THE EFFECT OF FIRM PERFORMANCE ON VOLUNTARY DISCLOSURE IN ANNUAL REPORTS: A CASE STUDY OF TECHNOLOGY INDUSTRY IN THE STOCK EXCHANGE OF THAILAND

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Abstract

Information disclosure has played an important role in solving information asymmetry problem among administrative team as insider and stakeholder as outsider. Studies concerning on voluntary information disclosure have mostly emphasized on factors determining voluntary information disclosure. Unlike others, this study intends to apply signaling theory in explaining firms signaling strategy through voluntary information disclosure as positive signal for its better performance. According to this hypothesis, high performance firms are more likely to voluntary disclose additional information to public in order to gain advantage from this positive signal. The study employs Random-effects Tobit Models of the listed companies in technology industry during 2009 to 2013 by using return on asset (ROA) and Tobin's Q as measurement index of performance. The result of the overall information disclosure shows significant effects of firm performance on voluntary disclosure. However, disaggregate analyses by classifying data into strategy information, non-financial information, and financial information, indicate that voluntary disclosure of strategy information and non-financial information are influenced by firm performance while disclosure of financial information is not.

Keywords: Firm Performance, Voluntary Disclosure, Information Asymmetry

Introduction

Voluntary disclosure is additional information presented as regards mandatory disclosure. Management level provides such information additionally to stakeholders through different forms, which is desired to interest information users and that with the lowest cost. Furthermore, as disclosure of information to market can bring advantages to companies over competitors, management level decides to disclose more qualitative information. It is possible that there is further information to disclose; and that is helpful for stakeholders' decisions. Moreover, voluntary disclosure is used to ease information asymmetries, agency problems and financing costs, including signaling to stakeholders. Participants currently require more

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information other than financial statements and financial figures only. Non-financial information and strategic information may be included. Prior voluntary disclosure research is varied. An example is the study of the relationship between factors, firm characteristics, corporate governance or ownership structure, and the effect of voluntary disclosure. In this research, the effect of firm performance is studied, in that a company with good firm performance will influence more voluntary disclosure as stakeholder signaling that may gain further advantages.

However, this study does not evaluate disclosure, disprove or consider if it is fraudulent disclosure. This study focuses only on voluntary disclosure in annual reports. It is because an annual report is considered as an important source of information. Both financial and non-financial information can help participants to analyze and compare, more easily and more rapidly (Botosan, 1997). Technology industry is used in this research as it is a noteworthy industrial group for investors in the Stock Exchange of Thailand. Recently, 3G network has been expanded which allows large companies in this group to gain benefits from being licensed; while small and medium sized companies, including related businesses, take advantages from supplying and providing equipment to support the expansion of such system. Also, this industrial group continuously has a high market value (NSTDA & TRIDI, 2011) enabling researchers to study firm performance and its effects on voluntary disclosure of this group.

Conceptual framework

1. Theoretical framework

Asymmetric information happens when buyers and sellers hold dissimilar information, in which one party having more information over the other which causes adverse selection (Akerlof, 1970). Such event can occur in both money market and capital market. A solution can be achieved by companies or individuals with more information signaling out to the other party (Signaling). Besides, there are several theories related to voluntary disclosure. For example, the agency theory by Jensen and Meckling (1976) explains the relationship between principals and agents. Problems can arise when the agent's operations and the principal's desires are in conflict that causes information asymmetries. These agency problems are critical issues that cause a gap between management and shareholders or stakeholders. Ownership concentration, for example, causes a low level of information disclosure because executives and major shareholders already have insider information, which means that information disclosure is not essential. Therefore, useful information is inaccessible to the rest of shareholders. Agency costs to solve such problems, such as costs of inspecting performance of management or monitoring costs, are brought up to avoid damages. Furthermore, corporate governance using independent director or audit committee, including management level with more voluntary disclosure to stakeholders, is a mechanism to reduce agency costs.

The stakeholder Theory by Freeman (1984) is a view that the business is required to meet the needs of each stakeholder group that is beneficial to the company. The company is able to provide further useful information by voluntary disclosure to stakeholders, in addition to requirements of regulatory authorities, which helps stakeholder to make economical decision. Other investors or stakeholders can reduce transaction cost of the quest for information to make decisions by providing more information, according to the Transaction Cost Theory by Williamson (1979). Additionally, a business with good performance voluntarily reports firm operation to get lower conditions of transaction with stakeholders. For example, customers are happy to invest to a creditable company. Creditors offer loan with low interest rates for such company.

2. Related researches and hypothesis

2.1 Independent variables

Firm performance

Good firm performance is considered as good news to be signaling out to stakeholders, which is useful in economic decision-making. Therefore, it is possible that good performance will influence voluntary disclosure to avoid information asymmetry, according to the signaling theory (Spence, 1973). Firm performance can be considered by both accounting and market-based performance measures. In this study, firm performance is measured from return on asset (ROA) as a proxy for accounting-based performance measure and Tobin's Q as a proxy for accounting market-based performance measure. Previous studies showed the positive relation between firm performance and voluntary disclosure (Chau & Gray, 2002; Murcia & Santos, 2010; Hossain & Hammami, 2009; Al-Akra & Ali, 2012; Chen, Tan, Cheng, & Gong, 2013). While some found no relation or negative relation. (Akhtaruddin, 2005; Barako, Dulacha, Hancock, Phil, & Izan, 2006; Camfferman & Cooke, 2002). However, hypotheses on firm performance and voluntary disclosure in this study follow;

H_1: Firm performance measuring from market-based performance (Tobin's Q) is positively associated with voluntary disclosure.

H_2: Firm performance measuring from accounting-based performance (ROA) is positively associated with voluntary disclosure.

2.2 Control variables

Firm size

Voluntary disclosure is significantly affected by firm size because a bigger company will have sufficient resources for more information disclosure. Cost of disclosure is therefore lower than a smaller company. Also a bigger company contains complications within information that may cause information asymmetry, which leads to more information disclosure. In addition, a bigger company discloses more due to it gains attention domestically and internationally. Whiles a smaller company with highly competitive environment discloses at a lower level because important information is kept from opponents to avoid disadvantages, which is consistent with the study of Hossain and Hammami (2009), Agca and Onder (2007), and Palawan (2005).

Age

The study of Palawan (2005) found a negative relation between firm age and disclosure level. She explains that a new company that newly becomes a public company has to disclose information qualitatively in order to attract the attention of investors to build a more stable capital. Whiles Hossain and Hammami (2009) found that a firm with more age is correlated with a higher level of disclosure.

Capital Structure

Most listed companies registered in a stock exchange send a signal to investors to reduce cost of capital (Frankel, McNichols, & Wilson, 1995). A company that its capital with high debt to equity ratio is necessary to disclose more information than that has the capital with a lower debt to equity ratio. This is because the company has to gain confidence to creditors or lenders through firm performance and ability to repay, according to the stakeholder theory (Freeman, 1984), which is consistent with the studies of Sengupta (1998) and Eng and Mak (2003).

Ownership concentration

Lakhal (2005) studied the relationship between ownership structures and voluntary disclosure by measuring the proportion of major shareholders in line with Agca and Onder (2007), MohdGhazali and Weetman (2006), Rouf and Al-Harun (2011) and Dulacha (2007). The studies suggest that ownership structures either both governmental, family or ownership concentration affects voluntary disclosure. However, this study focuses on ownership concentration. As such structure can lead major shareholders who own a sufficient number of shares to control financial report and disclosure policy of the company; in which they can either disclose information or cover up real situation of the company that gives benefits to them.

Institutional Ownership

Rouf and Al-Harun (2011) studied the relationship between ownership and voluntary disclosure of annual reports of listed companies in Bangladesh. Management ownership and institutional ownership were studied based on the agency theory. They claimed that a company with high management ownership exposes information voluntarily to shareholders less than a company with high institutional ownership. Similarly, Dulacha (2007) found that the relationship between proportion of institutional ownership and disclosure is positive measured by Association of Investment Management and Research (AIMR).

Auditor type

The agency theory suggests that external auditors ought to play a role in lowering conflicts between management and investors (Jensen & Meckling, 1976). A company with high agency cost frequently hires a big audit firm to achieve high audit quality. Besides, the signaling theory suggests that hiring a big audit firm shows notability of the company and the company is able to comply with statutory obligations. This resolves problems of adverse selection of management level, which is consistent with the study by Agca and Onder (2007).

Corporate governance

There are a number of researches that studied the mechanism by which a good corporate government may affect the level of voluntary disclosure (Hossain & Hammami, 2009; Haniffa & Cooke, 2002; Chau & Gray, 2010; Al-Shammari & Al-Sultan, 2010; Allegrini & Greco, 2013). There are several regulatory mechanisms. This study focuses on roles of responsibilities of board of committee that is the agent of shareholders to govern management, including a role in overseeing and counter balance of management (Srijunpetch, 2008).

2.3 Research framework

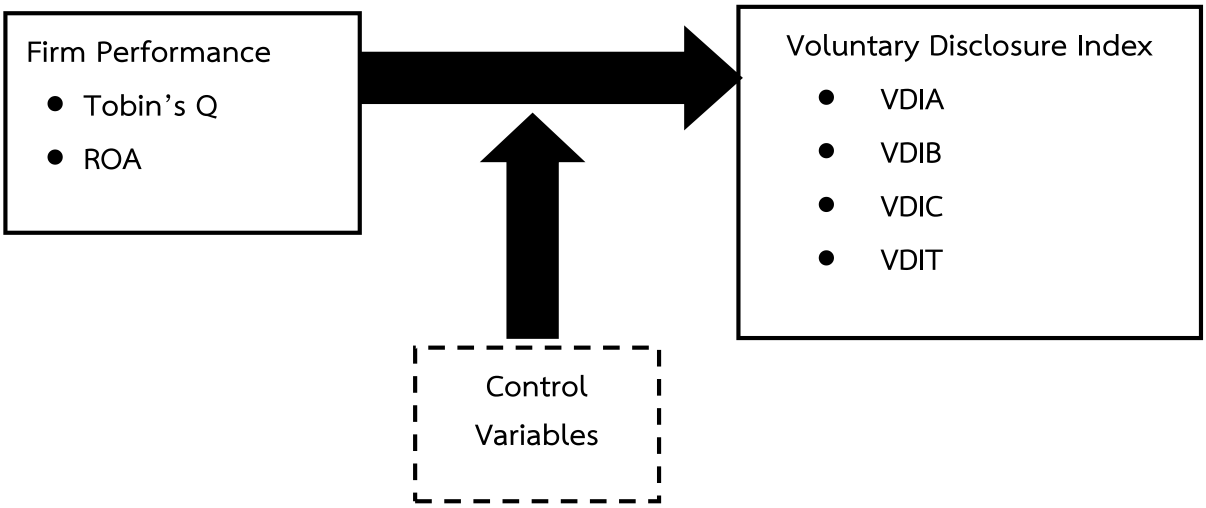

Figure 1: The conceptual framework

Research methodology

1. Data collection

Listed technology companies listed in the Stock Exchange of Thailand, including electronic component sector and IT and communication sector, were studied during 2009 - 2013 (5 years). 34 companies were studied and 155 observation of voluntary disclosure were collected from each annual report of each company. Data in this research were secondary data in the form of panel data. Therefore, data consists of cross-section data with time series data. However, collected data were unbalanced panel data as there are variations on the number of years. Voluntary disclosure was collected through checklist of voluntary disclosure index (VDI) from information in annual reports. Data on other variables was collected from SETSMART.

2. Voluntary disclosure index (VDI)

Voluntary disclosure was measured as an index (VDI) by rating each company through the checklist that is categorized into strategy information (VDIA), non-financial information (VDIB), financial information (VDIC) and total voluntary disclosure index (VDIT). This procedure has been developed by Chau and Gray (2010). The indication in procedure was developed from Meek, Robert and Gray (1995). Related procedures from other researchers of voluntary disclosure were included. This checklist has been examined by experts, licensed auditors who are proficient in auditing listed companies in the Stock Exchange of Thailand, to verify the list of voluntary disclosure. In this study, however, disclosure index was unweighted disclosure index to calculate ratings of voluntary disclosure of each company through checklists from annual reports. Each checklist was weight-balanced to avoid discretions. The rating is equal to 1 when a company had disclosure information on the checklist and the rating is equal 0 when a company had no disclosure. The ratings were N/A (Non - Applicable) for any items not related to firm operation, according to the study of Chau and Gray (2010). Ratings of disclosure were subsequently calculated as voluntary disclosure index by valuating actual rating each company given to total rating ratio, in which the index is in the range of 0 to 1.

Table1 Information categories regarding disclosure dimension

Information category	Information subcategory	No. of items considered
Strategic information (VDIA)	-General corporate information	2
	- Corporate strategy	5
	- Research and Development	5
	- Future and Projected information	10
Non-financial information (VDIB)	- Corporate Social disclosure/ Sustainability information	8
	- Employee Information	7
	- Other Non-financial measures	10
Financial information (VDIC)	- Segmental information	5
	- Financial review Information	9
	- Foreign currency Information	3
	- Stock price information	5
Total (VDIT)		69

Source*:* Adapted from Meek, Robert and Gray (1995)

3. Model and estimation procedure of the study

Tobit model was performed in this research. It is a censored regression model, proposed by James Tobin (1958) for the analysis of household expenditure on durable goods, where the distribution is censored distribution. Tobit model is applied from the probit model and linear regression model. Later, Goldberger (1964) termed it the Tobit model that is used to observe a relation using parameters when some parts of the dependent variable is censored. The data will be the boundaries of range that are unable to collect. In this case, voluntary disclosure is characterized as a censored distribution in which it is positive when a firm disclosed, while it is zero when a firm did not disclose. There is no negative value. Also some companies had a low level of disclosure, as cost of disclosure is not worthy. The surveyed disclosure of information survey has a value of zero. But in fact, the desired level of information disclosure is not equal to zero.

Thus, Tobit model (Goldberger, 1964) is suitable to apply in study of voluntary disclosure which is a censored distribution. Data used in this study is panel data, which may have random-effects. The employed models are, therefore, random-effects Tobit models are as follows:

$$Y_{it}^{*} = X_{it}\beta + u_i + \varepsilon_{it}$$

$$Y_{it} = \begin{cases} Y_{it}^{*} \ if \ Y_{it}^{*} > 0 \\ 0 \ \ if \ Y_{it}^{*} \le 0 \end{cases} \tag{1}$$

Where

Y_{it}^{*} = The predicted voluntary disclosure, which cannot be observed. Latent variables of the firm *i* at time *t* include;

Y_{it} = Variable metric of the firm *i* at time *t* include $\begin{bmatrix} y_{1it} & y_{2it} & y_{3it} & y_{4it} \end{bmatrix}'$

y_{1it} = Variable reflecting voluntary disclosure of strategy information (VDIA)

y_{2it} = Variable reflecting voluntary disclosure of non-financial information (VDIB)

y_{3it} = Variable reflecting voluntary disclosure of financial information (VDIC)

y_{4it} = Variable reflecting voluntary disclosure of total voluntary disclosure index (VDIT)

X_{it} = Independent variable metric and control variable metric that are explanatory variables of voluntary disclosure $\begin{bmatrix} x_{1it} & x_{2it} & \cdots & x_{8jit} \end{bmatrix}$ as follows:

x_{1it} = Variable reflecting firm performance measured from Tobin's Q (market-based performance measure), calculated by asset book value minus Shareholders' equity book value plus Shareholders' equity market value divided by asset book value and ROA (accounting-based performance measure: calculated from dividing net annual earnings by total assets)

x_{2it} = Variable reflecting firm size (SIZE) measured from logarithm of total assets

x_{3it} = Variable reflecting firm age (AGE) measured from the number of years studied Since established

x_{4it} = Variable reflecting ownership structure (OWNSTR) measured from the proportion the first five large block shareholders

x_{5it} = Variable reflecting auditor type (AUTYPE) measured by whether it is an Auditor from Big 4 (KPMG, Ernst & Young, Deloitte and PricewaterhouseCoopers) or not (using dummy = 1 if it is big 4, dummy and =0 if it is not big 4)

x_{6it} = Variable reflecting corporate governance (IDANON) measured from independent and non-executive director to total director ratio

x_{7it} = Variable reflecting institution investor (INST) measured from institution investor to total investors on the date of closing XM (Exclude Meetings) ratio

x_{8it} = Variable reflecting capital structure (CAPSTR) measured from debt with interest to equity ratio

u_i = Random-effects of the firm *i* at time *t*

ε_{it} = Disturbance term the firm *i* at time *t*

Research Findings

Table 2 Firm performance measured from ROA against voluntary disclosure

	VDIA	VDIB	VDIC	VDIT
ROA	0.0038	0.0058 ***	0.0008	0.0033 **
SIZE	0.0219	0.0439 **	0.0462 ***	0.0372 ***
AGE	-0.0061 ***	0.0016	-0.0043 ***	-0.0029 **
OWNSTR	-0.0012	0.0014	-0.0001	0.0001
AUTYPE	-0.0216	0.0798	-0.0517	0.0070
IDANON	0.0057 ***	0.0018 ***	0.0024 ****	0.0032 ***
INST	0.0001	0.0007	-0.0007	0.0001
CAPSTR	0.0853 **	0.0228	0.0085	0.0392
Constant	0.3335 *	-0.2742	0.0565	0.0193
sigma_u Constant	0.0891 ***	0.1050 ***	0.0425 ***	0.0633 ***
sigma_e Constant	0.1110 ***	0.0955 ***	0.0678 ***	0.0675 ***
N	155	155	155	155
N_g	34	34	34	34
ll	72.54	82.78	134.93	127.21
chi2	76.99 ***	45.66 ***	84.16 ***	90.77 ***

*p< 0.1, **p< 0.05, ***p< 0.01

Table 3 Firm performance measured from Tobin's Q against voluntary disclosure

	VDIA	VDIB	VDIC	VDIT
Tobin's Q	0.0232	0.0407 **	-0.0045	0.0228 *
SIZE	0.0233	0.0476 **	0.0461 ***	0.0387 ***
AGE	-0.0063 ***	0.0014	-0.0043 ***	-0.0031 **
OWNSTR	-0.0013	0.0012	0.0001	-0.0001
AUTYPE	-0.0146	0.0877	-0.0538	0.0116
IDANON	0.0058 ***	0.0019 ***	0.0024 ***	0.0033 ***
INST	-0.0001	0.0005	-0.0006	0.0001
CAPSTR	0.0852 **	0.0237	0.0093	0.0397
Constant	0.3380 *	-0.2860	0.0538	0.0176
sigma_u Constant	0.0921 ***	0.1110 ***	0.0435 ***	0.0652 ***
sigma_e Constant	0.1110 ***	0.0957 ***	0.0677 ***	0.0677 ***
N	155	155	155	155
N_g	34	34	34	34
ll	71.76	81.43	134.80	126.20
chi2	74.91 ***	40.46 ***	83.05 ***	86.19 ***

*p< 0.1, **p< 0.05, ***p< 0.01

Table 2 and Table 3 show how market-based firm performance measured from Tobin's Q and accounting-based firm performance measured from ROA had an effect on voluntary disclosure. The voluntary disclosure is subdivided into strategy information (VDIA), non-financial information (VDIB), financial information (VDIC) and total voluntary disclosure index (VDIT). It was statistically found that firm performance measured from Tobin's Q and ROA had a significantly positive relationship with total voluntary disclosure index (VDIT). However, when each group of information was individually considered, it was statistically found that both Tobin's Q and ROA had a significantly positive relationship with non-financial information (VDIB) group of voluntary disclosure. Only firm performance measured from ROA had a significantly positive relationship with strategy information (VDIA). Whiles both Tobin's Q and ROA was found no statistic correlation with financial information (VDIC).

Moreover, there were variables found to have a positive relationship with voluntary disclosure. The independent and non-executive director to total board member ratio, which is an indicative of corporate governance, was found positively correlated with all groups of information. Firm size had a positive relationship with non-financial information (VDIB), financial information (VDIC) and total voluntary disclosure index (VDIT), when only capital structure had a positive relationship with strategy information (VDIA). Meanwhile, there were variables found to have a negative relationship with voluntary disclosure. Firm age was found to have a negative relationship with strategy information (VDIA), financial information (VDIC) and total voluntary disclosure index (VDIT). However, there was no significant relationship found concerning ownership concentration, Big 4 auditor type and institutional investor with any information groups of voluntary disclosure.

Discussion

The findings in this study highlight that companies with great firm performance measured from Tobin's Q and ROA voluntarily disclosed more of all information groups for a good signaling to stakeholders, based on the signaling theory. This is to ease information asymmetries and agency problems, according to the agency theory. Also, the transaction cost theory mentioning that a profitable company will be willing to present a good performance to mitigate conditions in transactions with stakeholders, which is consistent with studies of Murcia and Santos (2010), Al-Akra and Ali (2012) and Chen et al. (2013). When each group of information was individually considered, a company with high accounting-based firm performance measured from ROA may disclose more on strategic direction, research and development, prediction and other non-financial information rather than financial information. This can be explained that accounting-based firm performance is financial so more information is not necessary, but non-financial information is. Whiles firm performance measured from Tobin's Q is market-based and firm value measures. When a company with high market-based firm performance, it may disclose more on non-financial information, such as information on social and sustainability development, employee data, growth in investment and customer satisfaction. It is to represent that the company increasingly gives priority to stakeholders. Presently, to increase firm value, a company does not focus only on maximum profitability alone, but other stakeholders such as communities, employees and customers are also significant. According to the stakeholder theory, consistent with studies of Robb and Zarzeski (2001) on non-financial disclosure in Anglo-America, it was found that institutional investors place importance on non-financial information to help decision making. Also Lajili and Zeghal (2005) found a positive relation with expenses on employees and firm market value. As investors view that expenses on employees are asset investments, and collect such data for decision-making on firm value evaluation.

The relation between independent and non-executive director with voluntary disclosure of all information groups was found positive. A reason for this is based on good corporate governance that it can influence disclosure voluntary, in conformity with the agency theory mentioning that benefits of shareholders are taken into consideration. This is consistent with studies of Aktaruddin et al. (2009) and Obeua (2009) showing that voluntary disclosure increases as the proportion of independent and non-executive director in board committee. Furthermore, positive relationship was found between firm size and with voluntary disclosure because a bigger company has sufficient resources for more information disclosure.

Transaction cost is therefore lower than a smaller company. Also a large company contains complications within information that may cause information asymmetry, which leads to more disclosure In addition; a large company discloses more because was interested domestically and internationally. Whiles a small company with highly competitive environment discloses at a lower level because important information is kept from opponents to avoid disadvantages, which is consistent with Hossain and Hammami (2009), Agca and Onder (2007), and Palawan (2005). A large company place more importance on financial and non-financial disclosure. Likewise, a company that its capital with high debt to equity ratio is necessary to disclose more information than that has the capital with a lower debt to equity ratio. It is to build confidence to creditors or lenders through firm performance and ability to repay, according to the stakeholder theory. The result of this study found that companies disclosed more on strategy information, to indicate the direction to increase firm value in the future.

Firm age was found that it had a negative relationship with strategy, financial and total voluntary disclosure Index. This can be explained that a new company has to disclose information on strategies performed in the business to gain creditability from investors and stakeholders, which is in accordance with the stakeholder theory as the management level will impose a policy to response to stakeholders. This is consistent with the study of Palawan (2005) that a negative relationship was found between age and disclosure level. The research states that a new company has to disclose information qualitatively to gain attention from investors to build a more stable capital, in contrast with listed companies that have been operated for a long time. Companies have been known for creditable performance that already receives attention from investors. Also old companies are precautious of disclosing such information, such as revealing future projects or predictions, as disclosure of these types of information may affect competitiveness or operations within the companies. Therefore, the level of such disclosure is low.

Summary

This research aims to study the effect of firm performance on voluntary disclose of listed companies in the Stock Exchange of Thailand, in which it focuses on technology industry. The empirical results show that companies will signal out to stakeholders more, to reduce information asymmetries through voluntary disclosure, when firm performance measured by Tobin's Q and ROA is desirable. As each group of information, including strategy, non-financial and financial information, was individually considered; companies with increased firm performance measured from Tobin's Q, they had increased voluntary disclosure on non-financial information. Similarly, companies disclosed non-financial information and Strategy information more when firm performance measured from ROA increased.

In addition, corporate governance influenced voluntary disclosure, as well as firm size that large companies disclosed more than small companies. This suggests that transaction cost of voluntary disclosure reduced according to size. On the other hand, Newly established companies had to increase the level of voluntary disclosure to gain attention from investors. Moreover, companies with high debt were likely to disclose information of strategies and operating instructions to reassure creditors or lenders.

There are limitations in the empirical measures of this literature on the scope of target population in which only technology industry was studied. Additionally, voluntary disclosure studied was from annual reports only. Information from other sources was not studied. Those interested in voluntary disclosure may use this research as a guidance to study voluntary disclosure in other industrial groups, as well as data from other sources may be studied such as information on internet, to draw a comparison to that from annual reports.

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