

CHAPTER 4

RESEARCH FINDINGS

4.1 Introduction

This chapter reports the findings of the univariate and multivariate tests, which was performed to examine the hypotheses formulated.

4.2 Analysis of KLSE Top 100 Companies

The initial sample is sourced from KLSE top 100 companies (based on market capitalization) as at 31 December 2000 (Investors Digest, January 2001). The review of the top 100 companies listed on the KLSE revealed that only 72 companies maintain Web site on the Internet. Of the 72 companies 3 financial institutions are excluded due to merger. Hence the final sample size is a total 69 companies. Table 4.1 reports the distribution of sample firms across the industry. The majority of the firms operate in the trading, finance and manufacturing (consumer and industrial sector) industries. While 71 percent of the firms have a Web site, there is a variation across industry. For example at least 70 percent of the firms in the sector of trading, finance, construction and properties have a web site. These Web sites are used mainly to promote their business activities such as providing information about the firm's products and services, to promote brand identification, to enhance their corporate image and also to engage in corporate reporting.

TABLE 4.1: Industry Distribution of Sample

Industry	With Web Site		Without Web Site		Total	
	n	%	n	%	N	%
Consumer	7	53.8	6	46.2	13	13.4
Industrial	7	63.6	4	36.4	11	11.4
Construction	4	80.0	2	20.0	6	6.2
Trading / Services	21	72.4	8	27.6	29	29.9
Finance	15	88.2	2	11.8	17	17.5
Infrastructure Project Companies	6	85.7	1	14.3	7	7.2
Technology	1	50.0	1	50.0	2	2.1
Plantation	4	57.1	3	42.9	7	7.2
Properties	4	100.0	0	0	4	4.1
Mining	0	0	1	100.0	1	1.0
Total	69	71.1	28	28.9	97	100.0

This is an improvement as compares to the earlier studies by Atan *et al.* (2000), Nik Salleh *et al.* (2000) and Lymer *et al.* (1999) of 62 percent, 35 percent and 43 percent respectively. This shows that Malaysian companies are increasing their Web coverage. This is also consistent with overseas studies such as in U.S and U.K in that the number of companies with web sites is increasing year by year [see Petravick and Gillett (1996), Gray and Debreceny (1997), FASB (2000), Lymer (1997) Hussey *et al.* (1998) and Marston and Leow (1998)].

Further analysis reveals that out of the 69 companies that had Web sites, 42 (61 percent) companies disclosed some form of financial information whilst others did not provide any such information about their companies. These companies used their web sites mainly for product and services marketing promotion, background information about the company and its activities, corporate news and announcement, philanthropic activities and some range of advertising materials. Table 4.2 shows the different type of financial information disclosed by companies on their web sites. The financial information disclosed in the web sites is in the form of annual report (47.8 percent), quarterly report (56.5 percent) and financial highlights (60.9 percent). Again the level of coverage has improved if compared to the result of Atan *et al.* (2000) and Nik Salleh *et al.* (2000).

TABLE 4.2: Financial Information Disclosed

Type of Information	No of companies	% of total companies
Annual Report	33	47.8
Quarterly Report	39	56.5
Financial Highlights	42	60.9

Table 4.3 presents the summarized results of non-financial information disclosed on the companies' web sites. Corporate profile is found to be the most frequent information on the Internet. This is follow by corporate structure and corporate announcement. Among the least published information is the company current and historical share price. Again compared this result to that of Ismail *et al.* (2000) the level of coverage of corporate profile, structure and information has improved.

TABLE 4.3: Summary Results of Non-Financial Information Disclosed

Type of Information	Frequency	Percent
Corporate Profile	64	92.8
Corporate Structure	52	75.4
Corporate Announcement	49	71.0
Corporate Information	36	52.2
Online Share Price	13	18.8
Historical Share Price	13	18.8
Recent financial data	0	0

All companies that disclose annual reports can be downloaded and are in the Adobe Acrobat – pdf format. However there is a variation in terms of quarterly report, in that some of the reports are in pdf format whilst others are in Microsoft Excel.

The above analysis has shown that Malaysian public listed companies are fast catching up in term of web coverage. Particularly web sites have been used as a mean for investor relations. This is evident from the result of the survey which shown increase in the number of companies maintaining an active Web sites and more importantly to disseminate the financial information.

4.3 Univariate Analysis

Table 4.4 provides information about Web site disclosure. There is a total 97 (35.8 percent) and 95 (35.1 percent) companies disclosed annual and quarterly report respectively as compare to the top 100 companies of 47.8 percent and 56.5 percent for both category. Similar trend is prevailed for voluntary items such as corporate announcement, financial highlights, and online share price at the percentage of 47.2%, 44.3% and 15.5% in contrast to the top 100 companies of 71.0%, 60.9% and 18.8% respectively. The only item maintains at the same level is historical share price. This trend provides the first indication that firm size may influence the level of financial disclosure. Other items such as analyst report, recent financial data and text of speeches and presentations made at road shows have the lowest level of disclosure.

TABLE 4.4: Summary of Information Disclosed at Web Sites

Type of Information	Frequency	Percent *	Category
Annual Report	97	35.8	Required
Quarterly Report	95	35.1	Required
Corporate Announcement	128	47.2	Voluntary
Financial Highlights	120	44.3	Voluntary
Performance Overview	100	36.9	Voluntary
Historical Share Price	51	18.8	Voluntary
Online share price	42	15.5	Voluntary
Link to Share Price	30	11.1	Voluntary
Link to Analyst Report	3	1.1	Voluntary
Speeches	2	0.7	Voluntary
Recent Financial data	0	0	Voluntary

* Percent of items having the item at their Web sites. Items are sorted in order of frequency for each category based on sample firms (n=271).

Table 4.5 summarises the extent of voluntary disclosure by firm size, financial leverage, type of audit firm, listing status, listing, asset in place and the number of shareholders. Descriptive statistics for the dependent variables REQ, VOL and INDEX are provided in panel A of table 4.5. On average, a higher percentage of REQ items were found at each web site than were VOL items. The mean (median) score for REQ is 0.68 (0.00) of 2 possible, indicating on average, 34 percent of companies disclose annual reports and quarterly reports. On the other hand, only about 16 percent of possible voluntary items are presented. Of the eight items on the list, the mean (median) score for VOL is 1.31 (1.00) at each Web site. The relative percentages of REQ and VOL scores are consistent with the individual item from frequencies noted in table 4.4. As expected the INDEX scores will fall in between. Of a possible INDEX score of ten, the mean (median) is 2.00 (1.00). Therefore on average about 20 percent of the items sought were found at each site.

The descriptive statistics for explanatory variables are provided in panel B of table 4.5. Raw size statistics demonstrated skewedness, with the mean market value of RM1.156 billion greater than of the 75 percent quartile of RM700 million. Similarly for the number of shareholders, the raw number of shareholders demonstrated skewedness, with the mean of 10,358. Because of these the natural logarithm of these variables (firm size and number of

shareholders) are used for multivariate analysis. The mean of financial leverage and proportion of assets-in-place is 2.43 and 0.38 respectively.

Panel B of table 4.5 also reports the Pearson product-moment correlation coefficients (r). Pearson correlation coefficient is used to ascertain the correlation between the disclosure index and continuous independent variables, namely, firm size, number of shareholders, financial leverage and proportion of assets-in-place¹³. The bivariate correlations show that the disclosure scores, INDEX are significantly associated by firm size, number of shareholders and proportion of assets-in-place ($p=0.01$). Result of firm size is consistent with the findings of Chow and Wong-Boren (1987), Lung and Lundholm (1993), Ashbaugh *et al.* (1999) and Ettredge *et al.* (2000a). The result of number of shareholders is consistent with the findings of Deller *et al.* (1998) and Ettredge *et al.* (2000b). The result of proportion of assets-in-place is also in line with the theory as proposed by Myers (1977). However, contrary to the hypotheses, the correlations between the disclosure scores, INDEX and the independent variables for financial leverage are not statistically significant.

Student's t test was conducted to examine whether categorical independent variables, namely listing status and type of audit firm had an impact on the overall level of voluntary disclosure. Table 4.5, panel C shows the results of test of differences in mean disclosure scores between company listed on the KLSE First Board and Second Board. The result suggests there is statistically significant difference ($p < 0.001$) in disclosure scores between the two groups with the First Board listed companies voluntarily disclose more information at their corporate Web site. This result is similar to the finding of Ismail and Tayib (2000).

Table 4.5, panel C also shows the result of test of differences in mean disclosure scores between companies audited by Big 5 audit firm and others. The result shows that there is no significant difference in scores between groups. The finding reveals type of audit firms does not have an impact on voluntary disclosure of information at their corporate Web sites. This result is similar to the findings of Firth (1979), Malone *et al.* (1993) and more recently

¹³ Spearman rank correlations were also computed. The conclusions were unchanged.

the study of Chow (2001) on the segment information disclosure by Malaysian listed companies.

TABLE 4.5: Descriptive Statistics for Study Variables

Panel A: Dependent Variables (n = 271)

Dependent Variable	Mean	Standard Deviation	Quartiles		
			25%	Median	75%
REQ	0.68	0.82	0	0	1
VOL	1.31	1.45	0	1	1
INDEX	2.00	2.09	1	2	4

Panel B: Explanatory Variables (n = 271)

Dependent Variable	Mean	Standard Deviation	Pearson <i>r</i>	Quartiles		
				25%	Median	75%
Size	1,156,323	3,926,538	0.320*	75,000	179,550	699,840
Shareholder	10,358	15,315	0.394*	2,322	4,086	11,255
Leverage	2.43	10.16	0.060	0.35	0.81	1.97
Assets-in-place	0.38	0.25	-0.229*	0.18	0.38	0.55

$p = 0.01$

Panel C: Explanatory (categorical) Variables (n = 271)

Dependent Variable	Auditor		Listing	
	Big 5	Others	First Board	Second Board
Mean	2.13	1.52	2.45	0.95
Standard Deviation	2.12	1.92	2.07	1.73
Student's <i>t</i>	-1.98		5.73*	

* $p < 0.000$

Table 4.6 presents Spearman correlations between the explanatory variables¹⁴. The strongest correlation is between firm size and listing status at a value of 0.655. Table 4.6 also shows significant Spearman's correlations coefficient between the independent variables.

TABLE 4.6: Spearman's Correlations among Explanatory Variables

	Size	Shareholder	Leverage	Asset in Place	Auditor	Listing
Size	1.000					
Shareholder	0.489*	1.000				
Leverage	0.159*	0.168*	1.000			
Asset in Place	-0.269*	-0.142**	-0.309*	1.000		
Auditor	0.213*	0.167**	0.087	-0.061	1.000	
Listing	0.655*	0.534*	-0.090	-0.229*	0.283*	1.000

* correlation is significant at 0.01 level

** correlation is significant at 0.05 level

The significant Spearman correlations among the independent variables suggest that the statistical significance of the explanatory variables in the univariate analysis may be misstated due to the effects of collinearity. Therefore, a multivariate analysis is applied to the data to analyse the combined effects of the independent variables on voluntary disclosure.

¹⁴ Pearson correlations were also undertaken with similar conclusions obtained.

4.4 Multivariate Analysis

The dependent variable Index was regressed using ordinary least square (OLS) on the six explanatory variables. Table 4.7 shows the results.

TABLE 4.7: Regression Results

	Regression I			Regression II		
	Value	t	p	Value	t	p
Constant	-4.890	-4.530	0.000	-1.257	-1.427	0.155
Firm size	0.286	4.573	0.000			
Shareholders	0.182	2.951	0.003	0.218	3.459	0.001
Assets-in-place	-0.152	-2.754	0.006	-0.174	-2.966	0.003
Leverage	-0.034	-0.605	0.546	-0.031	-0.616	0.539
Auditor	0.037	0.668	0.505	0.031	0.523	0.601
Listing				0.199	3.036	0.003
R ²	21.2%			17.8%		
Adjusted R ²	19.7%			16.2%		
F	14.088*			11.339*		

*p<0.000

The multiple regression model is highly significant ($p < 0.000$). The coefficient of determination R^2 indicates that 21.2 percent of the variation in the dependent variable is explained by variation in the independent variables (adjusted R^2 is 19.7 percent). The computed R^2 statistics indicates that, overall, the explanatory power of the regression is not very strong, but nevertheless is similar to that reported in other disclosure studies (Ettredge 2000a).

The coefficients for firm size, shareholders, assets-in-place are statistically significant ($p = 0.000$, $p = 0.003$ and $p = 0.006$ respectively). In contrast, the coefficients of leverage and auditors are not statistically significant.

A second model was run, replacing firm size with listing. The result of this model is also reported at table 4.7. Substituting firm size with listing status resulted in lower coefficient of determination ($R^2 = 17.8$ percent). All other variables remain unchanged. The result of both regression models is consistent to that of univariate analysis.

4.5 Conclusion

This chapter reports the extent to which voluntary disclosure of information at the firms' corporate Web sites is related to firm specific characteristics. Both univariate and multivariate tests for firm size (in both measurement of market capitalization and listing status), proportion of assets-in-place and number of shareholders have supported the hypotheses as discussed in Chapter three. However, independent variables, namely financial leverage and type of audit firm are not supported in statistical tests.

The next chapter will provide the conclusions and recommendations for future research.