Do the CSR Mission and Emissions Disclosure Characterize the Company’s Success?

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Abstract

Amid the global warming circumstances, the emission disclosures in annual reports is a necessity. The public legitimacy is a strategic key to future success. The bottom line of disclosing emissions in annual reports is global sustainability. However, there are doubts about the correlation between emission disclosures and future success. For companies with no commitment to CSR missions, emission disclosures are short-term interests unrelated to the global sustainability. This study reveals the characteristics of successful and unsuccessful companies measured by their CSR missions and carbon emission disclosures as stated in annual reports. By using a sample of 114 manufacturing companies listed on the Indonesia Stock Exchange (IDX) in 2016, this study shows that successful companies are characterized with solid CSR mission and commitment to emission disclosures. This study contributes to CSR mission development and emission disclosure in the CSR research. The implication of this study is the development of the archetype of successful companies applying CSR missions of controlling emissions using emissions disclosures.

Keywords: CSR Mission, Carbon Emission Disclosures, Sustainability, Global Warming.

JEL Classification: M14, M41, Q01, Q56
INTRODUCTION

Until now, there are still contradictory views on the purpose of disclosing corporate social responsibility (CSR). Some of them state that CSR is part of companies ‘welfare distributed to society. Other states that CSR is just a way for companies to cover up their short-term poor performance. However, in the current challenge of global warming, CSR should be seen as a way for future survival (Monasterolo et al., 2017). CSR can no longer be viewed as either a short-term expenditure to obtain tax compensation. Also, it is also no longer seen only as a way to cover company’s poor performance to maintain investor interest in its share price because CSR must be a common goal to achieve global sustainability.

With respect to the environmental sustainability, management accounting systems must involve control over CSR (Frost & Wilmshurst, 2000). The corporate commitment to CSR requires integrated control procedures to corporate strategies. Therefore, corporate missions should clearly state CSR mission (Deegan & Gordon, 1996; Gallego-Álvarez, 2012). The CSR mission can assist the corporate management to determine strategies to sustain corporate future growth.

The standpoint of legitimacy theory states that only companies accepted by the social system will survive. Strategically, the CSR mission must carry out the sustainability mandate by participating in global emission reduction programs. Therefore, emission control is an important indicator of CSR related to global emission reduction (Braun, 2009; Cook, 2009; Gray et al., 1995). According to Clements et al., (2016) in the context of conservation, companies committed to environmental conservation are often the archetypes of successful business models.

In line with the strategic idea of future corporate sustainability, previous studies have shown the positive correlation between CSR disclosure and corporate performance (Criado-Jiménez et al., 2008; Larrinaga et al., 2002; O'Donovan, 2002). Furthermore, with respect to the reduction of global warming, the implementation of emission control—as a specific area of CSR—is a key factor for the corporate success (Bebbington & Larrinaga, 2014; Bode & Jung, 2004). The positive correlation between emission control and corporate success often involves morality, discipline (Bebbington & Larrinaga, 2014), and changes in technology (Bode & Jung, 2004). In this case, corporate success is generally
measured by financial performance based on accounting values, or corporate value based on economic value.

This study involves CSR missions and emission disclosures as important variables in the corporate sustainability. Previous research on the correlation of these two variables with corporate success is still rare. This research contributes to the development of research models that identify companies’ success based on their CSR missions and commitment to emission disclosures. This paper develops a classification approach using the cluster analysis. Despite its weakness in testing the direct impact of predictor variables on dependent variables, the cluster analysis can lay the groundwork for advanced analysis of testing the impact of independent variables on dependent variables.

This study does not intend to analyze the correlation of CSR or emission control with corporate success, but rather emphasizes the aspects of successful and unsuccessful companies clustering based on their commitment to CSR mission and emission disclosures as stated in the annual reports. This study uses the cluster analysis technique to obtain the characteristics of successful and unsuccessful companies based on their commitment to developing CSR missions and controlling emissions. This study is challenging, yet interesting because the research related to CSR missions is still rare. In addition, the next research with more specific analysis of the impacts of the CSR mission and emission control on the company’s success can be carried out.

**LITERATURE REVIEW**

*Legitimacy Theory*

Legitimacy theory views an organization as a combination of resources with the ultimate goal of survival in a competitive environment. Legitimacy literature states that communication is one way to shorten legitimacy (O’Donovan, 2002). In this case, an annual report is the main communication medium in environmental reporting.

The theory of legitimacy comes from the concept of organizational legitimacy (O’Donovan, 2002). It is defined as a condition in which the organizational value system reaches the point of conformity to the social value system (Dowling & Pfeffer, 1975). Some of these studies theorize that legitimacy theory can be used as a concept capable of explaining the relationship between predictor variables and emissions disclosure.
Patten (1992) and O’Donovan (2002) state that the scope of information, nature, and implications of legitimacy theory can be explained in the prior research on environmental disclosure. Furthermore, Patten (1992) claims that the sustainability of business entities in the society’s value system is the key to the company’s social legitimacy.

**Company Success**

A company is considered successful when it can manage its assets efficiently to generate maximum profit. The accounting perspective measures a company success in its financial performance, while the market perspective measures a company success when its value increases and investors consider its positive performance. A company’s value represents the historical profit value divided by total assets and reflects the share price when the net assets of the operating company are sold. However, from a philanthropic perspective, the success of a company must also be seen as the distribution of benefits from a company to the social environment.

Gray et al. (1995) argues that the aspect of social benefits cannot merely be viewed from the economic distribution per se, but it must also be seen in terms of increasing social-environmental welfare. The argument by Gray et al. (1995) affirms the existence of legitimacy theory as an alternative to stakeholder theory. Therefore, increasing social welfare must be seen as the key to a company’s success seen from the social’s perspective, thereby encouraging sustainability.

**CSR mission and corporate success**

The corporate mission is an important communication factor between a company and its stakeholders. A company’s commitment to reporting its activities has impacts on social aspects and is a value-added for itself. Such commitment is a form of corporate social communication to the community. Therefore, nowadays, the social mission operationalized in CSR should be one of the main components of a company’s survival strategy.

Luo & Tang (2014) suggest that corporate mission must be relevant to market demands. Three concepts determining market needs are the needs, requirements, and market demands. Yozgat & Karataş (2011) stated that an important factor in building corporate mission is to take the interests of the wider community into consideration. More specifically, it
can be stated that corporate mission is closely related to moral ethics as corporate branding. The mission statement must be constantly revised and modified in response to changes in the organization and its environment. In contrast to traditional strategic management approaches, current corporate strategies have focused on social activities as corporate values because they have competitive advantages. Therefore, social responsibility must also include corporate concerns for social and environmental factors.

In response to numerous environmental issues, companies should emphasize a going-green strategy. This strategy is the basis for obtaining a definition of a CSR mission as it involves the concepts of ethical behaviour, social responsibility, and global environmental protection (Yozgat & Karataş, 2011). Thus, a CSR mission directs corporate commitment to comprehensive social responsibility for future environmental sustainability.

The mission is a moral statement of practical actions to achieve the state according to the vision in time. The attainment of a mission means the fulfilment of a present situation built from past expectations. The CSR mission is steps taken to achieve the vision by involving CSR elements. Based on the CSR mission, CSR implementation must be based on the goals of corporate mission. Following such view, companies with CSR mission will practice CSR in a more directed, programmed, and constructive manner. Meanwhile, companies with no CSR mission will implement unplanned and unfixed CSR reactively and incidentally.

The implementation of CSR mission using a philanthropic point of view will meditate communication between a company and the social environment, thereby strengthening a company’s legitimacy.

Disclosures of CSR missions will strengthen corporate social legitimacy, while consistent and continuous growth performance maintain corporate sustainability. The process of continuous distribution of economic benefits will promote the sustainability of corporate values. At this stage, a company can be declared successful in maintaining its economic and social performance. Thus, there is a logical leap in relation to the correlation of a company's mission and its success as measured by corporate performance and value. Based on the literature review, the research hypothesis can be stated as follows:

H1: Companies that have a CSR mission are classified as successful companies
**Reporting carbon emissions and company success**

One of CSR-mission practices is controlling emissions. Recently, controlling emissions has become a core issue in reducing global warming. Emission control is a specific part of the CSR discussion within the topic of carbon accounting. The existence of these emission controls can be seen from the broader scopes of carbon emission reporting. The CSR mission in turn will increase the company's commitment to managing and reporting carbon emissions.

The disclosures of carbon emissions will have an impact on increasing public confidence in companies’ commitment to controlling global warming. The social existence of a company will ultimately encourage the formation of its value (Yunus et al., 2016). The survey by Yunus et al., (2016) show that generally, companies listed on the Australian stock exchange have implemented the Environmental Management System (EMS) because they believe the essential of adopting social-based strategies in creating corporate values.

The research by Matsumura et al. (2014) and Plumlee et al. (2015) show significant effects of carbon emission disclosures on corporate values. Liu et al., (2014) also show a positive correlation of carbon emission disclosures and performance as measured by product-lifecycle continuity. Clarkson et al. (2015) prove that carbon emissions are potential for creating market valuations. The results of the research by Klufallah et al. (2014) on several Malaysia-based construction companies show that emission-friendly companies can create greater opportunities for sustainability. Based on the literature review that has been mentioned above, the hypothesis of this study can be stated as follows:

- H2: Companies that disclose carbon emissions (which means exercising strict controls on GHG emissions) are classified as successful companies.

**METHODS**

**Population and sample**

The population of this study is manufacturing companies listed on the Indonesia Stock Exchange (IDX) in 2015. The sampling technique used in this study is purposive sampling, with the following criteria:

1. Manufacturing companies, i.e., cement, porcelain, modern agriculture, and mining that use natural resources as raw materials or production media.
2. Annual reports published 2015. The sampling results obtain 114 companies that met the criteria.

Variables and measurements

CSR missions are measured by the number of statements of a companies’ mission in relation to their commitment to and responsibilities for social and environmental issues. Variables of carbon accounting disclosures are obtained by a checklist for identifying whether there are disclosures of carbon emissions (carbon accounting) in the annual reports. The existence of carbon accounting disclosures are proxied by the existence of statements on the dimensions of carbon emissions, namely: 1) climate change, 2) greenhouse gas emissions, 3) energy consumption, 4) reduction of greenhouse gases and costs, and 5) accountability for carbon emissions. The five dimensions of carbon emission disclosures are summarized by Ratnatunga's ideas (2007, 2008). Table 1 shows the indicators of carbon emission disclosure.

A company's success is measured using ROA and company value. ROA is operationalized as total profit divided by total assets. Meanwhile, company's value is measured using Tobin's Q. Tobin's Q value is calculated using the ratio between the total market value of a company divided by the total asset value of a company.

| Table 1 Dimensions and indicators of Carbon Emission |
|-----------------------------------------------|
| Dimensions                                | Code | Indicator                                                                 |
|-------------------------------------------|------|---------------------------------------------------------------------------|
| Climate Change                            | CC1  | Assessment and action on the risks of climate change                     |
|                                           | CC2  | Assessment of financial, business and opportunity implications due to climate change |
| Greenhouse Gases                          | GHG1 | Greenhouse Gases emission calculation methodology (e.g. ISO)               |
|                                           | GHG2 | External Verification                                                     |
|                                           | GHG3 | Total GHG (CO2) emissions                                                 |
|                                           | GHG4 | Direct Disclosure of GHG emissions                                        |
|                                           | GHG5 | GHG Disclosure based on its source                                        |
|                                           | GHG6 | Disclosure GHG based facility                                             |
|                                           | GHG7 | GHG comparison between periods                                             |
| Energy Consumption                        | EC1  | Energy Consumption: The amount of energy consumed                         |
|                                           | EC2  | Quantification of energy from renewable energy sources                   |
|                                           | EC3  | Disclosure of energy consumption based on types and facilities            |
| GHG reduction and costs                   | RC1  | Emissions reduction strategy                                              |
|                                           | RC2  | Reduction level per year                                                  |
|                                           | RC3  | Future emissions costs in capital expenditure planning                    |
| Carbon emissions accountability           | AEC1 | Committee action related to climate change                                |
|                                           | AEC2 | Evaluation of progress on climate change prevention by committees and executives |
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Analysis Technique

This study is conducted to determine the characteristics of a successful company using the disclosures of CSR mission criteria and carbon emissions. Using the cluster analysis technique, it can be seen whether a company that discloses its CSR mission and carbon emissions is classified as a successful or unsuccessful company. The method used in cluster analysis is K-Means Cluster, which determines the number of clusters as desired based on certain criteria. The cluster is divided into 3 groups, namely successful, moderately successful, and unsuccessful companies.

RESULTS

Descriptive Statistics

The results of the study are shown in Tables 2, 3, 4, and 5. Table 2 is a description of the variables.

| Variable                  | Minimum | Maximum | Mean  | Std. Deviation |
|---------------------------|---------|---------|-------|----------------|
| Sum of CSR Mission        | 0       | 3.00    | 0.650 | 0.716          |
| Carbon Accounting Discl. Level | 0 | 7.00    | 1.130 | 1.334          |
| Revenue (000)             | -64,690,000 | 22,460,000.00 | 240,122,240 | 6,696,454,686 |
| Asset (000)               | 10,582  | 1,106,160,000.00 | 26,404,872,990 | 123,029,573.442 |
| ROA                       | -1.07   | 0.57    | 0.0614 | 0.14981        |
| Firm Value                | 0       | 123.74  | 3.815 | 14.988         |

Table 2 shows that of 114 samples, several companies do not disclose their CSR mission and carbon emissions in the annual report. Asset and revenue values are shown as a comparison to see the effectiveness of asset utilization for the implementation of CSR missions. Table 3 shows the Initial and Iteration Cluster. From the initial cluster, the final cluster centre is obtained (Table 4) through 3 iterations. The shortest distance between the initial centres is 12.266.
Table 3 Initial Cluster Centre and Iteration Cluster

| Initial Cluster Centers          | Cluster          |     |     |
|---------------------------------|------------------|-----|-----|
|                                 | 1                | 2   | 3   |
| Zscore: Sum of CSR Mission      | 0.48990          | -0.90632 | 0.48990 |
| Zscore: Carbon Accounting Discl Level | -0.09865      | -0.84839 | -0.84839 |
| Zscore: Revenue (000)           | -9.69619         | -0.43842 | -0.00399 |
| Zscore: Asset (000)             | 8.77639          | -0.19422 | -0.20856 |
| Zscore: ROA                     | -0.80015         | -7.57826 | 1.50166 |
| Zscore: Firm Value              | -0.25454         | -0.11510 | 8.00121 |

| Iteration | Change in Cluster Centers |     |     |
|-----------|---------------------------|-----|-----|
|           | 1                          | 2   | 3   |
| 1         | 0.000                      | 7.411 | 7.504 |
| 2         | 0.000                      | 0.138 | 0.654 |
| 3         | 0.000                      | 0.054 | 0.212 |
| 4         | 0.000                      | 0.024 | 0.106 |
| 5         | 0.000                      | 0.000 | 0.000 |

a. Convergence achieved due to no or small change in cluster centers. The maximum absolute coordinate change for any center is .000. The current iteration is 5. The minimum distance between initial centers is 12.266.

Table 4 describes the final cluster and ANOVA. The final cluster shows the value of each variable based on the closeness of the Z-score value in each cluster. The companies are classified into 3 clusters: successful, moderately successful, and unsuccessful companies. The three clusters are calculated based on the characteristics of the level of CSR mission and carbon emissions disclosed in the annual reports with a company name code as the reference cluster. Based on the number of cases in each cluster, it can be seen that there is one company in the first cluster, 92 companies in the second cluster, and 21 companies in the third cluster.

The significance of ANOVA describes the extent to which certain variables differentiate one cluster to other ones. The higher F value is; the stronger variable will differentiate between clusters.
DISCUSSION

The results of the descriptive statistical test in Table 2 show the average CSR missions of 0.65. This value shows that in general, companies have CSR missions. The average level of emission disclosure of 1.130 which is greater than the average of CSR missions (0.65) indicates that many companies disclose carbon emissions, even though they may not have CSR missions. Most companies control their carbon emissions because there is at least one action to reduce carbon emissions. This means that, in general, companies have responsibilities for reducing global warming. Carbon dioxide (CO2) is considered not dangerous for human life. However, given the largest concentration among other GHGs (Ratnatunga, 2007, 2008a) such as nitrogen oxides (N20), methane (CH4), and sulfur-hexafluoride (SF6), CO2 is the most potential gas to increase the earth's surface temperature. Therefore, the concept of emission trading is based on how much carbon transfers occur in a transaction (Gallego-Álvarez, 2012; Mi et al., 2016; Ratnatunga, 2008a, 2008b; Ratnatunga, 2007; Soffe, 2006).

Based on Table 4, the Zscore value of each variable in each cluster shows that the more positive the Zscore value of a variable, the more variable data is above the average. Thus, the third cluster is a group of successful companies with financial performance (0.74478) and firm value (0.64660), the highest among the three clusters. Companies in cluster 3 are active in disclosing carbon emissions (1.00811) with clear and targeted CSR programs (the Zscore value of the CSR mission is 1.15478).

The Zscore of cluster 1 and cluster 2 have a value below the average. The performance and firm value that are below the average indicate that the two clusters are unsuccessful companies. It can be shown that the characteristics of unsuccessful are relatively less committed to developing

| Variables                        | Cluster 1 | Cluster 2 | Cluster 3 | F     | Sig  |
|----------------------------------|-----------|-----------|-----------|-------|------|
| Sum of CSR Mission Zscore        | 0.48990   | -0.26892  | 1.15478   | 24.797| 0.000|
| Carbon Accounting Disclosure Zscore | -0.09865 | -0.22904  | 1.00811   | 16.734| 0.000|
| Revenue (000) Zscore             | -9.69619  | 0.01771   | 0.38413   | 340.020| 0.000|
| Asset (000) Zscore               | 8.77639   | -0.007615 | -0.08432  | 122.202| 0.000|
| ROA Zscore                       | -0.80015  | -0.16131  | 0.74478   | 8.288 | 0.000|
| Firm Value Zscore                | -0.25454  | -0.14483  | 0.64660   | 5.850 | 0.004|
| Number of cases in each cluster  | 1         | 92        | 21        |       | N=114|
CSR missions and disclosing carbon emissions. Such characteristics are indicated by the Zscore value of the CSR mission and firm value of the two clusters.

Since revenues and assets are only comparative variables to ROA, the strongest variable differentiating clusters is the CSR mission (F = 24.797), followed by carbon emissions disclosure (1.734), financial performance (8.288), and firm value (8.850). The results of cluster test show that successful company clusters are characterized by a clear CSR mission and emissions disclosure as part of implementing the CSR mission.

The results of the calculation of the average conversion of each variable can be shown in Table 5. The formula used for the conversion of the average variable from the Zscore is as follows:

\[
\text{Converted mean} = \mu + (Z \times SD) \quad \text{...(1)}
\]

\(\mu = \text{mean of variable}\)
\(Z = \text{Zscore each variable in the n^{th} cluster}\)
\(SD = \text{standard deviation of the variable}\)

**Table 5 Average Of The Converted Variable.**

| Variables        | Cluster 1 | Cluster 2 | Cluster 3 | Conclusion                                                                 |
|------------------|-----------|-----------|-----------|-----------------------------------------------------------------------------|
| CSR Mission Item | 1.00077   | 0.45745   | 1.47682   | The third cluster has the strongest CSR mission compared to the first and second clusters. |
| Carbon Accounting Disc Level | 0.99840   | 0.82466   | 2.47482   | The third cluster has the strongest emission reduction commitment compared to the first and second clusters. |
| Revenue (000)    | -64,689,974.72185 | 358,716.45249 | 2,812,431.37853 | The third cluster has the highest revenue. |
| Asset (000)      | 1,106,160,391.05063 | 17,036,170.97239 | 16,031,019.35737 | The third cluster has an asset value that is not much different from the second cluster. The first cluster has the highest assets. However, the first cluster cannot use these assets effectively to increase sales. |
| ROA              | -0.05848  | 0.03722   | 0.17297   | The third cluster has the highest performance compared to the first and second clusters. The third cluster is able to use assets effectively to obtain maximum profit. |
| Firm Value       | 0.00007   | 1.64444   | 13.50666064 | The firm value in the third cluster is the highest compared to the firm value in the first and second clusters. |

Based on Table 5, it can be explained that the third cluster has the highest value of CSR Mission, Carbon Emission Disclosure, ROA, and Firm Value. This shows that the category of successful companies is indicated by a clear CSR mission and a commitment to disclosing carbon emissions. The sales value of the third cluster is the highest compared to other clusters and is potential for achieving high company performance and value. Given the
theory of legitimacy (Bebbington & Larrinaga, 2014; Cahya, 2016; Deegan & Gordon, 1996; Muhammad et al., 2015), it shows the capability of companies in the third cluster for using assets effectively to achieve high performance and distribute profits to CSR implementation. On the other hand, the first cluster (only one company) has the highest assets but is incapable of improving its performance because its sales target falls below the average (shown by a minus value in Table 4). In general, the results show that the characteristics of a company's success are its CSR mission clarity and its involvement in the emission disclosure as started in the annual report.

The results of this study support the findings of prior research by Deegan & Gordon (1996); Deegan & Rankin (1996); and Macedo et al. (2016) stating the positive correlation between CSR and company performance. The results of this study also support the research by Bebbington & Larrinaga (2014); Cahya (2016); and Lohmann (2009) showing the positive effect of carbon emissions disclosure on financial performance and firm value.

CONCLUSION

The results of this study indicate that a successful company characterized by high performance and firm value achievements is most likely to be committed to the CSR mission clarity and carbon emissions disclosure. The company's CSR mission is indicated by a statement on the company's commitment to CSR implementation in the company's mission, while the carbon emissions disclosure shows the control of and commitment to emissions as the practices of CSR mission.

However, this study does not examine the direct impact of the CSR mission and carbon emissions disclosure on the company success. That is because the cluster analysis technique is not intended to test the direct effect of the independent variable on the dependent variable. The cluster analysis only tests the proximity of the components in the cluster and the differences between one cluster to other ones. Furthermore, the variables to differentiate one cluster to other ones are specific and do not involve demographic variables as control variables. The use of cross-sectional research models is also considered as one of the limitations of this study. Furthermore, the content analysis in this study is necessary for the data preparation in order to determine the existence of CSR missions. There are unavoidable limitations of subjective risks when performing content
analysis. Clear guidelines are needed to determine whether the company's CSR mission is involved.

Therefore, the future research can be carried out designs as follows: 1) conducting model tests to analyze the direct impact of the CSR mission and disclosure of carbon emissions on company success; 2) involving control variables such as industry type and company strategy; 3) time-series research design to obtain a broader data coverage.
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