

Transparency, Culture, and Internet Communication Techniques: A multi-country study of Internet business reporting in the Asia-Pacific

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Abstract

This paper investigates the influence that governance transparency has on the choice of Internet-based Business reporting methods in three countries within the Asia-Pacific: Australia, Singapore and Malaysia. Issues related to national culture and Internet pervasiveness are also considered. Based on a sample of thirty companies in each of the three countries, support is found for governance transparency, rather than national culture or Internet pervasiveness as the explanation of the adoption of particular Internet communication techniques by companies.

Keywords:

Internet Pervasiveness; Transparency; Internet business reporting; Australia; Singapore; Malaysia; Dynamic communication techniques

INTRODUCTION

The communication of business information on the Internet has been a major focus of academic and professional research in recent years (e.g. Lymer 1999, Lymer et al. 1999, Debreceeny et al. 1999, 2002, FASB 2000, Ettredge et al. 2001). With the increasing globalisation of business and the advance of information technology, there has been an increasing use of web sites by listed and multinational companies to convey information to external parties. An advantage of using the Internet over traditional print form is that it provides a flexible and interactive mode of communicating information at a reduced cost (Lymer 1999, Lymer et al. 1999, FASB 2000, Ettredge et al. 2001, Debreceeny et al. 2002). Major issues identified are the extent to which companies will take advantage of this growing technology for communicating their business information, and what drives the adoption of Internet techniques.

Debreceeny et al. (2002) tested the effect of two environmental variables, the level of Internet pervasiveness and the national disclosure environment on Internet reporting practice during 1998 and 1999. They found that only the national disclosure environment had a significant effect on the presentation of business information on the web. This paper extends their findings by examining the influence of national transparency levels on the adoption of particular Internet communication techniques in three Asia-Pacific countries: Australia, Singapore and Malaysia. Previous research examining Internet communication issues in the Asia-Pacific region are limited (eg. Williams and Pei 1999). This paper aims to fill the gap in the literature.

In this paper we explore the extent to which dynamic techniques have been used to communicate business information to interested parties through the web sites of selected companies in Australia, Singapore and Malaysia. Debreceeny et al. (2002) classified presentation format into “dynamic” and “static”. They defined “dynamic presentation” as “techniques that cannot be used in the paper paradigm, including forms such as hyperlinked tours, sound, video, database interaction etc”. “Static presentation” referred to those techniques which were “equivalent to paper, including text and static graphics” (Debreceeny et al. 2002, pp.375). We examine whether national transparency levels influence the adoption of particular dynamic business communication techniques in these countries.

The remainder of the paper is organized as follows. Previous research on communication of business information on the web is reviewed in the next section. We then explain how transparency levels may affect the adoption of dynamic communication techniques in different countries, leading to the development of the research proposition. This is followed by a discussion of the research methods and the results of analysis. Finally, the conclusion summarises the findings.

PRIOR RESEARCH ON COMMUNICATION OF BUSINESS INFORMATION ON THE WEB

Previous studies have focused on the types, forms and quantities of information presented on company web sites (Lymer et al. 1999, Williams and Pei 1999, FASB 2000, Ettredge 2001, Debreceeny and Gray 2001, Li et al. 2001, Shepherd et al. 2001, Debreceeny et al. 2002). Others examined the possible driving forces for presenting business information on the web (Debreceeny et al. 1999, Lymer 1999). These studies raised concerns with various issues including the accessibility, timeliness and reliability of information. This paper focuses on the use of particular dynamic techniques to enhance the accessibility of information.

A study in the United States (FASB 2000) found that companies generally provided business information relating to the company financial reports, SEC (Security and Exchange Commission) filings, stock quotes, press releases, information request forms and other shareholder information (FASB 2000 p.11). In presenting business information, the notable formats used include linked table of contents, hyperlinks to other documents, and multiple file formats. Other tools such as audio, video and email alerts were also used to enhance the level of communication (FASB 2000 pp.12-13). The study highlighted the current stage of Internet usage by companies in the United States.

In addition to these presentation formats, search options, two way communication, hyperlinks to external sources of information and webcasting (audio/video recordings accessible via the Internet) the AGM were also considered useful to improve business information (Beattie and Pratt 2001, Debreceeny and Gray 2001, Shepherd et al. 2001). While research on the use of these communication techniques by companies has mainly been conducted in the US, UK and European context, this paper examines whether these techniques are also employed by companies in Australia, Singapore and Malaysia.

Previous research (Lymer 1999, Debreceeny et al. 2002) found the level of Internet usage varied across countries. Lymer et al. (1999) surveyed 22 countries and found that 86 percent of companies had a web site but only 62 percent provided business information on the site. Of those providing business information on the web, 80 percent used HTML format. More recently, Debreceeny et al. (2002) used a similar sample in 22 countries for the period from November 1998 to February 1999, and found that 14 percent of the sample did not have web sites. They also found that companies in Australia used more of the dynamic presentation form than those in Singapore, while Malaysia companies had the least use of such format. They attributed the differences to the level of national disclosure environment. They also suggested that a country's disclosure environment depended on its culture and level of outside equity financing.

INFLUENCE OF NATIONAL TRANSPARENCY LEVEL

International comparative literature often attributes differences in management behaviour, in relation to international business decisions, to culture (e.g. Bruton, Ahlstrom and Wan 2001, Gray 1998) and business environment transparency (e.g. Core, Holthausen and Larcker 1999, Fisher et al. 2002, Rubach and Seborá 1998). Debreceeny et al. (2002) examined the influence of national disclosure environment and Internet pervasiveness on company reporting on the Internet. They used Gray's (1988) model of applying cultural dimensions in accounting to explain the differences in disclosure environment. In examining the possible driving forces for the use of Internet communication techniques by companies in different countries, this paper focuses on the influence of national transparency level, given that Fisher et al.'s (2002) study in comparing culture-based or transparency-based explanations of management decision making in Singapore and Australia found that transparency was the dominant explanation of behaviour. In addition, Internet pervasiveness was not found to be a significant factor in Debreceeny et al.'s (2002) study.

Internet pervasiveness is a function of the hosts per capita, and the number of users (Arabshahi 1999) or the number of subscribers (Wolcott 1999, Arabshahi 1999). Exact subscriber/user and host figures are not obtainable due to the majority of ISPs (Internet Service Providers) not disclosing their exact subscriber numbers and that Internet cafes/kiosks allow many users to share a single subscription. There is also an ambiguity as to how many users are using the Internet in each household and workplace. The pervasiveness of technology in Australia, Singapore and Malaysia has resulted in large increases of the number of inhabitants within each country who have Internet access. There have also been corresponding increases in the number of hosts connected to the Internet and the number of PCs within each country. Based on the definition of Internet pervasiveness found in the study by Arabshahi's (1999) and the "Users per 10,000 inhabitants" found in ITU (2003a), the levels of Internet usage in Australia (4,272.03), Singapore (5,396.64) and Malaysia (2,731.09) were at a similar level of pervasiveness as they exceeded the minimum requirements for such a classification (where the figures within the brackets, that represent the number of users per 10,000 inhabitants, exceed 1,000). Teo (2003) found that 95.6 percent of the respondent companies in Singapore have adopted the Internet in their organizations and that the findings show there is an increasing recognition of the importance of assimilating

Internet technology into business operations. This suggests that Internet pervasiveness provides a stimulating environment for technological development in these countries, but does not appear to be a differentiating factor for explaining any differences in the level of adoption of Internet techniques (such as webcasting) among these countries.

There has been an increasing emphasis placed on the role of governance transparency in emerging markets. This is highlighted in Doyle and McShane's (2003) discussion of the GSM (Global System for Mobile Communications) telecommunication licence auction process in Nigeria, while Uddin and Hopper (2003) drew links between privatised company performance, transparency and disclosure in Bangladesh. Shu-Hsien et al. (2003) noted that at the firm level, the use of e-commerce systems can increase transparency of business procurement processes in a national environment where the potential for corruption may be evident.

There is also a growing body of literature that discusses relative differences in transparency at country level, and the influence these differences may have on firm behaviour in emerging markets. Schenk (2002) describes the high level of transparency evident in Hong Kong as a source of competitive advantage in attracting investment, and in the provision of banking services within the region. Fisher et al. (2003) found support for a transparency-based, rather than a culture-based explanation of decisions that effected Singaporean and Australian companies at the most senior level of management. In a study of six emerging markets, Patel et al. (2002) linked country transparency indexes to the level of disclosure by firms, including the information provided to small shareholders. Ang and Ma (1999) also identified the relationship between the level of voluntary disclosure of financial information and the transparency of the Asian market in which the firm was listed, and the stock price of Chinese companies. Research in this area consistently identifies the relationship between higher levels of transparency, and the level of responsiveness to stakeholders in business, government or society.

Consistent with Fisher et al. (2002), the measure of transparency used in this research is the composite measure developed by Kaufman, Kraay and Zodial-Lobaton (1999, 2002). This comparative governance transparency measure includes six governance indicator clusters: Voice and Accountability, Political Stability, Government Effectiveness, Regulatory Quality, Rule of Law and Control of Corruption. By this measure, Australia and Singapore both are high transparency cultures, with Australia being slightly higher overall. By comparison, Malaysia is a relatively low transparency country.

We expect that companies from countries with higher levels of transparency will adopt more dynamic techniques to communicate information on their corporate websites, than countries with lower levels of transparency. The selection of Australia, Singapore and Malaysia also allows us to isolate the issue of culture. Fletcher and Bohn's (1998) adaptation of Kogut and Singh's (1988) measure of psychic (cultural) distance (from Australia) indicated that Malaysia (Distance score 23.6) and Singapore (Distance score 19.3) had cultures that were similar to each other but distant from Australia (Distance Score 1). Thus, if Singapore and Malaysia have dissimilar levels of adoption, a factor other than culture must also be contributing.

RESEARCH PROPOSITIONS

The ranking of transparency levels among the three countries enables us to investigate this factor as an explanation of business information communication on the Internet (See Figure 1). This leads to the following proposition:

Based on the different transparency levels, the extent of the adoption of dynamic techniques in communicating information on company web-sites will vary, with Australian and Singaporean companies having a greater extent of adoption than Malaysian companies.

Figure 1: Proposed relationship of Adoption to Level of Transparency of countries studied



RESEARCH METHOD

Sample

As part of a larger research project, information was collected on the types of communication techniques found on company websites. The sample includes the top 30 listed companies with web sites in each of Australia, Singapore and Malaysia. Using the Osiris database, companies were ranked by market capitalization, which is a common measure adopted by previous literature (e.g. Debreceeny et al. 2002). The top 30 companies were checked for the existence of company web sites and companies without web sites were replaced by the next ranked company. Data from companies in each country were collected by researchers with background knowledge of these countries and linguistic ability in the country's official language. Data from a total of 90 companies in February 2003 was collected.

Measures

We used previous research (Lymer et al. 1999, FASB 2000, Beattie and Pratt 2001, Ettredge et al. 2001, Debreceeny and Gray 2001, Shepherd et al. 2001, Debreceeny et al. 2002) to identify the common dynamic techniques for communicating information on the web. In this study, four types of dynamic techniques considered useful to enhance the level of communication are examined. These are: webcasting the AGM, email alert, hyperlink to external sources of information and search option. The adoption of each of these techniques by companies is coded as "0" (not found on the company web site) or "1" (available on the company web site). Crosstab analysis was used to examine any significant differences in the adoption of each of these techniques among Australia, Singapore and Malaysia.

RESULTS

The results are consistent with the proposition that national transparency level has an effect on the use of dynamic form by companies to enhance the accessibility of information by users. There are significant differences among the three countries in use of webcasting of AGM, email alert, hyperlink to other external sources of information and search option on home page. However, no significant difference was found in the use of search options on other web pages. The results are shown in Tables 1 to 5.

With respect to webcast AGM, 60 percent of the sample companies in Australia adopted this technology, while none of the sample companies in Singapore and Malaysia used this technology to allow existing or potential shareholders access to the AGM process (see Table 1). Although Singapore was not ranked higher than Malaysia as expected, the results for this item can be considered to be supporting our expectation that countries with a higher transparency level (Australia) have greater use of this dynamic technology than lower transparency countries (Malaysia) to enhance communication. However, the factors that cause the lack of adoption of this technique in Singapore will require further investigation.

Table 1: Webcast of the AGM statistics

Crosstab Analysis		Webcast AGM		Total
		No (0)	Yes (1)	
COUNTRY	Australia	12	18	30
	Singapore	30	0	30
	Malaysia	30	0	30
	Total	72	18	90
	Pearson Chi-Square	45.00		
	df	2		
	Asymp. Sig. (2-sided)	0.00		

In regard to the use of email alert (see Table 2 for results), both Australian companies (53 percent) and Singaporean companies (60 percent) showed greater use of this technology than Malaysian companies (10 percent). This is consistent with our expectation that countries with higher transparency level are more willing to supply information to users in a proactive way.

Table 2: Email Alert statistics

Crosstab Analysis		Email Alert		Total
		No (0)	Yes (1)	
COUNTRY	Australia	14	16	30
	Singapore	12	18	30
	Malaysia	27	3	30
	Total	53	37	90
Pearson Chi-Square		18.266		
df		2		
Asymp. Sig. (2-sided)		0.00		

The inclusion of a hyperlink to an external source of information is considered useful as a means of enhancing communication (FASB 2000, Debrecey and Gray 2001, Beattie and Pratt 2001). The results indicated 87 percent of the sample Australian companies and 63 percent of the sample Singaporean companies provided hyperlinks to other areas of information. Only 33 percent of the sample Malaysian companies provided this facility (see Table 3). The results are consistent with the view that national transparency level has an effect on the adoption of this dynamic form of communication.

Table 3: Hyperlink to other external sources of information statistics

Crosstab Analysis		Hyperlink to other external sources of information		Total
		No (0)	Yes (1)	
COUNTRY	Australia	4	26	30
	Singapore	11	19	30
	Malaysia	20	10	30
	Total	35	55	90
Pearson Chi-Square		18.047		
df		2		
Asymp. Sig. (2-sided)		0.00		

The inclusion of a search option is another means to facilitate accessibility of information (Beattie and Pratt 2001, Debrecey and Gray 2001, Shepherd et al. 2001). A high proportion of Australian companies (80 percent) provided a search option on the home page. However, Singaporean and Malaysian companies provided a similar low level of this facility (47 percent and 50 percent for Singaporean and Malaysian companies respectively). On the other hand, no significant difference was found among the three countries relating to the search option provided on other pages (see Tables 4 and 5). Hence, this only partially supports our expectation that countries with a higher level of transparency will provide a search option to enhance accessibility and communication.

Table 4: Search option on home page statistics

Crosstab Analysis		Search option on home page		Total
		No (0)	Yes (1)	
COUNTRY	Australia	6	24	30
	Singapore	16	14	30
	Malaysia	15	15	30
	Total	37	53	90

Pearson Chi-Square Value 8.353
df 2
Asymp. Sig. (2-sided) 0.015

Table 5: Search option on other pages statistics

Crosstab Analysis		Search option on other pages		Total
		No (0)	Yes (1)	
COUNTRY	Australia	11	19	30
	Singapore	16	14	30
	Malaysia	13	17	30
	Total	40	50	90

Pearson Chi-Square Value 1.710
df 2
Asymp. Sig. (2-sided) 0.425

Overall, Australia has the largest proportion of the sample entities using webcasting of AGM, hyperlink to other external sources of information and search options, while Singapore has a slightly higher proportion of the sample entities than Australia using email alert. Comparatively, there was a low level of adoption of dynamic technology by Malaysian companies.

DISCUSSION

Compared to Debreceeny et al.'s (2002) study which found a country's disclosure environment had an effect on the use of presentation techniques by companies, the results of this study suggest the national transparency level can be one of the influencing factors affecting the adoption of the dynamic form of communication. The results can be considered to be consistent with Debreceeny et al.'s (2002) study in that transparency level is closely related to a country's disclosure environment. The results are also consistent with Fisher et al.'s (2002) finding that transparency is an explanatory factor for management decision making. The use of dynamic techniques has been considered to be a useful means of business communication (Beattie and Pratt 2001, Shepherd et al. 2001). Our results highlight that countries with higher level of transparency are likely to utilize such techniques to meet the demand of users.

Our study provides further insight into the types of techniques used by the three countries. Australian companies had greater use of external information hyperlinks, search options and webcasting AGMs. Singaporean companies appeared to have greater preference for the use of email alert and hyperlink than webcasting AGM, while Malaysian companies were still behind Australian and Singaporean companies in the adoption of these techniques. While transparency is an explanatory factor, what motivates companies to adopt particular techniques requires further investigation.

A possible motivating factor affecting the adoption of webcasting is the bandwidth of the communication medium used for Internet access. For webcasting, audio and video streaming technology is used to transmit live, delayed or archived video and/or audio content across the Internet (Reynolds & Mason 2002). One of the much touted abilities of broadband is the ability to exchange much richer content and have improved communication abilities (ITU 2003b). ITU (International Telecommunication Union) statistics recorded for the Year 2002 that there were approximately 122,800 Australian, 230,357 Singaporean and 4,000 Malaysian broadband subscribers (ITU 2003a). Respectively, the number of broadband subscribers per 100 inhabitants is approximately 0.6, 5.5 and 0.0 (rounded down). Singapore is also listed in the Top 15 economies by 2002 broadband penetration (#14 with that value of 5.5) whereas Australia and Malaysia are not (ITU 2002).

Our results found Australia had a significantly higher proportion of companies adopting the webcasting technique than Singapore and Malaysia. This is consistent with Debreceeny et al.'s (2002) finding that technology pervasiveness was not an influencing factor. As all Australian sites have narrowband web-casting, with some also having broadband versions, none of the Singapore companies have broadband or narrowband webcasting on their websites. Given the higher adoption of broadband Internet access, limited communication technology based reasons would not explain this difference. As such, other factors may be relevant.

Singapore has high government ownership of companies (Fisher, Lee and Johns 2002) and is a physically small city state with pervasive electronic media coverage through an extensive cable television network. These three facts may mitigate against the need for webcasts of AGMs. However further research is needed to establish the validity of this proposition.

A study by Cheung and Huang (2002) found that most Singaporean countries preferred to display product/service/company information rather than content such as search facilities on their homepage. Our findings are congruent with these as Singapore had significantly less homepage search options than Australia but not a significant difference with search options on subsequent pages. Cheung and Huang (2002) proposed that findings such as this may help company website designers to improve website design. Such improvements would aid in the usability of the website for reporting business information by providing a means to locate such information.

CONCLUSION

The purpose of this study was to examine the extent to which companies in Australia, Singapore and Malaysia adopted the dynamic form of communicating business information and whether national transparency level affected such adoption in these three countries. The paper tested four types of dynamic techniques considered useful to enhance the accessibility of business information: webcasting AGM, email alert, hyperlink to external sources of information and search option. The results support the proposition that national transparency level is associated with the use of these techniques. The sample Australian companies had a greater adoption of webcasting AGM and search options than Singaporean and Malaysian companies. The Australian and Singaporean companies also had greater adoption of email alert and hyperlink than Malaysian companies. As

Fisher, Lee, Richardson (Paper #181)

the use of such techniques is considered useful to enhance business communication, the results of this study imply that a transparent business environment is an important condition to encourage greater use of these dynamic techniques.

The results have implications for countries which attempt to improve business communication at a global level. Debreceeny et al. (2002 pp.392) suggested that “if policy makers encourage firms to adopt better disclosure technologies it should make markets more transparent”. As Australia, Singapore and Malaysia have similar levels of Internet pervasiveness which provides the necessary incentive for technological development, improving the transparency of the business environment would be likely to encourage a greater adoption of dynamic techniques in communicating business information to existing and potential users. One particular technique is webcasting, which Singaporean and Malaysian companies appear to be reluctant to adopt.

Some limitations of the study should be highlighted. Given the scope of the paper, we only focused on testing one explanatory variable, the national transparency level. It is possible that other factors also influence the adoption of Internet technology by companies if a different framework is adopted for analysis. Further, our data is limited to three countries and a few Internet communication techniques, so generalization of the results to other countries should be considered carefully.

Further research could be conducted to identify other motivating factors affecting the use of the Internet in communicating business information at both national and international level, as well as on what drives the use of particular techniques. This study only focuses on four techniques and the accessibility issue. Future research should examine other possible Internet communication techniques and other emerging issues such as timeliness and reliability of information communication which in turn affect the types of techniques to be adopted. Qualitative studies by means of interviews would also be useful to investigate what motivates managers to deploy particular Internet communication techniques.

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