

Corporate Internet Reporting: An Asian Example

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Abstract

The rapid evolution of Internet technology has created the ability to disseminate information almost instantaneously to world-wide audiences and many businesses have already applied this capability. This paper reviews an empirical study into the extent and quality of Internet Financial Reporting (IFR) among the Top 40 Thai listed companies. A qualitative index was developed based on Cheng, Lawrence and Coy (2000) having four disclosure categories, namely content, *timeliness*, *technology* and *user support*. It was found that Thai companies provide financial information on the Internet as a complement to their traditional paper-based annual reports. The extent and quality of IFR practices varied widely among the firms and only a few companies apply the enhancements that the Internet technology can offer. The categories of disclosure relating to user support and content scored higher than timeliness and technology on the Thai companies' websites. IFR practices of Thai listed companies are similar to companies in other countries with Thai firms increasingly reporting financial data on the Internet. However, there is a need for Thai firms to better utilise the Internet capabilities for financial reporting.

Key words: internet reporting, external reporting, web based reporting.

Introduction

The technology revolution, in particular the advent of computer technology, has significantly impacted accounting practices and accounting communication. Since 1995, a number of companies have communicated company information through the World Wide Web. Initially, such information usually emphasised marketing strategies (Lymer et al., 1999) but many companies are now utilizing the advantages of the Web for disseminating financial information. Preparers can benefit from cost savings in printing and distribution while broadening their disclosures. Users can benefit in a variety of ways depending on the extent to which the capabilities of the medium are exploited. Possibilities include enhanced timeliness, ease of access and search, and improved facilities for data extraction, automatic comparisons, and analysis. The ability of the medium to handle the reporting of greatly expanded information fits well with recent calls in accounting for increased disclosure of a broad range of information.

Nevertheless, at the moment, Internet Financial Reporting (IFR) is voluntary in nature. With no specific regulations on IFR, there is a disparity of IFR practices among companies. Some companies disclose only partial financial statements using a low level of technology, while others disclose full sets of financial reports using the sophistications of the Web such as multimedia and analytical tools.

The differences in Generally Accepted Accounting Standards (GAAP) among different countries are a constraint on company performance comparisons through the web. There are also potential legal risks which may constrain company use of IFR and equally for users, real time data as unaudited financial information may lack the reliability of the traditional paper based financial reports.

Since 1995, most studies on IFR have usually been conducted in developed countries, for example the USA, the UK and Germany, with a few studies carried out in developing countries, such as Malaysia. This study extends the prior studies in developing countries by examining, for the first time, the extent of IFR of the Top 40 listed companies in Thailand. The research framework of this study is based on the work of Cheng et al. (2000), who developed an index to measure

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the quality of companies' websites according to the four categories, namely content, *timeliness*, *technology* and *user support*.

Previous Research

There have been a growing number of empirical studies on IFR since 1995 reflecting the growth in this form of information dissemination. Several studies have examined the determinants of web-based disclosure policy (e.g. Craven & Marston, 1999, Hassan et al., 1999; Pirchegger & Wagenhofer, 1999). Other literature discusses IFR benefits, practice issues, and the future of IFR (e.g. Petravick & Gillet, 1996; Ashbaugh et al., 1999; Lymer et al., 1999; Cheng et al., 2000; Fitzsimons & Shoaf, 2000; McDonald & Lont, 2001).

Several studies have investigated the nature and extent of financial reporting on corporate websites as an instrument for firms' stakeholder relations. Hedlin (1999) found that in general companies were using the Internet to communicate financial information, and only a few companies were starting to explore the richer potential that the Internet offers for investor relations. Deller, Stubenrath and Weber (1999) extended earlier research by investigating the Internet investor relations activities of US, UK and German companies¹. They found that US companies (91%) to a greater extent used the Internet for investor relations activities than UK (72%) and German (71%) ones. Furthermore, US corporations used the Internet to a larger extent with respect to corporate reporting than UK or Germany companies (95% compared with 85% and 76% respectively). Corporations in the US, UK and Germany were starting to explore and use some of the technology sophistications on their websites. Nevertheless, it was found that only a small number of corporations were utilising audio or video technology in their IFR.

Lymer, Debrecey, Gray and Rahman (1999) compared the IFR practices in 22 countries. Their study indicated that companies are at different stages in their use of the Web for financial reporting; 86% of the companies had a website but only 62% of the companies surveyed had some form of financial disclosure on their website. Lymer et al. found that most reporting was confined to electronic paper and HTML formats and concluded that in the course of their study there were very few examples of IFR that take full advantage of its technical capabilities. Most reporting was confined to electronic paper and HTML formats.

Cheng, Lawrence and Coy (2000) developed a benchmark index to measure the quality of IFR disclosures of the Top 40 New Zealand companies. The results revealed that 32 (80%) of the companies in the sample had websites and 70% of the sample presented financial information on their websites. Of the 32 companies having websites, only 8 (25%) companies scored more than 50% on the index by virtue of having reasonably well-developed sites. The Web site of Telecom Corporation of New Zealand Limited achieved the highest score of 79%.

While clearly companies are increasingly providing financial information on the web, studies to date show that there is limited use of the IFR potential. With the limited uptake of the computer technologies to add value to the financial disclosure, there is generally a low quality of IFR.

Research Method

The purpose of the study was to measure the quality of Internet Financial Reporting practices of the Top 40 Thai listed companies on the Stock Exchange of Thailand. An index was developed by basing closely on the work of Cheng et al. (2000), who had devised their framework from the three stages of website financial reporting as identified by Lymer et al. (1999)².

The index developed by Cheng et al. (2000) tended to favour the importance of technology rather than the content of financial statements. For example, a company that disclosed a full

¹ The sample for this study consisted of component companies of the respective country's relevant stock market 100 index - Standard and Poor [S&P] 100, Financial Times Stock Exchange [FTSE] 100, and Frankfurt Stock Exchange [DAX] 100.

² Lymer (1999) identified: Stage 1 – financial information is presented in pdf. format, time consuming for users to download; Stage 2 – companies convert their annual reports to HTML format which is readable by most web browsers; and, Stage 3 – companies move beyond the existing paradigm of financial reporting, and include enhancements that cannot be incorporated in the printed reports with emphasis on the use of hypermedia and the timeliness of financial information.

set of financial statements in pdf format for one year could gain only 6%. The authors considered this score to be too low when compared with the usefulness of the content. Therefore, in order to add weight to content over technology enhancements, the index criteria were divided into four parts and assigned weights – content (40%), timeliness (20%), technology (20%) and user support (20%). Three new items were added to the checklist, namely company address and language, under Content, and proper disclaimer under Timeliness¹. A copy of the index is attached as Appendix 1.

We represent brief description of the aforementioned criteria.

1. Content

This category includes the components of financial information from Statement of Financial Position, Cash Flow through Shareholder Information and Social Responsibility disclosures. Financial information disclosed in html format scores higher (2 points) than disclosure in pdf format (1 point), since the former makes better use of the web technology and as a result it is easier for users to access effectively. The number of years/quarters shown, historical information, language and address are the remaining elements in this category. The element regarding language was an important addition to the index for the present study. Since internet financial reporting can be disseminated world wide, companies that disclose their information on the Web in any language other than Thai (the main language in Thailand) especially English, can widen their stakeholder communication. Two marks are given if a company discloses information in English and one mark is given for other additional languages.

2. Timeliness

Since the web can provide information in real time it is important to find out the extent to which this facility is utilised. These real time data include press releases, unaudited latest quarterly results, vision/forward-looking statements, and charts of future profits forecast. For disclosure of press releases and stock quotes, there is an added score for the recency of information (on a scale from 0 to 3). Companies receive a score for disclosing unaudited quarterly results and vision statements and a score is also given for appropriate disclaimers. This is included since companies may face potential legal risk if they endorse the unaudited or forward looking statements and omit meaningful cautionary disclaimers (Fitzsimons & Shoaf, 2000).

3. Technology

These items relate to enhancements that cannot be provided by printed reports. Those items that uphold the quality of the electronic financial reporting and facilitate communication with site users score highly on the index. The elements are – download plug-in on spot, online feedback, use of presentation slides, use of multimedia technologies (audio and video clips) , analysis tools (for example, Excel's Pivot Table), advanced features (such as implementing an "Intelligent agent" or XBRL).

4. User Support

Users' computer skills are different. Some of them are experts, some are novice. Those who do not have state-of-the-art technology may find themselves unable to use a site at all. Companies score is higher if they implement tools that facilitate use of the IFR irrespective of computer skills. The tools scored in the index are: search and navigation tools (such as FAQ, links to home-page, site map, site search), number of clicks to get financial information (on a scale from 0 to 3), and consistency of web page design (subjective evaluation on a 3 point scale).

¹Reasons for three new items

Company address – users know where to contact the company and the company can obtain feedback from the users.

Language – the official language in Thailand is Thai, so it may not be convenient for foreign investors to receive financial information in the Thai language. If the companies provide financial information in English or other languages on the web, they can introduce themselves to foreign investors which may result in obtaining new shareholders.

Proper disclaimer – a proper disclaimer statement can minimise the company's litigation risk when providing timely information, such as unaudited latest quarterly results or forward-looking statements.

Results

Of the top 40 Thai listed companies, Web sites were not identified for three ones. Thus, 37 (92.5%) of the Top 40 Thai companies' Web sites were evaluated¹. The percentage score of these 37 companies is shown in Appendix 3.

The IFR Index scores ranged from a low of 18% to the highest score of 64% with an average score of 41.78%. Only 8 companies (21.6%) scored more than 50% by having reasonably well-developed sites (Table 1). The three top scoring companies were: Electricity Generating Public Company Limited, Shinawatra Satellite Public Company Limited and the Shinawatra Computer and Communication Public Company Limited. Two of the 37 companies communicated no financial or accounting information.

Table 1

IFR Disclosure Scores

% score	No. of companies	% of sample
100	-	
90-99	-	
80-89	-	
70-79	-	
60-69	1	3%
50-59	7	19%
40-49	15	41%
30-39	10	27%
20-29	3	8%
10-19	1	3%
0-9	-	

The current state of the 37 sample companies' Web sites is discussed, based upon the checklist, which is divided into 4 categories, namely, *content*, *timeliness*, *technology* and *user support*. In general, user support was the highest scoring category of IFR disclosure and the category having the lowest average score was technology (Appendix 4).

Content

The number of companies disclosing components of financial reporting on the Internet is shown in Figure 1 (Appendix 2).

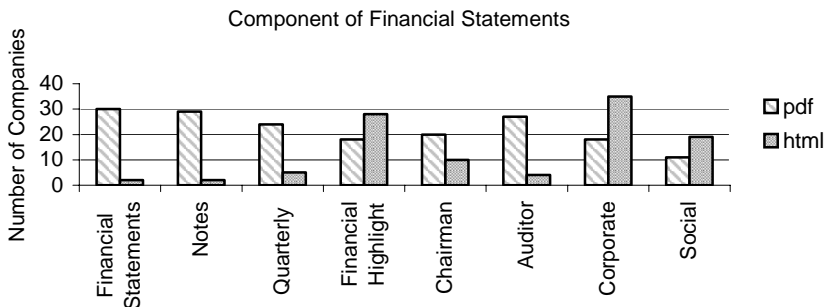


Fig.1. Comparison of pdf and html formats in Financial Statements disclosure

¹ The websites were investigated between September 16, 2002 and November 21, 2002.

Most companies in the survey had financial reports on their websites, although these appear in very different forms. Of the 37 companies, 30 (81%) ones provided a complete set of financial statements, namely Statement of Financial Position, Statement of Financial Performance, Statement of Cash Flows, and Statement of Movement in Equity. Five companies (13.5%) disclosed only summary statements on their websites. Thirty companies provided full annual reports in pdf format, while only two companies – in html format. For the most part, the full annual reports go back from two to three years, and the interim reports cover the last year and the current one. The maximum numbers of years and quarters shown were thirteen years and twenty-one quarters respectively. An important issue was to identify the use of html format in IFR reporting – there were only four types of information that the companies disclosed in html more than in pdf and these were financial highlights, shareholder information, corporate information and social responsibility items (see Figure 1).

The structure of the documents was, in general, the same as that of paper-based reports. One of the reasons for the traditional way of presenting reports may be the frequent use of portable document format (pdf) documents, which are not particularly suited for innovative report structures.

Only 13 (35%) companies in the sample provided share price history and only 4 (10%) ones gave information about dividend history (Appendix 2, Table 1).

Since a large proportion of Thai companies are export-oriented and, considering the fact that foreign investors are important shareholders in many companies (www.nanzan-u.ac.jp/~sinouye/thaidata/thaiecon.html), it was no surprise that 34 (92%) companies' Websites could be read in English. Most sites were bilingual, but some companies like PTT Exploration (www.pttep.com) and Thai Petrochemical Industry (www.tpigroup.co.th) had websites that were exclusively in English. There were 3 companies that provided information on the website in Thai only.

Timeliness

The number of companies in the sample that provided timely information on their websites is shown in Table 2.

Table 2

Disclosure of timely information

Timeliness (HTML only)	No. of companies (%)	
Press releases	33	89%
Unaudited Latest Quarterly Results	0	0%
Stock Quote	23	62%
Vision Statement		
existence	3	8%
disclaimer	1	3%
charts	0	

The most frequent item of disclosure on corporate websites was the press release, being disclosed in 89% of the websites (this was even more frequent than financial statement disclosures). This was not particularly surprising since press releases are generally text – only documents that can be added to the websites without alteration or format adjustment. Of the 33 companies disclosing press releases, one-third updated their news on the date of investigation; but equally, 10 (30%) companies provided outdated information (Table 3). Generally, the companies' news was chronologically ordered in a section called 'Press release' where the headlines of the news were hyperlinks that could be used to bring up the desired item.

Although unaudited latest quarterly results can be regarded as the most up-to-date interim report, none of the 37 companies disclosed this information. The reason for this may be that the

Thai Public Company Limited Act, 1978 requires Thai companies to provide only audited financial statements to the public (www.fawpir.com). However, the unaudited latest quarterly results that can be seen on the companies' websites in other countries could not be found on the Thai companies' websites.

Earlier studies have found that the most common feature of the real-time data on companies' websites is stock quote since it can be easily obtained from other sources (Petraevick and Gillet, 1996). However, only 23 (62%) of the 37 companies' websites provide their stock price information, although this information can be obtained by linkage from the Stock Exchange of Thailand's website (www.set.or.th).

Table 3

Timeliness of Press Releases

Press release updated ...	No. of companies (%)	
...on date of study	11	33%
...1 week or less before study	4	12%
...2 weeks or less before study	8	24%
...more than 2 weeks	10	30%
Total making Press releases	33	100%

The final item in the timeliness category is the vision statement. Only 3 (8%) of the companies in the sample disclosed descriptive statements about future profit forecasts or trends for the companies' performances. These two companies were Electricity Generating (www.egco.com/investor/manage_discuss.asp) and Thai Union Frozen Products (www.thaiuniongroup.com/English/08_discussion.html). Both discussed operating results at the present time and speculated about their futures, however only the Electricity Generating Co included an appropriate disclaimer to these forecasts. None of the companies included charts of future profit forecasts (Appendix 2, Table 1).

Technology

As most companies in the sample provided their annual reports in pdf format it was not surprising that 31 companies allowed the users to download pdf files, so that they could obtain financial information of the companies without any trouble. The results showed that direct e-mail contact and mailing lists were quite common – around 75% of the companies in the sample allowed the users to send e-mails to the companies.

In terms of presentation slides, 7 (19%) companies used MS.PowerPoint to present their annual meetings or companies' profiles. Audio or video presentations of annual meetings, press gatherings or analyst conferences were generally not available on the sample companies' websites. In only a few cases (3 or 8%) did companies in the sample offer selections of corporate presentations, speeches at annual general meetings or addresses from analyst conferences (Table 4).

Although the report in digital form provides investors with the opportunity to download files that can be used as input in computer-based analysis at very low cost, it is rather surprising that none of the companies in the sample provided analysis tools or allowed users to download data for analysis. One reason for the reluctance to allow users to create their own financial analyses may be an unwillingness to provide more information than can be found in the traditional paper-based reporting.

Table 4

Technology provided on company websites

Technology	No. of companies (%)	
Download plug-in on Spot	31	84%
Online feedback	28	76%
Presentation slides	7	19%
Multimedia technology	3	8%
Analysis tools	0	
Advanced features (XBRL)	0	

Although XBRL is emerging, and its benefits are quite obvious, such as shortening implementation times and alleviating errors, no companies in the sample were found to be using the XBRL format to create their website.

User Support

The type and number of user support facilities on the companies' websites are shown in Table 5. Even though FAQ is useful for companies in reducing the number of incoming e-mails, only 19 (51%) companies in the sample offered FAQ on their websites. In this category, links to homepage and links to top were assessed. The majority (86%) of the companies in the sample provided a link to the homepage on their websites, while only 7 (19%) companies provided a link to the top. This may be because many companies present their annual report in pdf format, which is incompatible with this technology. A site map is very useful as it can show the structure of the website on just one page. However, only 20 companies provide site maps on their websites. Relatively few companies (43%) provided a site search instrument on their websites.

Table 5

User support facilities on websites

User Support	No. of companies (%)	
Help & FAQ	19	51%
Link to Home Page	32	86%
Link to Top	7	19%
Site Map	20	54%
Site search	16	43%

The usefulness of firms' financial reporting on the Internet depends on how easy it is to access the data. Therefore, under the category of user support, ease of access was measured by the number of clicks needed to reach the financial information. The outcome indicated that for the majority of the companies, it was easy to access financial information (Table 6).

Table 6

Ease of access to financial Information

No. of clicks to access information	No. of companies (%)	
1 click	18	49%
2 clicks	11	30%
3 clicks	6	16%
More than 3 clicks	2	5%

Table 7

Consistency of web page design

Consistency rating	No. of companies (%)	
Good	23	62%
Fair	14	38%
Poor	0	-

Web page design was evaluated according to the convention of formatting, outline, font type and size, graphics and terminology (see Table 7). 62% of the websites were well-developed.

Summary

The survey findings show that the nature of IFR disclosures varies considerably across the sample firms. The variation in the content of the websites suggests that firms had different reasons for establishing an Internet presence. Some companies' websites contain only product and service advertising. With respect to the amount of accounting data provided, most Thai companies' websites present a full set of financial statements. At the same time, most financial reporting is confined to pdf, which looks exactly like the paper-based annual reports. Apart from the lower cost consideration, this may be because the firms would like to protect themselves from legal risk in the event of providing uncorrected financial data to the users.

Most of the companies present corporate news in their websites but very few present timely information, that is, news that was updated every day.

Most companies in the sample do not take full advantage of the computer technologies. None of the companies allow users to download financial information or provided analysis tool for users to make their own analyses. The common technology feature provided by the companies is the download plug-in on spot, in particular pdf file. Another common feature is online feedback. None of the companies use advanced features (XBRL) to create their websites.

With respect to user support, most companies index their investor relation section on their homepages, so it is relatively easy for the users to find the financial information. The linkage that most of the companies provide is a link to homepage. However, link to top, site search and site map are uncommon features. The majority of the companies' websites were well-organised in terms of page layout and font type.

Trend Comparison with Prior Research

Generally, meaningful comparison between research studies on IFR is difficult as the state of corporate internet financial reporting changes frequently. However, some embryonic comparisons have been made in Table 8 comparing European, US and New Zealand studies with the present findings from Thailand.

The proportion of Thai listed companies having websites and presenting financial information on their websites is comparable to those of UK and New Zealand (although these results may well understate the extent of IFR given the dramatic increase in internet usage over the period between the studies). The use of sophisticated technologies such as multimedia and analysis tools is very limited on Thai companies' websites. The majority of Thai companies present their financial statements and annual reports in pdf format which is not compatible with the use of web-based technologies such as hyperlinks. By comparison US, UK and German companies are starting to explore the potential to create their websites, for example, XBRL financial format.

Table 8

Comparison of IFR practices

		Hedlin, 1999	Deller, Stubenrath & Weber, 1999	Lymer et al., 1999	Cheng, Lawrence & Coy, 2000	Davey & Homkajohn, 2002
Country		Sweden	US, UK, Germany	22 countries	NZ	Thailand
No. surveyed		60	300	660	40	40
Instrument		Checklist	Checklist	Checklist	Index	Index
Research Objective		3 stages of IFR	IFR in investor relations activities	Extent of IFR	IFR disclosure practices	IFR disclosure practices
Findings	% having websites	98%	US 95% UK 85% Germany 76%	86%	80%	92%
	Financial information reported	83%	US 91% UK 72% Germany 71%	62%	70%	70%
	Use of technology	Limited use (stage 2)	Limited use Audio/video potential used by very few	Highly variable by country	8 scored >50% Highest score 79%	8 scored >50% Highest score 64% Limited use of potential

Conclusion

Due to the dynamic business world, traditional paper-based corporate reporting is becoming less timely and thus less useful to decision makers. Firms must improve their communication strategy to be more efficient. In Thailand, all listed companies are required to provide audited quarterly and annual financial statements within 45 days of the end of each quarter and within three months of the year-end respectively. As in other countries, companies in Thailand are increasingly providing their financial information on the Web.

With electronic-based reporting, the confines of the paper-based report are removed. The companies as the preparers can benefit from cost saving and improve their financial reporting strategies. The users can benefit by getting financial information in more breadth and depth. However, a significant benefit for the information consumers of Thai companies, is that the users can obtain financial information more easily than before. In the past, collecting annual reports from Thai companies was not easy; despite persistent requests by telephone and fax, copies of annual reports were rarely dispensed (www.fawpir.com/sample/thai.htm#tb%20sources).

By measuring the IFR of the top 40 Thai companies it was shown that, while most companies in the sample had websites and provided financial data on their sites, Thai companies still lag behind those in other advanced economies in communicating with stakeholders via electronic means. Most companies did not take full advantage of the computer technologies to add value to the financial disclosures. Most companies employ a rather conventional web presentation, with text and static graphics, equivalent to a paper presentation. In addition, there is substantial variation in the quality and extent of Thai firms' IFR practices. Some firms provide a full set of annual reports, while some ones present only summary financial statements. Quality pertaining to timeliness also varied with just as many firms providing timely data, as those who present outdated information.

In Thailand, firms are using IFR to supplement their traditional corporate reporting practices and engaging in IFR voluntarily. Thai security regulations currently do not require firms to disseminate financial information on the Internet. The lack of formal guidance and the huge differences in the nature and extent of reporting on the web are likely to raise issues concerning the comparability and reliability of data. The national standard setters and regulators of accounting practices will not be able to continue to treat financial reporting on the Internet as identical to traditional distribution channels of corporate data. The Thai government or other regulatory bodies

should decide to introduce guidelines that provide both corporations and information users with a framework within which the exchange of data can take place with a maximum of efficiency.

Attestation of information is another significant problem for investors and other stakeholders. Traditional paper audit trails cannot catch up with the electronic financial reporting as its reports are usually issued months after the occurrence of the actual events they represent. Real-time accounting needs real-time auditing to provide continuous assurance about the quality of data. Therefore, an electronic audit process that enables auditors to reduce and perhaps eliminate the time between occurrence of the client's events and the auditor's services should be conducted to ensure the security and integrity of financial reporting on the web.

The World Wide Web provides accountants with an incredible opportunity to tell the companies' stories in ways previously unimaginable. How the accounting profession faces this challenge and solve the existing problems will determine its role in the financial reporting on the web in the future.

This study is restricted to the largest 40 companies listed on the Stock Exchange of Thailand during the study. So, conclusions at this stage should be restricted to large company disclosure and the same conclusions may not necessarily hold for medium and small-size quoted companies.

References

1. Ashbaugh, H., Johnstone, K. & Warfield, T., (1999), "Corporate Reporting on the Internet", *Accounting Horizons*, September, pp. 241-57.
2. Cheng, A., Lawrence, S. & Coy, D., (2000), "Measuring the Quality of Corporate Financial Websites: A New Zealand study", Paper presented at the 12th Asian-Pacific Conference on International Accounting Issues, Beijing.
3. Craven, B. M. & Marston, C. L., (1999), "Financial reporting on the Internet by leading UK companies", *The European Accounting Review*, 8(2), pp. 321-33.
4. Debrecey, R. & Gray, G. L., (1999), "Financial reporting on the Internet and the external audit", *The European Accounting Review*, 8(2), pp. 335-50.
5. Deller, D., Stubenrath, M., Weber, C. & Wolfgang, J., (1999), "A survey on the use of the Internet for investor relations in the USA, the UK and Germany", *The European Accounting Review*, 8(2), pp. 351-64.
6. Fitzsimons, A. P. & Shoaf, V. L., (2000), "FASB studies the electronic reporting of business information", *Commercial Lending Review*, Fall, pp. 65-71.
7. Hassan, S., Jaffar, N. & Johl, S. K., (1999), "Financial Reporting on the Internet by Malaysian Companies: Perception and Practices", *Asia-Pacific Journal of Accounting*, 6(2), December, pp. 299-319.
8. Hedlin, P., (1999), "The Internet as a vehicle for investor relations: the Swedish case", *The European Accounting Review*, 8(2), pp. 373-81.
9. Lymer, (1999), "The Internet and the future of corporate reporting in Europe", *The European Accounting Review*, 8(2), pp. 289-301.
10. Lymer, A., Debrecey, R., Gray, G.L. & Rahman, A., (1999), "Business Reporting on the Internet", *International Accounting Standards Committee*.
11. McDonald, R. & Lont, D., (2001), "Financial Reporting on the Web- A 2001 Review", *Chartered Accountants Journal*, September, pp. 65-8.
12. Petravick, S. & Gillet, J., (1996), "Financial reporting on the World Wide Web", *Management Accounting*, July, pp. 26-30.
13. Pirchegger, B. & Wagenhofer, A., (1999), "Financial information on the Internet: a survey of the homepages of Austrian companies", *The European Accounting Review*, 8(2), pp. 383-95.
14. www.fawpir.com/sample/thai.htm#tb%20sources.
15. www.nanzan-u.ac.jp/~sinouye/thaidata/thaiecon.html
16. www.set.or.th

Appendix 1

IFR Disclosure Instrument for Top 40 Thai Companies

Index Items	Explanation	Score	Multiplier	Max	
1. Content					
1.1 Component of Financial Information					
a) Statement of Financial Position					
Pdf.	1=Yes, 0=No	1	1	1	
HTML	1=Yes, 0=No	1	2	2	
b) Statement of Financial Performance					
Pdf.	1=Yes, 0=No	1	1	1	
HTML	1=Yes, 0=No	1	2	2	
c) Statement of Cash Flows					
Pdf.	1=Yes, 0=No	1	1	1	
HTML	1=Yes, 0=No	1	2	2	
d) Statement of Movement in Equity					
Pdf.	1=Yes, 0=No	1	1	1	
HTML	1=Yes, 0=No	1	2	2	
e) Notes to the Financial Statement					
Pdf.	1=Yes, 0=No	1	1	1	
HTML	1=Yes, 0=No	1	2	2	
f) Disclosure of Quarterly Results					
Pdf.	1=Yes, 0=No	1	1	1	
HTML	1=Yes, 0=No	1	2	2	
g) Financial Highlight/Year-in-Review					
Pdf.	1=Yes, 0=No	1	1	1	
HTML	1=Yes, 0=No	1	2	2	
Growth rate, ratios, charts	1=Yes, 0=No	1	2	2	
h) Chairman's Report					
Pdf.	1=Yes, 0=No	1	1	1	
HTML	1=Yes, 0=No	1	2	2	
j) Auditors' Report					
Pdf.	1=Yes, 0=No	1	1	1	
HTML	1=Yes, 0=No	1	2	2	
k) Shareholder Information					
Pdf.	1=Yes, 0=No	1	1	1	
HTML	1=Yes, 0=No	1	2	2	
l) Corporate Information					

Appendix 1 (continuous)

Pdf.	1=Yes, 0=No	1	1	1	
HTML	1=Yes, 0=No	1	2	2	
m) Social Responsibility					
Pdf.	1=Yes, 0=No	1	1	1	
HTML	1=Yes, 0=No	1	2	2	
1.2 Number of Years/ Quarters Shown					
a) Annual Report	No. of years	1	0.5	2	
b) Quarterly Report	No. of quarters	1	0.5	2	
1.3 Past Information (HTML only)					
a) Share Price History	1=Yes, 0=No	1	1	1	
b) Dividend History	1=Yes, 0=No	1	1	1	
c) Graph of Share Price History	1=Yes, 0=No	1	2	2	
1.4 Language					
a) English	1=Yes, 0=No	1	2	2	
b) Other than English or Thai	1=Yes, 0=No	1	1	1	
1.5 Address (HTML only)					
a) Company's Address	1=Yes, 0=No	1	1	1	
Total				50	
Assessment Percentage				40%	
<u>2. Timeliness (HTML only)</u>					
2.1) Press Releases					
existence	1=Yes, 0=No	1	2	2	
number of days since last updated news	See note 1	1	1	3	Note 1 : Press Release
2.2) Unaudited Latest Quarterly Result					3 = updated on the date of investigation
existence	1=Yes, 0=No	1	2	2	2 = 1 week or less be- fore the date of investiga- tion
with proper disclaimer	1=Yes, 0=No	1	1	1	1 = 2 weeks or less before the date of investi- gation
2.3) Stock Quote					0 = news is updated more than 2 weeks ago
existence	1=Yes, 0=No	1	2	2	
updated in how many hours	See note 2	1	1	3	Note 2 : Stock Quote
2.4) Vision State- ment/Forward Looking Statement					3 = updated every hour or less
Existence	1=Yes, 0=No	1	2	2	2 = updated every day or less
Proper disclaimer	1=Yes, 0=No	1	1	1	1 = updated every week or less

Appendix 1 (continuous)

Charts of future profit forecasts/trends	1=Yes, 0=No	1	1	1	0 = updated more than a week ago
Total				17	
Assessment Percentage				20%	
<u>3. Technology</u>					
3.1) Download Plug-in on Spot	1=Yes, 0=No	1	2	2	
3.2) Online Feedback	1=Yes, 0=No	1	2	2	
3.3) Use of Presentation Slides	1=Yes, 0=No	1	2	2	
3.4) Use of Multimedia Technology	1=Yes, 0=No	1	3	3	
3.5) Analysis Tools	1=Yes, 0=No	1	4	4	
3.6) Advance Features (XBRL)	1=Yes, 0=No	1	5	5	
Total				18	
Assessment Percentage				20%	
<u>4. User Support</u>					
4.1) Help and Frequently Asked Questions	1=Yes, 0=No	1	2	2	
4.2) Link to Home Page	1=Yes, 0=No	1	1	1	
4.3) Link to Top	1=Yes, 0=No	1	1	1	
4.4) Site Map	1=Yes, 0=No	1	2	2	
4.5) Site Search	1=Yes, 0=No	1	2	2	Note 3: Number of Clicks to get to Financial Info
4.6) Number of Clicks to get to Financial Info	See note 3	1	1	3	3 = 1 clicks
4.7) Consistency of Web Page Design	0=poor,1=fair,2=good	1	2	4	2 = 2 clicks
Total				15	1 = 3 clicks
Assessment Percentage				20%	0 = more than 3 clicks
Total Percentage				100%	

Appendix 2

Website Disclosure by 37 Thai Listed Companies' in Four Index Categories

Index Item	No. of Companies
<u>1. Content</u>	
1.1 Component of Financial Information	
Financial Statements	
Pdf.	30
HTML	2
Notes to the Financial Statement	
Pdf.	29
HTML	2
Disclosure of Quarterly Results	
Pdf.	24
HTML	5
Financial Highlight/ Year-in-Review	
Pdf.	18
HTML	28
Growth rate, ratios etc	29
Chairman's Report	
Pdf.	20
HTML	10
Auditors' Report	
Pdf.	27
HTML	4
Shareholder Information	
Pdf.	13
HTML	17
Corporate Information	
Pdf.	18
HTML	35
Social Responsibility	
Pdf.	11
HTML	19
1.2 Number of Years/ Quarters Shown (average)	
a) Annual Report	2
b) Quarterly Report	6
1.3 Past Information (HTML only)	

Appendix 2 (continuous)

a) Share Price History	13
b) Dividend History	4
c) Graph of Share Price History	10
1.4 Language	
a) English	34
b) Other than English or Thai	0
1.5 Address (HTML only)	
a) Company's Address	36
<u>2. Timeliness (HTML only)</u>	
2.1) Press Releases	33
2.2) Unaudited Latest Quarterly Result	0
2.3) Stock Quote	23
2.4) Vision Statement/Forward Looking Statement	3
<u>3. Technology</u>	
3.1) Download Plug-in on Spot	31
3.2) Online Feedback	28
3.3) Use of Presentation Slides	7
3.4) Use of Multimedia Technology	3
3.5) Analysis Tools	0
3.6) Advance Features (XBRL)	0
<u>4. User Support</u>	
4.1) Help and Frequently Asked Questioned	19
4.2) Link to Home Page	32
4.3) Link to Top	7
4.4) Site Map	20
4.5) Site Search	16

Appendix 3

Website Disclosure Index Scores

Company Name	Scores
Electricity Generating Public Company Limited (EGCOMP)	64
Shinawatra Satellite Public Company Limited (SATTLE)	58
Shinawatra Computer and Communication PCL. (SHIN)	57
Thai Airways International Public Company Limited (THAI)	55
Telecom Asia Corporation Public Company Limited (TA)	55
Bank of Asian Public Company Limited (BOA)	52
PTT Exploration and Production Public Company Limited (PTTEP)	51
Bangkok Bank Public Company Limited (BBL)	51
Thai Farmers Bank Public Company Limited (TFB)	49
United Communication Industry Public Company Limited (UCOM)	49
United Broadcasting Corporation Public Company Limited (UBC)	49
Advance Info Service Company Limited (ADVANCE)	48
The Siam Commercial Bank Public Company Limited (SCB)	47
The Siam Cement Public Company Limited (SCC)	46
DBS Thai Danu Bank Public Company Limited (DTDB)	45
Bank of Ayudhya Public Company Limited (BAY)	42
The Industrial Finance Corporation of Thailand (IFCT)	42
Hana Microelectronics Public Company Limited (HANA)	41
Thai Telephone and Telecommunication PCL. (TT&T)	41
Krung Thai Bank Public Company Limited (KTB)	40
Siam City Cement public Company Limited (SCCC)	40
Thai Petrochemical Industry Public Company Limited (TPI)	40
Quality Houses Public Company Limited (QH)	40
Gold Land Property Development Public Company Limited (GOLD)	39
Land and House Public Company Limited (LH)	38
BigC Supercenter Public Company Limited (BIGC)	37
Thai Military Bank Public Company Limited (TMB)	37
National Petrochemical Public Company Limited (NPC)	37
Charoen Pokphand Freed Mill Public Company Limited (CPF)	36
Delta Electronics (Thailand) Public Company Limited (DELTA)	34
Bangkok Expressway Public Company Limited (BECL)	34
Thai Union Frozen Products Public Company Limited (TUF)	33
Thai Petrochemical Industry Public Company Limited (TPIPL)	30
KGI Securities One Public Company Limited (KGI)	26
National Finance Public Company Limited (NFS)	23
Kiatnakin Finance and Securities Public Company Limited (KK)	23
Thanachat Bank Public Company Limited (NBANK)	18

Appendix 4

Website Disclosure scores according to index categories

Company	Content	Timeliness	Technology	User Support	Total (%)
EGCOMP	25	14	7	18	64
SATTLE	30	6	6	16	58
SHIN	25	12	4	16	57
THAI	27	8	4	16	55
TA	23	9	8	15	55
BOA	22	7	4	19	52
BBL	23	9	4	15	51
PTTEP	21	8	4	17	50
TFB	24	8	4	13	49
UCOM	18	11	4	16	49
UBC	20	9	2	18	49
ADV	18	12	4	14	48
SCB	22	6	4	15	47
SCC	19	6	8	13	46
DTDB	23	2	2	18	45
BAY	18	4	4	16	42
IFCT	17	5	2	18	42
HANA	21	6	7	7	41
TT&T	14	9	4	14	41
KTB	18	6	4	12	40
SCCB	15	9	4	12	40
TPI	10	12	2	16	40
QH	16	9	4	11	40
GOLD	16	8	7	8	39
LH	16	9	4	9	38
BIGC	18	2	4	13	37
TMB	18	5	2	12	37
NPC	21	4	4	8	37
CPF	17	2	4	13	36
DELTA	19	2	7	6	34
BECL	15	2	2	15	34
TUF	10	14	2	7	33
TPIPL	10	6	0	14	30
KGI	6	12	2	6	26
NFS	10	2	2	9	23
KK	2	11	4	6	23
NBANK	3	0	4	11	18
Average (%)	17.57	7.19	4.00	13.03	41.78
Std Deviation	6.28	3.70	1.86	3.86	10.33
Maximum score	40	20	20	20	100