CHAPTER 2: LITERATURE REVIEW

2.1 INTRODUCTION

Several previous studies have attempted to examine the relationship between firm characteristics and segmental disclosure e.g. Aitken, Hooper and Pickering, (1997), McKinnon and Dalimunthe (1993), and Mitchell, Chia and Loh (1995). Independent variables that have been examined included firm size, industry membership, ownership diffusion, level of minority interest, leverage, earnings volatility, funding sources, assets-in-place and diversification.

McKinnon and Dalimunthe (1993) used an economic incentive framework to test six firm characteristics that may affect the information usefulness of segment data and the motivation for its voluntary disclosure. They used both univariate and multivariate tests. The univariate tests they used "were the two-sample t test and the Mann-Whitney U test, and a Chi-square test for the categorical variables. The multivariate test was a simple probit analysis." Examining 65 listed diversified companies in Australia, they found that firm size, industry membership, ownership diffusion and level of minority interest to be significantly related determinants influencing segmental disclosure but not leverage or diversification into unrelated versus related industries. They also found moderate support for the importance of ownership diffusion.

Mitchell et al. (1995) also tested the economic incentive framework among Australian companies. Using univariate tests such as the Mann-Whitney U-test and the Chi-square tests, and logit multivariate analysis to examine 129 diversified firms, they found clear supporting evidence that firms that volunteer to disclose segment information are likely to be larger in size, have higher financial leverage and are companies in the mining and oil industry segment. They found no support for earnings volatility, assets-in-place and diversification hypotheses and mixed support for overseas association and minority ownership diffusion.

The research findings of Aitken, Hooper and Pickering, (1997) were that diversification strategy, firm size and level of minority interest were related determinants but not leverage. Using univariate tests such as Chi-square tests, t-tests and Mann-Whitney U tests, and binary probit analyses, they also found mixed support for ownership diffusion and industry.

Table 1 gives a summary of the determinants influencing segmental disclosure.

Table 1 Determinants influencing segmental disclosure

Researcher	Related determinants	Moderately related determinants	Unrelated determinants
Chow and Wong-Boren (1987)	Firm size		Financial leverage Proportion of assets-in-place
Tan and Ngan (1991)	Industry membership		Firm size
Bradbury	Firm size Financial leverage		Assets-in –place Earnings volatility Funding sources
McKinnon and Dalimunthe (1993)	Firm size Industry membership	Ownership diffusion Level of minority interest	Financial leverage Diversification strategy
Mitchell, Chia and Loh (1995)	Firm size Financial leverage Mining & oil activities	Ownership diffusion Minority interest Overseas association	Assets-in-place Earnings volatility Diversification
Hossain and Adams (1995)	Firm size Foreign listing Type of audit firm		Financial leverage Assets-in-place
Aitken, Hooper and Pickering (1997)	Diversification strategy Firm size Level of minority interest	Ownership diffusion Industry membership	Financial leverage
Lenz (1999)	Firm size Assets-in-place Minority interest Diversification		
Chow (2001)	Financial leverage Industry membership Firm size Listing status		Type of audit firm employed
Birt, Bilson, Smith and Whaley (2003)	Competition Ownership		

2.1.1 Firm size

Many researchers have found that firm size is positively related to voluntary segmental disclosure e.g. Buzby (1975), Firth (1979) and Chow and Wong-Boren (1987) (McKinnon and Dalimunthe, 1993). Bradbury (1992) who studied New Zealand companies came to a similar conclusion (McKinnon and Dalimunthe, 1993). What could be the reasons for this association?

Ball and Foster (1982) suggested there could be several explanations for this relationship (McKinnon and Dalimunthe, 1993). They observed that size usually relates to a number of firm attributes such as competitive advantage, information production costs, management ability and advice, and political costs.

Firth (1979) also had a similar view (McKinnon and Dalimunthe, 1993). He suggested that larger firms are the ones who can best afford the expensive exercise of collecting and disseminating information. He also argued that large firms "are quite likely to collect the information needed for corporate report disclosure for their internal control".

However McKinnon and Dalimunthe contended that Firth's study, which examined 48 different items, did not focus on segmental reporting, and therefore his explanation was not so relevant. They are of the opinion that all firms, whether large or small, are likely to collect information for control and planning purposes, especially with regards to items like sales and profit for each segment.

Another possible reason for the relationship between firm size and segment disclosure is because of proprietary cost. Craswell and Taylor (1992) observed that proprietary costs are industry specific and have an inverse relationship with firm size (McKinnon and Dalimunthe, 1993). Firth (1979) suggested that a more transparent disclosure of the activities of smaller firms would put them at a competitive disadvantage with larger firms in the same industry (McKinnon and Dalimunthe, 1993). Tan (2001) also felt that if smaller firms are subjected to the same disclosure requirements as larger firms, this might put them at a competitive disadvantage because smaller firms have a higher opportunity cost of disclosure compared to larger firms.

A third reason put forward for expecting a positive relationship between voluntary disclosures and firm size is the demand for such information by financial analysts. Schipper (1991) observed that larger firms tend to attract more attention from analysts than smaller firms do and therefore analysts may demand for more information about the performance of the different activities from the former (McKinnon and Dalimunthe, 1993). Such transparent disclosure may benefit the firm for two reasons.

- Firstly, Diamond (1985) observed that such disclosure eliminates the need for analysts to collect such information at a higher cost, and therefore there is a cost-benefit advantage (McKinnon and Dalimunthe, 1993).
- Secondly, Verrecchia (1983) has noted that non-disclosure is usually interpreted as bad news and therefore can have an adverse effect on the value of the firm (McKinnon and Dalimunthe, 1993).

A fourth explanation [provided by Watts and Zimmerman (1978, 1986)] for the positive relationship between firm size and voluntary disclosure is the connection between size and political visibility (McKinnon and Dalimunthe, 1993). They argue that firms that disclose information voluntarily will reduce political costs imposed by the government and its regulatory agencies. Craswell and Taylor (1992) propose that firms that are vulnerable to political costs will disclose more information as a means of improving their corporate image (McKinnon and Dalimunthe, 1993). Deegan and Gordon (1996) have found that firms that are politically more visible to the market increase their disclosures in order to mitigate potential political costs (Birt et al., 2003)

2.1.2 Financial leverage

Jensen and Meckling (1976) and Smith and Warner (1979) have suggested that more highly leveraged firms are more likely to disclose a greater amount of segmental information voluntarily than firms with low levels of leverage (McKinnon and Dalimunthe, 1993). They are of the opinion that agency costs are higher for firms with high levels of leverage, and voluntary disclosure can decrease these costs by facilitating the creditors' assessment of the ability of the firm to settle its debts. Kelly (1994) suggested that firms with high leverage levels are expected to be monitored closely, and therefore such firms will tend to discretionally disclose information to lower agency costs (Birt et al., 2003). Bradbury (1992), in his study of New Zealand companies, agreed with this hypothesis (McKinnon and Dalimunthe, 1993), while Chow and Wong-Boren (1987), McKinnon and Dalimunthe (1993), and Aitken, Hooper and Pickering (1997) did not find support for this theory.

McKinnon and Dalimunthe (1992) explain that the lack of support for leverage may be due to the lack or absence of full cross-guarantees among subsidiary companies in the same group. They stressed that this issue of cross-guarantees is significant to the leverage hypothesis as it may affect the usefulness of segment disclosure information to lenders. If all the debts of the subsidiaries were fully guaranteed by fellow group members, the claims of the lenders against one subsidiary would extend to all member companies of the whole group, and thus information about different segments of the group would be relevant and useful to assist the lenders make predictions about the returns, risks, and growth prospects of the entire diversified group (McKinnon and Dalimunthe (1992)). They further elaborated that if limited or no cross-guarantees exist, the claims of the lenders against the one subsidiary would be restricted to that one subsidiary or a limited number of companies in that group, and hence segment disclosure would not be as useful or meaningful. They therefore concluded that the reason no support for the leverage hypothesis was found in their study was due to the lack of usefulness of segment information to lenders and the lack of motivation to disclose such data.

Mitchell et al. (1995) feels that another possible explanation for the mixed results could be due to "differences in proxy measurement and sampling differences"

2.1.3 Industry membership

Birt, Bilson, Smith and Whaley (2003) are of the opinion that "the theoretical framework of political costs provides competing hypotheses explaining discretionary disclosures".

Belkaoui and Karpik (1989) have found in their studies that firms use a variety of ways and means (including the use of discretionary disclosures) to avoid getting the attention of external parties like government regulators, unions, suppliers, etc. (Birt et al., 2003)

McKinnon and Dalimunthe (1992) on the other hand hypothesized that diversified corporations with activities in a politically sensitive industry are more likely to volunteer to disclose segment information than corporations which are not involved in such industry activities. Watts and Zimmerman (1986) and Whittred and Zimmer (1990) have suggested that the sensitivity of the industry to which a firm belongs can affect its choice of accounting policy (McKinnon and Dalimunthe, 1992). Certain industries can attract additional attention from the government and other interest groups because of their strategic importance. Whittred and Zimmer (1990) have suggested the oil and gas industry in the United States as an example of such an industry whereas Sidhu and Whittred (1992) have suggested the oil and mining industry in Australia policy (McKinnon and Dalimunthe, 1992). Bazley et al. (1985), while agreeing with political cost motivation, suggest that it may not be the only reason policy (McKinnon and Dalimunthe, 1992).

However, Mitchell, Chia and Loh (1995, p.7) argued that "it is debatable that the McKinnon and Dalimunthe (1992) mining/oil classification can be viewed as the only politically sensitive industry. If the hypothesis is to be considered fully either as an industry membership hypothesis or as a politically sensitive hypothesis, then a more elaborate distinction between industries (in terms of accounting choice) needs to be made or all politically sensitive industries need to be identified"

Craswell and Taylor (1992), drawing on the work of Verrecchia (1983) suggested that other explanations like proprietary costs are also industry specific policy (McKinnon and Dalimunthe, 1992).

2.1.4 Competition

This can be considered a sub-determinant of the industry determinant. Rivalry exists between firms in the same industry. Segment information can be regarded as important to users of financial statements as the operations of a firm can differ significantly with different business and geographical segments having different rates of return, risk levels and growth opportunities (Birt et al., 2003; Hermann and Thomas, 1996; Ijiri, 1995). Balakrishnan et al. (1990) and Kochanek (1974) in their studies have found that segment disclosures carry valuable relevant information that is useful for investors and analysts to forecast future profits and income (Birt et al., 2003). Birt et al. (2003) suggest that such information can also be potentially useful to external parties like suppliers, competitors, unions and employees. Because of that, management will consider the impact of releasing such potentially harmful information to the market before disclosing it (Birt et al., 2003; Berger and Hann, 2002; Hayes and Lundholm, 1996). This is especially so if the information gets into the hands of competitors.

Previous empirical studies have produced mixed findings concerning the relationship between competition and disclosure (Birt et al., 2003; Harris, 1997).

Verrechia (1983) and Wagenhofer (1990) found that firms in more competitive industries are likely to disclose less informative disclosures (Birt et al., 2003).

However Harris (1996) had the very opposite findings in that industries that are less competitive are less likely to be accounted for as industry segments (Birt et al., 2003). Hayes and Lundholm (1996) found that a firm under intense competition would avoid the adverse selection difficulty by disaggregating group information into segment information (Birt et al., 2003). Berger and Hann (2002) agreed with the above studies and found that firms aggregate segment information to protect abnormal profits and when there are large differences in segment profits. Birt et al. (2003) also supported the hypothesis that firms exhibiting low competition have more likelihood to have proprietary costs and therefore have less incentive to divulge information to their competitors. "Firms in less competitive industries have the potential to make abnormal economic profits and also to wield economic power. Further, these firms would be able to use that power to take advantage of the proprietary information contained in the segment reports" (Birt et al., 2003).

2.1.5 Diversification

Aitken et al. (1992) suggested that segmental disclosure by firms that have diversified into unrelated industries have more information content than disclosures by firms that have diversified into synergistic or related industries.

McKinnon and Dalimunthe (1992) reasoned that this is so because diversification into unrelated industries takes a firm into different technologies and markets where the growth rates, risk levels and rates of return are expected to differ significantly. Hence they hypothesized that firms that diversified into unrelated industries are more likely to disclose segmental information voluntarily than firms with related diversification strategies. However their findings revealed that the relationship between diversification strategies and segment disclosure were insignificant. They attributed this to the likelihood of higher proprietary costs of such disclosure.

2.1.6 Ownership diffusion

Jensen and Meckling (1976) and Leftwich et al. (1981) observed that agency costs increase when the percentage of non-owner management in a firm increases [McKinnon and Dalimunthe (1993)]. Schipper (1981), Bradbury (1991), and Craswell and Taylor (1992) contend that the agency costs is likely to be higher if the shares of a firm are widely held [McKinnon and Dalimunthe (1993)]. A way of reducing agency costs is to voluntarily provide information to the principals about the decisions made by the agent on their behalf [McKinnon and Dalimunthe (1993), Watts (1997), Craswell and Taylor (1992) and Whittred (1987)]. Segmental information disclosure can assist in providing additional useful information to shareholders about the decisions made by the agents, especially in helping them assess better the levels of risk and return and growth potential of the company as a whole [McKinnon and Dalimunthe (1993)].

2.1.7 Minority interest

McKinnon and Dalimunthe (1993) suggest that segmental information may be useful to minority shareholders to detect fraud committed against them by the majority shareholders. They said that fraud could be committed against the minority shareholders by diverting profits from subsidiaries with minority interest to subsidiaries that are wholly owned. While they found support for this hypothesis, they also cautioned that the usefulness of this information to minority shareholders could be limited by "the industry segment mix among the wholly and partly owned subsidiaries" and the fact that minority shareholders may in some situations participate as managers of the subsidiary.

2.1.8 Size of audit firm

Watts and Zimmerman (1986) argue that in agency theory, the appointment of external auditors is used as a primary mechanism for controlling the incentive conflict between principals and agents (Chow, 2001). Klein and Leffler (1981) contend that large accounting firms have incentives to maintain high quality so as to maintain their reputation (Chow, 2001). Hossain and Adams (1995) are of the opinion that the big-six (at that time; now the big-four) audit firms will advocate to their clients to voluntarily disclose information in their annual reports (Chow, 2001). Craswell and Taylor (1992) found support for this hypothesis, but Malone, Fries and Jones (1993) found no such support for the relationship between the size of audit firms and voluntary disclosure by Australian and American gas and oil companies respectively (Chow, 2001).

2.1.9 Proportion of assets-in-place

Myers (1977) has suggested that wealth transfers are more difficult with assets already owned than for assets that are yet to be acquired, implying that the extent of voluntary financial disclosure is inversely proportional to a firm's proportion of assets in place (Chow, 2001). However, the empirical evidence found from previous studies do not support this hypothesis (Chow and Wong-Boren, 1987; Mitchell et al., 1995)

2.1.10 Earnings volatility

Bradbury (1992) hypothesized a negative relationship between earnings volatility and segment disclosure since segment earnings can be used to predict annual group earnings (Chow, 2001). However, his findings in 1992 were surprisingly the opposite of what he had expected. On the other hand, Mitchell et al. (1995) found no support for this hypothesis.

2.1.11 Overseas association

Bradbury (1992) hypothesized that overseas association could influence the level of disclosure of a firm (Chow, 2001). He thought of overseas association as overseas listing, major overseas shareholders or overseas funding. The level of foreign term loans to total debt was considered a good substitute for overseas funding. However, in his findings Bradbury did not find such support for this hypothesis.

Hossain and Adams (1995) on the other hand, found a significant relationship between foreign listing status and the level of disclosure of voluntary information by listed companies (Chow, 2001).

2.1.12 Proprietary costs

Even though this factor was mentioned earlier, in my opinion it could still be considered as a separate determinant influencing segmental disclosure. Verrecchia (2001) suggests that proprietary costs arise because of the existence of private information and if such information is released, it may harm the competitive position of the firm (Birt et al., 2003). Empirical studies by Gray and Roberts (1998) and Edwards and Smith (1996) have found segment information disclosing profitable or unprofitable segments contain proprietary information (Birt et al., 2003).

Various overseas studies have suggested that economic incentives can significantly influence segmental disclosure. Determinants that can potentially affect segment disclosure include firm size, financial leverage, industry membership, competition, size of audit firm, diversification strategy, level of minority interest, ownership diffusion, proportion of assets-in-place, earnings volatility, overseas association and proprietary costs. Next, we shall look at some related Malaysian literature.

2.2 MALAYSIAN LITERATURE

Tan and Ngan (1991) were among the first to do research on segment reporting when IAS 14 was the approved accounting standard in Malaysia. Using Chi-square tests of independence, they examined 181 diversified companies listed on the Kuala Lumpur Stock Exchange (KLSE) Main Board and found that segment disclosure is significantly related to industrial membership but not to firm size. Their findings on firm size are totally contradictory to overseas findings, which have hitherto (and subsequently) found unanimous support for firm size e.g Chow and Wong-Boren (1987), McKinnon and Dalimunthe (1993), Mitchell, Chia and Loh (1995), and Aitken and et al. (1997). Tan and Ngan (1991) suggest that a possible explanation for their findings may be due to the extent of diversification of listed companies and their willingness to disclose. They explain that since smaller firms are generally not as diversified as larger ones, segment information could be easily made available from routine management decisions or would not be difficult to modify to suit IAS 14 requirements. They added that larger and more diversified firms may however find compliance to the accounting standard more burdensome and costly, if substantial modification is needed to segment their management data. Furthermore, they found no support that disclosure of segment information could lead to share price stability. Hence, they would not expect the compliance rate to improve in the near future. They concluded that the general corporate growth in the nation has not been accompanied by the willingness of diversified firms to disclose segment information.

In his book 'Financial Accounting and Reporting in Malaysia', Tan (2001) mentioned that when the original IAS 14 was first issued in 1985, many diversified companies listed in the KLSE had resented it and decided not to disclose segment information. The low compliance rate for segment disclosure according to Tan (2001) could have been due to the following reasons:

- The lack of readiness of listed companies to disclose such information;
- The lack of reliability of management accounts to segmentalize data in accordance with IAS 14;
- The companies' perception that the costs of gathering such data outweigh the benefits of disclosure;
- There was difficulty in the identification and aggregation of operations in segments and in the allocating of some common items to the appropriate segments;

- The companies that were reporting segment disclosure were not aware of the advantages and benefits of such disclosure;
- Segment information was considered as a trade secret by management.

Subsequently, Susela and Veerinderjeet (1992) also did a study on segment reporting in Malaysia, especially on issues such as relevance, compliance and disclosure. They reviewed the annual reports of 179 diversified listed companies in the Kuala Lumpur Stock Exchange (KLSE) and found that the rate of compliance with IAS 14 among diversified listed companies in the KLSE was low (from 43.3% in 1987 to 52.5% in 1989). Ironically, a questionnaire survey of chief accountants and financial controllers of these listed companies revealed that they perceived segment information to be relevant to investors.

Using Chi-square tests and logistic regression analysis, Chow (2001) found that firm size, financial leverage and industry membership were statistically related to the compliance of segment disclosure but not the size of audit firms. The findings of Chow (2001) with regard to leverage and the findings of Tan and Ngan with respect to firm size appear to contradict with the evidence found in overseas literature. The findings of Chow (2001) with regard to firm size also appear to contrast that of Tan and Ngan (1991) in that Chow found support whereas Tan and Ngan did not find support for firm size as a significant determinant of segment disclosure. Interestingly, the contrary findings of the above studies could be expected. At the time of Chow's study of the 1999 annual reports, Section 166A of the Companies Act 1965 was already in force, which made compliance with MASB's approved accounting standards mandatory and legally enforceable with effect from 1st September 1998. Therefore, one would have expected that all firms, irrespective of size, to comply with IAS 14. Tan and Ngan's study, on the other hand, was done in 1991, and therefore, any disclosure of segment information was not legally enforceable. As such, one would have expected smaller firms, with their competitive disadvantage, to be the ones who were less likely to disclose this information. As a result of these seeming contradictions, the author is of the opinion that it would be appropriate to test these variables further in this study.

The recent mandatory application of MASB 22 becomes operative for financial statements covering periods beginning on or after 1 January 2002 i.e. the earliest mandatory application is for financial year ending 31 December 2002. It is therefore timely to find out whether the financial statements of listed companies are prepared in conformance with MASB 22. Since there are so many provisions in MASB 22, the author has decided to focus on certain provisions that might result in an increase in segment disclosure as compared with the original IAS 14 i.e. the 75% ruling referred to earlier and the primary segment disclosure requirements, which has resulted in many more items of disclosure than the business or geographical segment disclosure requirements under the original IAS14.

It is to be noted that the revised IAS 14 was issued by the International Accounting Standards Committee (IASC) in 1997 and was effective for financial years beginning on or after 1 July 1998. Street and Nichols (2002) examined a global sample of companies that used the International Accounting Standards (IAS) to prepare their financial statements and concluded with the following findings:

(a) The number of items disclosed per segment had increased significantly;
(b) There was significant improvement in the consistency of primary segment information with introductory annual report material for the majority of companies;
(c) There was a significant decrease in the number of companies who claimed that they operate in only one segment;
(d) The geographical segment groupings continue to remain vague and broad