. Conversely, technology tends to be non-routine in the aerospace, electronics, oil and chemical industry. The OECD (1999b) framework classified firm's technology into three categories, namely, low technology firms, medium technology and high technology firms. Jensen and Meckling (1995) argue the agency costs are higher in industry with higher amount of specific industry knowledge. High technology companies, for example, drugs, computer, electronics, communications with soft assets, such as intellectual capital, research and development programmes, and human resources will disclose more information as their earnings number is insufficiently value-relevant (Healy and Palepu, 1993). For such companies, the earnings may not be reflective of their future prospects; as such disclosure not only fails to convey the company's future growth potential, but is also untimely for decision-making due to their periodic nature. These companies are subject to rapid change in the business environment and technological innovation. The Internet can allow for multifaceted and frequent disclosures on the new technologies development and help the company to interact with the environment.

According to institutional theory, different industries could adopt different information practices because of the need to project a certain corporate image (Bonson and Escobar, 2006). These practices could have a strong influence on the information voluntarily disclosed by the companies in a certain industry. In order to acquire legitimacy, they are pressured to adopt similar reporting practices from their environment.

The political costs theory can explain the relationship between industry and disclosure. Watts and Zimmerman (1990) argue that political cost is related to industry, which is associated with size. Corporations operating in a similar industry that are vulnerable politically may voluntarily disclose information to reduce the political cost (Bonson and Escobar, 2006).

Moreover, in order to avoid negative market appreciation (competitive pressures). Lopes and Rodrigues (2007) argue that companies from a similar industry are interested in having the same level of disclosure. Signalling theory, legitimacy and institutional theory also support this argument, because some industries are under higher institutional pressure than others. However, the direction of the relationship between industry and disclosure is not clearly defined under these theoretical considerations.

4.3.4.2 Firm Size [FactorSize]

There are many arguments for the relationship between size and disclosure. Watts and Zimmerman (1990), Lopes and Rodrigues (2007) argue that larger companies will incur higher political costs, therefore, they are more likely to disclose more information since it improves confidence and lowers the political costs. Organisational design suggests that as size increases the development of accounting systems becomes increasingly formalised and sophisticated. Larger companies are assumed to have better and more sophisticated accounting information systems, therefore, more disclosure is assumed to be inexpensive in larger companies than in smaller ones. Furthermore, companies that seek capital from the financial market may be driven to increase their level of transparency (Bonson and Escobar, 2006). Moreover, competitive advantages of additional disclosure are related to proprietary costs (Verrecchia, 1983). The decision of companies to voluntarily disclose more information is influenced by the concern of whether such disclosures can adversely affect their competitive position in product markets. As company size increases, proprietary costs decrease, as it relates to losing the competitive advantage of additional disclosure.

4.3.4.3 Financial Performance [FactorProfit]

Signalling theory suggests that profitable firms have the ability to raise capital at the lowest possible price as they distinguish themselves from less profitable firms (Marston and Polei, 2004). One of the ways to achieve this is that they will voluntarily disclose information via the Internet.

There have been extensive studies on the relationship between financial performance and disclosure. Singhvi and Desai (1971) argue that higher management compensation in profitable companies encourage their manager to increase investors' confidence through the disclosure of more information. Cooke (1989) argues that a profitable firm is more likely to disclose additional information in its financial statement to signal to the market its superior performance. Lang and Lundholm (1993) argue when there is a high perception of information asymmetry between managers and investors; disclosure is likely to be associated with a firm's profitability. According to Giner-Inchausti (1997), it is reasonable to assume that a profitable company will voluntarily disclose additional information to justify its performance, and this relationship is based on the argument of political process theory.

This hypothesis has no conclusive empirical research. Some studies have found a positive relationship (Singhvi, 1968; Singhvi and Desai, 1971; Wallace et al., 1994; Haniffa and Cooke, 2002; Laswad et al., 2005; Haniffa and Cooke, 2005) and a negative correlation (Belkaoui and Kahl, 1978), while others found no association at all (Raffournier, 1995; Ahmed and Courtis, 1999, Ashbaugh et al., 1999; Marston and Polei, 2004).

4.3.4.4 Systematic Risk [Beta]

According to contingency theory, some reporting practices may be related to particular variables of its circumstance. This suggests that the choice of management on reporting practices is contingent upon the various constraints on entities. The environment of the enterprise can be conceptualised in terms of uncertainty. The majority of finance and accounting research measures "environmental characteristics" as systematic risk betas (Thomas, 1986). The extent that the general economic climate affects companies is reflected by betas (London Business School, 1981). Thus, it is chosen as the most suitable measurement for environmental uncertainty in terms of stable-dynamic dimension (Thompson, 1967).

The beta of a company is an essential factor of the cost of capital, and disclosure mitigates such risk and reduces the cost of capital (Botosan, 1997; Sengupta, 1998). It could also be a determinant of voluntary disclosure (Marston and Polei, 2004). One can assume a lower investor uncertainty if a company voluntarily discloses more information. This will lead to a better market evaluation of the company's risk. In addition to the traditional disclosure method, higher risk firms could adopt IFR for its inherent advantages of speed, frequency and wider reach.

4.3.4.5 Auditor [Auditor]

Several different reasons can explain the existing relationship between auditor firm and Internet disclosure level. The main objective of auditing is to reduce the conflicts between the owners/shareholders and managers of a company based on agency theory perspective. Companies could incur higher agency costs by appointing one of the big international firms (Giner-Inchausti, 1977). They would attempt to decrease these costs by allowing the auditors to conduct the most rigorous auditing scrutiny, as it is assumed that they provide quality auditing (Jensen and Meckling, 1976; Chow 1982; Francis and Wilson, 1988).

In addition, the institutional theory concerns different pressures towards the institutional isomorphism expectation by the firms. For the purposes of preserving the auditors' reputation, the big auditing firms usually expect their clients to practise a higher level of transparency (Bonson and Escobar, 2006). Through this increase in information disseminated by their clients, the Big-4 audit firms are signalling their quality procedures to the market. Otherwise, if the auditors failed to increase their clients' level of transparency, the market will think that the lack of information is related to low quality auditing (DeAngelo, 1981). Accordingly, Craswell and Taylor (1992) suggest that a company's intention to disseminate a certain amount of information to different stakeholders groups is related to the choice of auditor. Signalling theory has the same expectation, because managers are cognizant that the engagement of Big-4 auditors is a signal of their acceptance for the demand of higher quality disclosure (Datar el al., 1991; Healy and Palepu, 2001).

The fashion perspective on innovation diffusion also supports the auditors' role as change agents (Xiao et al., 2004). The diffusion of innovative practices, including

Internet visibility and disclosure, are more likely to be facilitated by the international audit firms. First, some protection against the loss of control and uncertainty from disclosing via the Internet can be associated with these auditors' good reputation. Second, they can both serve as implementation assistants and role models.

4.3.5 Internet Disclosure [AllAtt]

The variable "Internet Disclosure" represents the extent of information disclosed on the Internet. This study follows the definition of Bushman et al. (2004, p.210) of corporate transparency as "the widespread availability of firm-specific information to those outside the firm", which also means this definition is especially applicable to Internet availability.

IFR may be viewed as a component of company voluntary disclosure practices (Ashbaugh et al., 1999; Davey and Homkajohn, 2004; Kelton and Yang, 2008). A company's decision to engage in voluntary disclosure might be a response to innovation, globalisation or changes in the business and capital market environment (Healy and Palepu, 2001).

The Asian Financial crisis in 1997 provides an unusually severe instance of significant environment change. Ho and Wong (2001) suggest that the depth of the economic crisis may be due to the lack of transparency and accountability in some Asian corporations. Inadequate accounting disclosure has been argued to prevent the proper assessment of the risk exposure of companies in the region (Rahman, 1998) and the Asian financial crisis was caused by lax investor protection (Choi et al., 2002). Studies have shown that during the crisis, corporate ownership had a significant impact on company performance. During the crisis, companies with a larger percentage of outside shareholders and a higher quality of disclosure experienced significantly better share price performance (Mitton, 2002), while companies with a higher level of managerial control rights were related to lower share return than those of other companies during the crisis period (Lemmon and Lins, 2003). These findings reveal the importance of ownership structure in deciding the insiders' incentives to protect their self-interests at the expense of the minority shareholders during the financial crisis. The findings of empirical accounting disclosure research supports that differences in corporate governance and sources of finance largely caused the national differences in disclosure level prior to the crisis (Choi et al., 2002).

In many emerging market countries, the prevalence of family-owned business and high ownership concentration mean that public disclosure is not required as insiders are closely informed of the company's financial position and activities. Consistent with Gray's (1988) hypothesis, developed in relation to Hofstede's (1980) cultural dimensions, there is a lower level of disclosure in family-controlled and owner-managed companies. It may be argued that in a concentrated ownership company, secrecy will restrict information disclosure to only managers and financiers. Salter (1998) suggests that because culture change is relatively slow, the information demand by a growing stock market will be the strongest influence for an increase in information disclosure. Owing to recent information technology developments, companies are disclosing their information on the Internet using their corporate Web.

The variable "Internet disclosure" captures the amount of information disclosed on a company's Web page. The researcher adapts disclosure indicators based on the disclosure index developed by (1) "Electronic Distribution of Business Report

Information” by FASB (2000); (2) timeliness dimensions (Abdelsalam and Street 2007). The researcher conducted this study as follows:

i. A list of attributes considered relevant to Malaysian business reporting was adapted from FASB (2000), Abdelsalam and Street (2007).

ii. The Web sites of companies listed on Bursa Malaysia were reviewed in the shortest time frame as Web site information is very dynamic.

iii. The data collected was based on visible information as presented on the Web site using a basic Web browser such as Netscape Navigator or Internet Explorer.

iv. The data collected includes attributes that required “yes” or ‘no” answers. For individual attributes, they were divided into two basic groups:

    - Those attributes related to a company’s general Web site, for example, the company’s home page; and
    - Attributes specifically related to investor relations and financial reporting.

Table 4.1 shows the operationalisation of all the variables’ based on the constructs developed.

Table 4.1 Variables, Operationalisation and Sources, continued

Variables	Operationalisation	Data Source
Board Composition	[NED] Ratio of non-executive directors to total directors [IndD] Ratio of independent outside directors to total directors [Duality]1 if the firm's CEO is also chairman of the board of director, and 0 otherwise [DirAccB] Ratio of directors qualified in accounting or business to total director [BSize] Total number of directors on board [FamDir] Ratio of family directors to total directors [MultiDir] Ratio of directors on the board with directorships in other companies to total directors	Company annual report
Audit Committee	[AcSize] Number of directors on the audit committee [AcInd] Ratio of independent audit committee members to total audit committee members [AcFinEx] Ratio of audit committee members with accounting and finance qualifications [AcMeet] Frequency of audit committee meeting held during the financial year	
Ownership Structure	[SHNo5] No of shareholders-owned more than5% [Top5] Ratio of shares owned by 5 largest shareholders to total number of shares issued [FamO] Ratio of shares held by founder and family members [InstO] Ratio of shares held by institutional investors [GovtO] Ratio of shares held by government institutions [ForO] Ratio of shares held by foreigners [DirO] Ratio of shares held by executive and non-independent directors	OSIRIS Database and company annual report

Table 4.1 Variables, Operationalisation and Sources

Control Variables	Operationalisation	Data Source
Industry	[Industry (Tech)] 1 for low technology firms, and 0 for medium to high technology firms	OECD (1999b) framework
Firm Size	Natural logarithm of the firm's total assets [LogTA], turnover [LogT], and market capitalisation (LogMC) [FactorSize] Factorise [LogTA], [LogT] and [LogMC]	OSIRIS Database
Financial Performance	[ROSH] Return on Shareholders' Fund [PM] Profit margin [FactorProfit] Factorise [ROSH] and [PM]	OSIRIS Database
Systematic Risk (Beta)	[Beta] Systematic Risk	OSIRIS Database
Auditor	[Auditor] 1 if the company is audited by one of the Big-4 and 0 if it is not	Company annual report

Table 4.1 Variables, Operationalisation and Sources, continued

Variables	**Operationalisation**	**Data Source**
Internet Visibility	[Yahoo] Number of incoming links in Yahoo to the institution's Web site [MSN] Number of incoming links in MSN to the institution's Web site [Ask] Number of incoming links in Ask to the institution's Web site [Google] Number of incoming links in Google to the institution's Web site [AltaVista] Number of incoming links in AltaVista to the institution's Web site [AllTheWeb] Number of incoming links in AllTheWeb to the institution's Web site [FactorIntVis] Factorise all the number of incoming links	Typing "link" followed by the Web page address. This action is performed in all search engines
Internet Disclosure Index	1st – Web-based reporting (FASB) [GenAtt] General attributes on Web [FinInfo] Financial information attributes [OAR] Annual report attributes [OWeb] Other attributes on Web 2nd – Timeliness [Time] Information available without delay [AllAtt] Total Internet disclosure	Company Web site

4.4 Conclusion

This chapter presents the theoretical arguments in order to elucidate the area of this particular Internet disclosure study. The review of prior studies clearly shows that no dominant theory is able to fully explain the actual multi-faceted nature of Internet disclosure practices by companies. A research framework is developed to serve as a construct to analyse data of corporations in Malaysia. The factors are then used in the empirical testing to explain the extent of Internet reporting by Malaysian listed companies. The next chapter discusses the methodology of the actual groundwork that has been undertaken to explore and understand the Internet disclosure phenomenon in Malaysia.