

Importance of Information Quality in Decision-Making Effectiveness and Financial Report Quality: Studies of Industrial Companies in Thailand

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Abstract

Firms with information quality can create a competitive advantage because information quality will help the chief financial officer (CFO) to have a good plan and decision. The information quality is widely studied, there is not much data for Thai companies in Thailand. Therefore, this work aims to test the quality of information to see whether it is effective in the decision of the administrator and financial report quality or not. The four factors for information quality are; accurate (ACU), relevance (RLV), timeliness (TLN), and completeness (CPT). Ordinary Least Square (OLS) has been used to test following hypotheses. (i) The ACU, RLV, TLN, and CPT have a positive relation with decision-making effectiveness (DME). (ii) The ACU, RLV, TLN, and CPT have a positive relation with financial report quality. The statistical results show that RLV and TLN have influence on the DME of the CFO. However, only the TLN affects the FRQ. These results can be supported by the fact that reasonable and complete information corresponding with the target and work are useful for correct decision making. In addition, the updated information will help the manager to plan and generate a better financial report.

Keywords: Information Quality, Accurate, Relevance, Timeliness, Completeness, Decision-Making Effectiveness, Financial Report Quality

Introduction

Information is significantly important for business operations. Firms having adequate, timely, and complete information will be able to make better business decisions and can have a competitive advantage. The decision-making process is very important for success, especially in critical moments. Typically, models of the decision-making process depend on their approach, i.e 7 steps, 5 steps, 4 steps, and 3 steps (Negulescu, 2014). One of these steps is gathering information (Doyle, 2019), which is obtain from the internet, library, market analysis, and cost analysis etc. Therefore, information quality is one of the most important steps to support the decisions in firms.

As the literatures (Azemi, Zaidi and Hussin. (2017), information quality comprises of good, useful, current, and accurate information. It is also defined that the quality will depend on the measurement methods used to prepare the information (Kinney, 2000). Therefore, this work has been focused on four factors that affect a decision-making effectiveness (DME). The four factors are accurate (ACU), relevance (RLV), timeliness (TLN), and completeness (CPT).

In addition, this work also focuses on the factors that affect the financial report quality (FRQ) because high-quality financial reporting is useful for an analyst or investor. They will have much more confidence in the analysis based on good quality of the financial report resulting in effective investment (Chen, Li and Wang, 2011). According to literature (Beest, Braam and Boelens, 2009), completeness, accuracy, relevance, and timeliness are proposed to be the measurement tool to assess the quality of the financial reports.

The previous work (Bukanya, 2014) proposed that information is the results obtained from big data interpretation to provide meaningful and useful information for users. The good information should be in line with the ACU which has a big deviation from the facts that can be acceptable. High accuracy of information leads to good decision rapidly and accurately. In addition, good information will help to generate (potentially) a good financial report and be useful for users (Alshikhi, and Abdullah, 2018).

Relevance is reasonable and complete corresponding with the work or the target used. Useful information results in the accuracy of the decision making (Levitin, Redman, 1995). The TLN is updated or modified information to get ready for using. If the information is not updated, it will result in mistakes in the data usage. For example, if the accountants can create accurate financial reports, they will be useful for the investors and follow the law if they have the updated information (Lillrank, 2003).

The CPT is the sufficient and suitable information for making the decision. The number of appropriate and complete informations can give better support for making decisions and can increase the effectiveness of the working process (Pongpratead and Ussahawanitchakit, 2013). To create the financial report, it requires the completed information to meet the standards of the FRQ (Al-Dmour, Brunel and Al-Qadi, 2018).

According to the literature above, we have proposed following 2 hypotheses and conceptual framework in Figure 1.

Hypothesis 1 (a-d): (a) Accurate, (b) Relevance, (c) Timeliness, and (d) Completeness have a positive relationship on the decision-making effectiveness.

Hypothesis 2 (a-d): (a) Accurate, (b) Relevance, (c) Timeliness, and (d) Completeness have a positive relationship on the financial report quality.

This work aims to test the four factors of the information above and whether they affect the DME and FRQ or not using Ordinary Least Square (OLS). Our work has studied industry in Thailand because Thailand is located in Asean (Association of Southeast Asian Nations) and is the center of Asean for distribution and services.

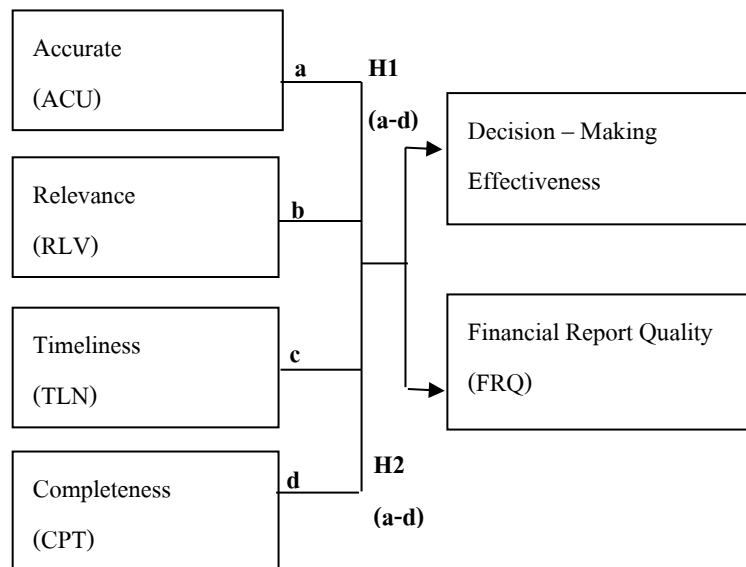


Figure 1 Conceptual framework of the four factors that affect DME and FRQ.

Literature Review

The Chesnut, Chestnut (2020) concluded only three steps of decision-making which are identification, decision components building, and implementation. Identification is the way that the manager will collect data within the organization based on mathematical and statistical methods to use the results for decision options. The process of decision-making of Doyle, J. Doyle (2019), presented five following steps which are (i) decision identification (ii) option examination (iii) information gathering (iv) decision making (v) decision implementation. Based on this process, decision-making is an accumulation of information including evaluation. Litherland (2013) proposed seven steps which are defining the problems, identifying and limiting the factors, development of potential solutions, analysis of alternatives, selection of the best choices. Therefore, effective decisions can obtain information from a systematic process with clearly defines all the possible dimensions and steps (Druker, 1967).

All decision making processes involve the gathering of information. Therefore, the information quality is essential for good business decisions. The high quality of information can improve the decision making process and can become a competitive advantage for the firms. The high information quality comprises of relevancy, value-added, timeliness, completeness and the amount of data proposed by Lee and Levy (2014) based on contextual quality. Huang et al.; Huang, Lee and Wang (1999), found that the information quality must show accuracy, believability and the reputation of the data should be based on intrinsic quality. The other information quality is the interpretation which needs to be easy to understand by the receiver and be consistent in the representation.

The financial report, is useful for capital providers and other stakeholders in making investment (International Accounting Standards Board (2006) and (2008). The researchers

Kaliski (2001) have measured the financial report quality by looking at four attributes that are earnings management, financial restatements, and timeliness. Moreover, it defined that relevance and faithful representation are the fundamental characteristics. While, the enhancing qualitative characteristics are understandability, comparability, verifiability, and timeliness.

For the timeliness, Alexander and Britton (2000) found that timeliness is an important feature of the financial report because the users need to use this information in time when they need it. Turel (2010) concluded that the timely manner of financial reporting is an essential condition for a good function of capital market. Dogan et al.; Dogan, Coskun and Celik. (2007) also suggested that the users need to reach information in time if the users have to make a decision.

For the relevance, it is fundamental qualitative characteristic and it is the ability of accounting figures to get the information influencing the share price, respectively the value of economic entity (Mironiuc, Carp and Chersan, 2015). The report will be “relevant” when the users can use it before losing stability for the firms (Al Dmour, Abbod and Al Qadi, 2018). While, the completeness is the information including descriptions and explanations that can help in decision-making (Tontiset and Kaiwint, 2018). Ogundana (2017) has modified the three-item scale to measure the completeness. However, the accuracy is very important and can provide accounting quality (Pascan, 2015).

Data and Methodology

A. Data collection

The chief financial officers (CFO) from listed firms in the stock market, which are in the industrial product, were our target to collect the data by using a questionnaire. The questionnaire has been sent to 93 industrial companies that are one of 8 groups in listed firms of Thailand. The number of returning answers is 64 responders which has the return rate of the questionnaire at 68.82% and were collected in 2018. The response rate for a mail survey is acceptable because it is greater than 20% (Aaker, Kumar and Day, 2001).

B. Measurements

The questionnaire consists of a 5-point Likert scale (1= strongly disagree to 5 = strongly agree), and includes personal information of responders and companies, such as education, firm size, and firm age.

In addition, possible problems with non-response errors was not found by comparison of the first, and the second data such as education, experience, revenue, and position, as recommended by Armstron and Overton (Armstrong, and Overton, 1977).

To verify the quality of the research tool for this study, factor analysis was applied to the relationships of a large data of items. In addition, the factor analysis can determine whether they can be reduced to a smaller set of factors. For the testing of reliability, Cronbach’s alpha coefficients were calculated.

C. Statistical Test

This work has applied the multi-regression model to test hypotheses 1 (a-d) and 2 (a-d) by using OLS. The equations of multi-regression analysis are shown in equation 1 and 2.

$$\text{DMC} = \alpha_1 + \beta_1\text{ACU} + \beta_2\text{RLV} + \beta_3\text{TLN} + \beta_4\text{CPT} + \beta_5\text{FA} + \beta_6\text{FS} + \varepsilon_1 \quad (\text{equation 1})$$

$$\text{FRQ} = \alpha_2 + \beta_7\text{ACU} + \beta_8\text{RLV} + \beta_9\text{TLN} + \beta_{10}\text{CPT} + \beta_{11}\text{FA} + \beta_{12}\text{FS} + \varepsilon_2 \quad (\text{equation 2})$$

All variables are following the defined.

ACU = Accurate

RLV = Relevance

TLN = Timeliness

CPT = Completeness

FA = Firm Age

FS = Firm Size

The FA and FS are control variables. The FA will be able to show the performance and survivability of that firm. The total asset of the firm is considered as the FS. The big size and long age of the firms have more advantages than the small size of the firms (Ilaboya and Ohiokha, 2016).

The FA was measured by the number of years that were set to be dummy variables, which are 0 (< 10 years) and 1 (≥ 10 years). While, the FS was measured by the number of employees using dummy variables of 0 (< 150 employees) and 1 (≥ 150 employees)

Results and Discussion

A. Testing of measurement

The non-response bias testing shows that the answers between 2 groups of early and lately responses are not significantly different ($t = 0.615$, $p > 0.05$; $t = -1.245$, $p > 0.05$; $t = -0.583$, $p > 0.05$) [31]. As seen in Table 1, it appears The factor loading of all variables are between 0.720 and 0.907, implying that the construction is valid. This is corresponding with the previous work (Nunnally, and Bernstein, 1994) indicating that factor loadings are greater than 0.40 cut-off and are statistically significant. The Cronbach's alpha of all variables are between 0.833 and 0.939. The Cronbach's alpha is greater than 0.70 that means those questionnaires are reliable (Lee, Lee, and Lee, 2000). Therefore, our data can be confirmed by this testing.

B. Statistical Test

The descriptive statistics and correlation matrix shown in Table 2 including mean, standard deviation (S.D.) of all variables described in the equation. It appears that the S.D. values are not greater than 50 percent of the mean which implies that our data set is consistent within the group.

In addition, the correlation matrix is in the range between -1 to 1 which indicates the closeness of the two variables. The positive sign (+) indicates that two variables are in the same trend which is in contrast to the negative sign (-). Most of the correlation values are

greater than 50% which means that our variables are related. In addition, the maximum VIF values in Table 3 are 3.922 indicating that the multicollinearity problem is not found.

As shown in Table 3, it is the results of testing assumptions related to equation 1 and 2. According to the Table 3, it appears that RLV has a positive relation with the DME significantly ($\beta_2 = 0.249$, $p < 0.05$). The TLN also has a positive relation significantly with the DME ($\beta_3 = 0.351$, $p < 0.05$) and FRQ ($\beta_9 = 0.346$, $p < 0.05$). Therefore, hypotheses 1b and 1c are accepted.

Moreover, the ACU ($\beta_1 = 0.044$, $p > 0.10$) and CPT ($\beta_4 = -0.067$, $p > 0.10$) have no relation with DME significantly.

Therefore, the hypotheses 1a and 1d are not accepted.

While, the ACU ($\beta_7 = -0.091$, $p > 0.10$), RLV ($\beta_8 = 0.245$, $p > 0.10$), and CPT ($\beta_{10} = 0.082$, $p > 0.10$) have no positive relation with FRQ significantly. Therefore, the hypotheses 2a, 2b, and 2d are not accepted.

As a result, it appears that RLV has a positive relation with the DME because reasonable and complete information, corresponding with the target and work, are useful for correct making decision. This can affect the effectiveness of managers' decision (Levitin, Redman, 1995). That their decisions will depend on the choices of quality and quantity information to apply in making the decision. While, the TLN has a positive relation with the DME because the improved information to get ready for using will help the manager to decide precisely. If the information is not updated it will not be able to be used correctly (Lillrank, 2003). The TLN has a positive relation with the FRQ significantly because updated information will generate the quality of the financial report when managers need to use it.

Table 1 Results of Factor Loading and Cronbach Alpha Coefficients

| Items | Factor Loadings | Cronbach's Alpha |
|-------------------------------------|-----------------|------------------|
| Accurate (ACU) | 0.905-0.942 | 0.939 |
| Relevance (RLV) | 0.907-0.925 | 0.900 |
| Timelines (TLN) | 0.889-0.932 | 0.897 |
| Completeness (CPT) | 0.899-0.955 | 0.918 |
| Decision-making Effectiveness (DME) | 0.757-0.874 | 0.840 |
| Financial Report Quality (FRQ) | 0.720-0.870 | 0.833 |

Table 2 Descriptive Statistic and Correlation Matrix

| Variable | ACU | RLV | TLN | CPT | DME | FRQ | FA | FS |
|----------|---------|---------|---------|-------|-------|-------|-------|-------|
| MEAN | 3.828 | 3.734 | 3.708 | 3.609 | 3.906 | 3.630 | 0.563 | 0.203 |
| S.D. | 0.804 | 0.698 | 0.845 | 0.884 | 0.630 | 0.711 | 0.500 | 0.405 |
| ACU | 1 | | | | | | | |
| RLV | 0.657** | 1 | | | | | | |
| TLN | 0.464** | 0.617** | 1 | | | | | |
| CPT | 0.367** | 0.584** | 0.841** | 1 | | | | |

| Variable | ACU | RLV | TLN | CPT | DME | FRQ | FA | FS |
|----------|---------|---------|---------|---------|---------|--------|--------|----|
| DME | 0.443** | 0.555** | 0.601** | 0.510** | 1 | | | |
| FRQ | 0.281** | 0.486** | 0.600** | 0.562** | 0.768** | 1 | | |
| FA | 0.264* | 0.071 | 0.056 | -0.046 | 0.044 | -0.042 | 1 | |
| FS | 0.206 | 0.063 | 0.083 | 0.107 | 0.246* | 0.099 | 0.289* | 1 |

*P<.10,**P<.05,***P<.01

Table 3 Results of Ols Regression Analysis¹

| Independent Variables | Dependent Variables | |
|-------------------------|---------------------------|---------------------------|
| | DME | FRQ |
| ACU | 0.044 (0.108) | -0.091 (0.129) |
| RLV | 0.249** (0.136) | 0.245 (0.162) |
| TLN | 0.351** (0.144) | 0.346** (0.171) |
| CPT | -0.067 (0.134) | 0.082 (0.159) |
| FA | 0.330** (0.162) | -0.105 (0.160) |
| FS | -0.104 (0.134) | 0.144 (0.192) |
| Adjusted R ² | 0.404 | 0.340 |
| Maximum VIF | 3.922 | 3.922 |

**p<.05, 1Beta Coefficients with standard errors in parenthesis

Limitation Research and Future Work

This present work has studied only 4 factors (ACU, RLV, TLN, and CPT) of information quality but there are actually lots of factors which are not included. Therefore, this research still needs to expand to study the other factors for information quality in the future. Furthermore analysis, Of the factors studied here focuses on the Thai industrial companies which are only one kind of 8 groups for listed companies in Thailand. Therefore, within the rest of the groups it would be interesting finding more relationships between these factors and decision-making effectiveness or financial report quality.

Conclusions

This present work has studied 4 factors (ACU, RLV, TLN, and CPT) of information that were appropriate factors in Thailand. These factors were found to affect the DME and FRQ for

CFO. This work has used questionnaires to ask the CFO of 94 listed firms. There are 64 firms that sent the answers back. In addition, two hypotheses (H1&2 a to d) are tested by OLS analysis. According to the statistical results, it found H1b and H1c were supported and that the RLV and TLN have a positive relationship on the DME of CFO. For the financial report quality, there is only H2c that is supported resulting the TLN has a positive relationship on the FRQ. In addition, all measurements have been tested and valid.

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