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## **Business Strategy, Corporate Governance and Sustainability Reporting: An Analysis of the Fit Contingency Approach**

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### **Abstract**

This study discusses the role of Board Monitoring Effectiveness (BME) on managers' decisions regarding the business strategies that fit the external business environmental conditions by using a contingency analysis approach. Furthermore, this study will examine how fit strategies affect Sustainability Reporting (SR) of listed companies on the Indonesia Stock Exchange (IDX) from 2014 to 2017. This study uses Conditional Mixed Process (CMP) technique. This CMP method is claimed to be more efficient in analyzing the TSL models. This study found that in highly uncertain conditions, BME had a positive influence on the probability of managers to choose prospector and defender strategies rather than analyzers. These results indicate that BME shows positive impact on the contingency fit between business strategies and environmental uncertainty. In addition, the study documents that only prospectors have a positive impact on SR, however this study failed to document that defenders have positive impact on SR. Meanwhile the unexpected result is analyzers have a significantly positive effect on SR. This study is the first study to investigate the role of BME in contingency fit between business strategies and environmental uncertainties and how it produces effects up to the level of SR.

**Keywords:** Board Monitoring Effectiveness, Business Strategy, Contingency Fit Analysis, Environmental Uncertainty, Sustainability Reporting, Conditional Mixed Process

**JEL Classification Code:** A10, A11, A13

### **1. Introduction**

The focus of the business world on environmental sustainability issues have been around since the 1990s, companies are faced with global warming problems and the impact of their business operations on the survival of stakeholders (the community and the environment), which in turn has an impact on the company's survival. The company's attention to this problem is then manifested by the allocation of resources to carry out its obligations to the social, obligations to the environment, as well as the obligations of other companies to its stakeholders. Utama (2011) mentions all matters relating to these obligations called Corporate

Responsibility (CR). However, it should be understood that in Indonesia the preparation of Sustainability Reporting (SR) is still voluntary.

Previously, there are no researchers who have tested the effect of contingency fit business strategy on SR yet. According to Hanh and Kuhnen, the internal and external factors that influence SR include: company size; financial performance; corporate visibility; affiliation; country of origin and rule of law (Hanh & Kuhnen, 2013). Liu and Anbumozhi prove various factors that influence the disclosure of environmental information stem from more pressure from various stakeholders, which are the government, creditors and shareholders (Liu & Anbumozhi, 2009). Whereas other research places business strategy as a factor that is influenced by SR, or is a response to environmental issues (Bui & Villiers, 2017).

This study aims to analyze how business strategies impact SR through a contingency fit approach. The fit contingency approach begins by analyzing the role of the effectiveness of the board of commissioners' oversight of business strategies that are fit with conditions of uncertainty in the business environment. Then, it will continue by conducting a test on how the fit strategy impacts on the company's SR.

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This research is expected to provide two contributions to science. Firstly, to provide empirical evidence of the role of the Board of Commissioners' Supervision Effectiveness in the selection of business strategies that fits the company's environmental conditions. Secondly, this study is the first research that is conducted to examine how the influence of business strategy fit contingencies on SR, so this research is expected to provide empirical evidence of the influence of business strategy fit contingencies on SR.

This research is expected to have implications, especially for companies, the results of this study can provide input on how the effectiveness of the implementation of CG, especially the supervision of the board of commissioners that has been going on for the company, and can be used as an evaluation material whether the selection and formulation of their business strategies are fit with the current business environment. Besides that, it provides evaluation material for the company's sustainability reporting (SR). For regulators, especially the Financial Services Authority (OJK), the results of this study are expected to have implications in the form of information on the extent of CG implementation in companies and the extent to which the board of commissioners specifically evaluate and supervise the activities of managers in analysing the condition of the company's external environment in order to determine business strategies and how the company conducts SR, although it is still a voluntary obligation. For shareholders, this research is expected to provide information on the effectiveness of the board of directors' supervision in supervising managers in determining the most appropriate business strategy with environmental conditions, as well as the company's attention to environmental sustainability so that the company can run well and achieve the goals of achieving prosperity stock as much as possible for the long term.

This research is a quantitative study using the Conditional Mixed Process (CMP) method of public companies listed on the Indonesia Stock Exchange during 2014-2017. This CMP method is a method that combines the two steps in the Two Step Linear Regression (TSLS) Method into one test at a time. This method is considered more efficient in analyzing the TSLS model (Roodman, 2009).

## **2. Theoretical Framework and Hypothesis Development**

### **2.1. Contingency Theory**

The management accounting literature has explained contingency theory for more than 30 years. Among other things, Otley (1980) has stated that contingency theory is related to no one system, procedure, practice and accounting structure that is relevant for all organizations under various

conditions. Bruns and Waterhouse (1975) also mentioned that in a contingency perspective, the results of management accounting practices and strategies depend on organizational circumstances, location, culture and other company characteristics.

From an empirical point of view, Chenhall (2003) explains that studies with the majority contingency approach aims to investigate the effect of contingency factors on various management accounting practices. Contingency theory hypothesizes that organizational structure shows the function of context, which is simultaneously determined by the external environment, history and other organizational factors (Andersen and Lanen, 1999). Furthermore, Andersen and Lanen (1999) suggest that research on contingency theory has examined the relationship between various endogenous and exogenous contextual factors and management accounting practices. According to Venkatraman and Prescott (1990), environmental uncertainty is one of the contingency factors of strategy, especially in management accounting research. In addition, the existing research has investigated the alignment of business strategies with the conditions of the business environment.

### **2.2. Corporate Governance Practices in Indonesia**

Corporate governance mechanisms have become of crucial importance particularly in emerging countries with weak shareholders legal protection. Since Sarbanes Oxley Act in 2002 regulated that monitoring mechanism from corporate governance should be implemented in order to protect shareholders, emerging countries also implemented this as well. When companies implement effective corporate governance, it can decrease the inclination of unalignment between managers' behaviour and shareholder's interest, so that it will lead to improved company operations (Salehi et al., 2020; Jantadej et al, 2020; Dang et al., 2020).

According to the Indonesian Financial Services Authority Regulation (POJK) No. 33/2014 concerning the Board of Directors and Board of Commissioners of Listed Companies in Indonesia, Indonesia follows a two-tier board structure consisting of a Board of Directors (BOD) and a Board of Commissioners (BOD) and it has the duty to run and be responsible for the management of Issuers or Public Companies for the benefit of Issuers or Public Companies in accordance with the aims and objectives of Issuers or Public Companies that are stipulated in the articles of association. The responsibilities of the Board of Commissioners based on POJK and Indonesian Law No. 40/2007 concerning Limited Liability Companies is to direct and supervise Directors related to company management.

On POJK No. 33/2014 article 20 states that the Board of Commissioners must consist of a minimum of 2 (two) people and 30% of the members must be Independent. Independent

Commissioners must fulfill the following requirements: (1) not a person who is employed or has the authority and responsibility to plan, direct, control or supervise the activities of the Issuer or Public Company in the last 6 (six) months, except for reappointment as an Independent Commissioner or a public company in the next period; (2) does not own any shares directly or indirectly in the Issuer or Public Company; (3) has no affiliation with Issuers or Public Companies, members of the Board of Commissioners, members of the Board of Directors, or major shareholders of Issuers or Public Companies; and (4) has no direct or indirect business relationship related to the Issuer or Public Company business activities. In addition, POJK No. 33/2014 also requires the Board of Commissioners to hold a meeting at least every 2 (two) months, and will hold a meeting with the Board of Directors periodically at least once every 4 (four) months.

### **2.3. Effectiveness of the Board of Commissioners in Conducting the Supervisory Function**

In the corporate governance literature, especially regarding the supervisory role of the company's Board of Commissioners for all managerial activities, it fails to document that the proportion of independent commissioners is effective in carrying out these supervisory functions (Siregar and Utama, 2005; Nuryaman, 2008; Annisa and Kurniasih, 2012). This shows that the proportion of independent commissioners are not sufficient to measure the supervisory function of the Board of Commissioners, therefore a more comprehensive measure / proxy is needed that can describe the Board of Commissioners' monitoring activities widely. Managers' activities in relation to determining business strategies must also be effectively monitored by the Board of Commissioners.

According to Hermawan (2009), it is necessary to understand the effectiveness of the supervisory role of the Board of Commissioners specifically through other characteristics of the Board of Commissioners that can influence the way in carrying out its functions. Under the rules of the capital market authority and CG scores by the Indonesian Institute for Corporate Directorship (IICD), Hermawan (2009) developed a measure of the effectiveness of monitoring the role of the Board of Commissioners by using several comprehensive steps or proxies, consisting of:

#### **1. Independence of the board of commissioners.**

Previous studies on the effectiveness of the Board of Commissioners' supervisory roles use the size or proportion of independent commissioners on the board. The independent board can conduct the monitoring function more effectively because it is not under pressure from management while

ensuring that all manager's activities are solely for the benefit of shareholders/ investors. Increasing the number of boards from outside the company will improve the monitoring function so that the monitoring process can be more effective.

#### **2. Board of Commissioners' activities.**

Independent board members do not automatically increase the effectiveness of the Board of Commissioners' oversight role. The Board of Commissioners need to actively, routinely and continuously hold meetings to find out the problem, identify possible fraud and plan some actions to overcome the problem. These activities are measured based on the number of meetings of the Board of Commissioners.

#### **3. Number of members of the board of commissioners.**

Previous studies are still inconsistent results regarding the size of the Board of Commissioners that can guarantee the effectiveness of the manager's monitoring process. Although it is not clear that the more (the fewer) number of the Board of Commissioners, the higher (lower) effectiveness of monitoring, it can be generalized that the size of the Board of Commissioners influence the effectiveness of the implementation of the monitoring function.

#### **4. Competencies of the board of commissioners.**

The competence of independent directors influences the effectiveness of the monitoring function. The more competent members of the Board of Commissioners, the more closely they oversee and understand the company's business as a whole, will ultimately improve the quality of monitoring the activities of managers, especially in the business strategy selection process.

#### **5. Effectiveness of the audit committee.**

Hermawan (2009) separates the effectiveness of the board of commissioners and the audit committee, but in accordance with the OECD principles, the functions and responsibilities of the audit committee strongly support the role of the board of commissioners to monitor the activities of managers (Lvov, 2009). Based on this, the effectiveness of the audit committee is included in the measurement component of the effectiveness of the Board of Commissioners. The effectiveness of the audit committee consists of: (a) The activities and responsibilities of the audit committee to provide an independent assessment of the integrity of financial and non-financial statements, and to recommend external auditors; (2) A number of audit committees in carrying out their responsibilities to support the duties of the board of commissioners; (3) The expertise and competence of audit committees that support their work

in assessing manager compliance, the integrity of financial and non-financial statements; (4) The average age of the audit committee as one of the measures of internal maturity behaves and acts to provide an independent assessment as input to the board of commissioners in carrying out the supervisory function.

#### **2.4. The Effect of Board Monitoring Effectiveness (BME) on Contingent Fit**

According to the contingency fit theory, a business strategy that fits with its environmental conditions can produce different outputs than the misfit (Otley, 1980; Prescott, 1986; Venkatraman, 1989; Jermias and Gani, 2004). Independence of Directors can objectively monitor and evaluate managers (Baysinger and Hoskisson, 1990; Moon, 2013). The background, knowledge and experience (competence) of each member of the Board of Commissioners can provide useful, valuable, and appropriate advice and input as a manager's consideration in making decisions. The size of the Board of Commissioners with an adequate number of members can support the board in carrying out its duties and carrying out management supervision effectively. Meetings between members of the Board of Commissioners and meetings with directors are conducted as a medium to discuss and exchange information, media to seek advice and provide feedback, as well as oversight of company management activities, especially in the analysis of changes / environmental uncertainties that affect the determination of business strategies. The number of members of the board of commissioners who are also owners or affiliates of the company can provide valuable information to the board of commissioners, on the other hand, can influence the decision of the board of commissioners as desired by the controlling owner. In carrying out effective supervisory duties, the Board of Commissioners are assisted by an audit committee, and an effective role must be given so that the audit committee that plays an effective role will make a significant contribution to the implementation of company supervision.

The effective role of the Board of Commissioners is able to provide a more adequate review of the manager's assessment of environmental conditions. It is also able to provide managers with valuable input, advice and direction on business strategy decision making based on an ongoing environmental uncertainty analysis. Thus decision making on the determination of strategies based on proper analysis of environmental conditions will avoid subjectivity, opportunistic motives, and decisions will be fully in accordance with the conditions of the company's environmental uncertainty. If the Board of Commissioners is effective, the manager will set a business strategy that is in line with the company's environmental uncertainty.

#### **2.5. The Impact of the Effectiveness of Board of Commissioners' Supervisory (BME)**

According to contingency theory, Ariefiara et al (2017) proved that the environmental uncertainty is a contingent factor in the selection of business strategies by managers in Indonesia. Independence of Directors can objectively monitor and evaluate managers (Baysinger and Hoskisson, 1990; Moon, 2013). The effective role of the Board of Commissioners can provide a more adequate review of managers' assessments of environmental conditions. Thus making decisions regarding the determination of strategies based on an analysis of appropriate environmental conditions will avoid subjectivity, opportunistic motives, and the decision will truly be in accordance with the conditions of the company's environmental uncertainty. If the Board of Commissioners is effective, the manager will establish a business strategy that is in line with the uncertain environment of the company. In accordance with Miles and Snow (1978) there are three main typologies of strategy namely prospector, defender and analyzer. Hypothesis 1 will be broken down into 2 different hypotheses according to the type of possible typology of strategies chosen by the company.

In accordance with contingency theory and linked to the typology of strategy by Miles and Snow (1978), adaptive strategy is the company's response when facing certain external environmental conditions, several studies have shown that companies exhibit innovative behavior, actively expand markets, are creative, create changes, carry out decentralization and dare to take risks (Gyampah, 2003; Jermias and Gani, 2004; Freel, 2005; Moon 2013). This means that when facing a highly volatile and uncertain competitive environment, companies tend to choose to apply prospector strategies (Russell and Russell, 1992; Bastian and Muslichm 2012; Moon, 2013).

Contingency theory also states that a strategy that is fit with environmental conditions is shown from the results obtained by the company after implementing the fit strategy. Several studies also found that companies that implement a defender strategy in uncertain competition conditions have better results than the other two strategies (DeSarbo, 2005; Koseoglu et al., 2013). From the results of Hambrick's research (1983) it was found that in a stable business environment, companies that implement the analyzer strategy prove to have better performance compared to other strategies.

*H1. The effectiveness of the supervision of the board of commissioners has a positive effect on the contingent fit between business strategy and environmental uncertainty.*

## 2.6. The Effect of Fit Contingencies between Business Strategies and Environmental Uncertainty on Sustainability Reporting

Various management of accounting literature states that contingency fit business strategies with environmental conditions to produce different outputs, which is the better performance (DeSarbo, et al., 2003; Koseoglu et al., 2013). Alignment (fit) between the company's business strategies with various contextual factors has implications for the achievement of company goals, and will lead managers to effective actions, and will ultimately have implications for the company performance (Van de Ven, 1984; Xu et al., 2006). This implies that the implementation of the strategy chosen in accordance with environmental conditions can optimize the company's resources and capabilities so that it can effectively achieve company goals including corporate sustainability.

In accordance with stakeholder theory, the way companies manage stakeholders depends on the type of strategies used, namely active or passive (Ullmann, 1985). An active strategy (an innovative example) will try to influence important stakeholders by making higher environmental disclosures. It is better if the company adopts a passive strategy (for example a defender), and implements a small amount of stakeholder involvement in their process, then environmental disclosure will be lower.

**H2.** *A strategy that fits with environmental uncertainty has a positive effect on Sustainability Reporting.*

## 3. Research Methodology

### 3.1. Sample and Data

This research uses a quantitative approach with a non-probability purposive sampling method. This method is a non-random sampling method and is taken based on certain criteria, can also be classified as judgment sampling (Cooper and Schindler, 2006). The sampling criteria are:

Non-financial sector companies listed on the Indonesia Stock Exchange (IDX) for the period of 2014-2017. The financial sector is excluded because it is a regulated sector, especially in governance aspects and has a specific business environment that is different from other sectors, so it cannot be compared. The holding company is excluded because it does not operate the business directly so that the type of strategy in the holding company is a company level strategy, not a business strategy. Having completed data since 2009 (for measurement of strategy variables requires data 5 years in advance).

### 3.2. Definition of Variable Operations

#### 3.2.1. Board Monitoring Effectiveness (BME)

Is the level to which the board of commissioners can effectively oversee all manager's activities. The supervision of the board of commissioners is one form of the Corporate Governance mechanism implemented in the company. Following Hermawan (2009) and Arieftiara et al. (2019) BME is measured using an index score of 32 checklist items on 5 indicators, which are (1) Independence of the Board of Commissioners; (2) Board of Commissioners' Activities; (3) Board of Commissioners' size; (4) Competence of the Board of Commissioners; and (5) Effectiveness of the Audit Committee.

#### 3.2.2. Business Strategy (STRA)

This is a business unit level strategy that guides managers to manage a company to be able to adapt to the competitive environment. Following Ittner et al. (1997) and Bentley, et al. (2011) and Arieftiara et al. (2020) STRA is the number of quintile ranks over 6 size ratios for 5 years, consisting of: (1) Ratio of Research and Development to Sales (RDS); (2) Ratio of employee to sales (EMPS); (3) Geometrical mean of market value of assets (GMVA); (4) Employee turnover ( $\sigma$  (EMP)), (5) Marketing to sales (SGAS), and (6) Capital intensity (CAP). Details on how to measure STRA variables can be seen in Appendix 1.

#### 3.2.3. Environmental Uncertainty

Is an external condition of the business environment facing the company and must be analyzed by managers in order to determine the business strategy. Following Arieftiara et al. (2017) environmental uncertainty is measured using the Environmental Uncertainty Index (EUI), which consists of market uncertainty, competition uncertainty and technological uncertainty. Details on how to measure EUI can be seen in Appendix 2.

#### 3.2.4. Sustainability Reporting

It is information disclosed by managers regarding activities related to the company's responsibility to the environment. In Indonesia Sustainability Reporting is still voluntary and will only be required in 2020 (NCSR, 2018). Some companies have provided information on their activities to the environment and social activities by disclosure in the Annual Report or Financial Report. This study uses CSR disclosure items in accordance with GRI (Global Reporting Initiatives) Standards and according to the observation year that is 2014-2017, the GRI Standard used is GRI G4 which

began in effect from 2014 to 2017. Following Smith et al. (2007) this study uses information disclosure scores related to CSR, which is 0 if no information is revealed and 1 if there is information disclosed in accordance with GRI G4 as many as for 34 items.

### 3.3. Empirical Model

In line with the objectives of the study, namely firstly, it aims to know the role of BME in managers' decisions to choose a business strategy (there are 3 possible choices: prospector, analyzer and defender) that are fit with environmental uncertainty conditions and secondly, this study aims to find out how the influence of the choice of business strategy is fit for sustainability reporting activities by the manager, then this research model consists of 2 models, which are Multinomial Logistic models and multiple linear regression models. Generally the research uses the two step methods, which are: Two Stage Linear Regression (TSLS) to test two different models as in this study. However, in accordance with research recommendations by Ariefiara (2017), this study will test the two different models using one step at a time, namely Conditional Mixed Process (CMP).

The use of CMP allows testing of multiple models and models of conditional recursive mixed processes (Roodman, 2008). This mixed-process is a different equation / model that can have different types of dependent variables, which are continuous (such as OLS), tobit and probit (logit). In this study the dependent variable from one model to the variable that is on the right side of the other model, CMP is right for the recursive model, which is the business strategy is determined by contextual factors (ie environmental uncertainty) but does not apply vice versa (environmental uncertainty is not determined by the business strategy).

The empirical model used to test hypothesis 1 in this study is described as follows:

$$\log \left[ \frac{\text{Prob}(\text{STRA} \geq 1)}{\text{Prob}(\text{STRA} = 0)} \right] = \beta_0 + \beta_1 \text{EUI}_{it} + \beta_2 \text{BME}_{it} + \beta_3 \text{EU}_{it} * \text{BME}_{it} + \beta_4 \text{AGE}_{it} + \beta_5 \text{SIZE}_{it} + e_{it} \quad (1)$$

Where:

Prob STRA = Probability of choosing a prospector, defender or analyzer strategy. Consists of 2 logistic functions, which are called  $\log [(\text{Prob}(\text{STRA}=1))/(\text{Prob}(\text{STRA}=0))]$  is the probability of the prospector as a fit strategy compared to the analyzer; and  $\log [(\text{Prob}(\text{STRA}=2))/(\text{Prob}(\text{STRA}=0))]$  is the probability of a defender being a fit strategy compared to the analyzer.

EUI = Environmental Uncertainty Index (EUI), is a composite measure consisting of: market uncertainty, competition uncertainty, and technological uncertainty.

BME = Effectiveness of supervision of the board of commissioners, index score of 32 checklist items on 5 indicators.

AGE = Company age, measured using the year the company operates.

SIZE = Company size, measured using the natural logarithm of total assets.

In logistic regression, to find out the magnitude of the tendency of independent and moderator variables to the occurrence of an event that can be seen from the marginal effect of choosing one category compared to other categories. In accordance with hypothesis 1, the test uses two logit functions because there are 3 possible outcomes on the dependent variable, with the following criteria:

$$\text{Logit function criteria } \log \left[ \frac{\text{Prob}(\text{STRA} = 1)}{\text{Prob}(\text{STRA} = 0)} \right]$$

H1a:  $\beta_3 > 0$ , and significant, which is the effective supervision of the board of commissioners will increase the likelihood of companies having a strategy with a high level of fit that is the prospector is a strategy that is fit with environmental uncertainty conditions, compared to the analyzer strategy.

$$\text{Logit function criteria } \log \left[ \frac{\text{Prob}(\text{STRA} = 2)}{\text{Prob}(\text{STRA} = 0)} \right]$$

H1b:  $\beta_3 > 0$ , and significant, i.e. effective supervision of the board of commissioners will increase the likelihood of companies having a strategy with a high level of fit ie defender is a strategy that is fit with environmental uncertainty conditions, compared to the analyzer strategy.

To test hypothesis 2 this study uses the following model:

$$\begin{aligned} SR_{it} = & \alpha_0 + \alpha_1 PPROS_{it} + \alpha_2 PDEF_{it} + \alpha_3 PANZ_{it} + \alpha_4 SIZE_{it} \\ & + \alpha_5 AGE_{it} + e_{it} \end{aligned} \quad (2)$$

Where:

SR = Sustainability Reporting, which is information disclosed by managers of activities related to the company's responsibility to the environment. It is measured by using an index score of 34 CSR disclosure items according to GRI G4.

PPROS = Prediction of the prospect fit probability, which is a strategy that is fit with the conditions of environmental uncertainty, chosen by the manager under the supervision of the board of commissioners.

PDEF = Prediction of fit defender probability, which is a strategy that is fit with conditions of environmental uncertainty, chosen by managers under the supervision of the board of commissioners.

PANZ = Prediction of the fit analyzer probability, which is a misfit strategy with conditions of environmental uncertainty, chosen by the manager under the supervision of the board of commissioners.

AGE = Company age, measured using the number of years that the company is in operation.

SIZE = Company size, measured using the natural logarithm of total assets.

The acceptance criteria for hypothesis 2 are that both  $\alpha_1$  and  $\alpha_2$  are positive and significant, while  $\alpha_3$  is negative and significant. This means that business strategies that are fit with environmental uncertainty have a positive effect on Sustainability Reporting.

### 3.4. Simultaneous Recursive Testing Using Conditional Mixed Process (CMP)

This study consists of 2 different types of estimation models, and because one of the independent variables is an endogenous variable, this study will test the hypothesis simultaneously (recursive simulant) the main model of research uses conditional mixed process (CMP). The use of CMP allows testing of multiple models and models of conditional recursive mixed processes (Roodman, 2009). This mixed-process is a different equation / model that

can have different types of dependent variables, which are continuous (such as OLS), tobit and probit (logit). This study is the dependent variable from Model 1 to the independent variables in Models 2 and 3. The model in this study is recursive, i.e business strategy is determined by its contextual factors (ie environmental uncertainty) but does not apply otherwise (environmental uncertainty is not determined by business strategy). Testing using CMP is testing together 2 different models (recursive simultaneous).

## 4. Results and Discussion

### 4.1. Sample Descriptions and Variables

The list of all companies listed on the IDX besides the financial sector in the period 2014 - 2017 is 1161 companies. The number of observations that are not available complete data is 386 firm-years and holding companies are 32 firm-years. The final sample is 743 firm-years. This research data is unbalanced panel data, because every company does not have the same number of years of observation. The distribution of observations based on the strategy for 743 firm-years is 205 firm-years classified as typology of prospectors; of 97 firm-years classified as defender typology; and 441 firm-years are classified as analyzer typologies. General description of the sample can be seen in the results of descriptive statistical tests in Table 1.

**Table 1:** Descriptive Statistics of Research Variables

| Variable | The number of observations over the mean | Mean    | Min.    | Max.    | Deviation Std. | Skewness |
|----------|--|---------|---------|---------|----------------|----------|
| PPROS    | 307                                      | 0.2341  | 0.0123  | 0.5966  | 0.1212         | 0.6785   |
| PDEF     | 249                                      | 0.1023  | 0.0036  | 0.7098  | 0.0931         | 2.6111   |
| PANZ     | 440                                      | 0.6635  | 0.2778  | 0.8222  | 0.0891         | -0.9910  |
| EUI      | 366                                      | 0.4345  | 0.0427  | 0.8737  | 0.1691         | 0.2122   |
| BME      | 403                                      | 0.6973  | 0.3542  | 0.9375  | 0.0879         | -0.3636  |
| SR       | 346                                      | 0.3138  | 0.1176  | 0.5589  | 0.1292         | 0.4213   |
| SIZE     | 427                                      | 27.1155 | 9.7240  | 32.3431 | 2.5691         | -1.4387  |
| ROA      | 300                                      | 0.0531  | -0.4625 | 0.5494  | 0.1339         | 0.1014   |
| AGE      | 343                                      | 32.2180 | 8       | 106     | 15.0948        | 1.8330   |

Information:  
 PPROS: prediction of the probability of choosing a prospector; PDEF: prediction of the probability of selecting a defender type; PANZ: probability prediction of the type of analyzer chosen; EUI: Environmental Uncertainty Index (EUI) consisting of market uncertainty, competition uncertainty, and technological uncertainty; BME: Effectiveness of supervision by the board of commissioners, index score of 32 checklist items on 5 indicators. SR: index score of 34 CSR disclosure items according to GRI G4. SIZE: company size, natural logarithm of total assets; ROA: company probability (ratio of accounting profit before tax plus interest expense after tax to total assets); AGE: company experience (years of operation).

According to Table 1, on average companies experience moderate (moderate) environmental uncertainty conditions, it is shown that observations that have an EUI above the average are only 366 out of 743. Nevertheless, there is a sample of company-years that face high environmental uncertainty conditions, i.e. the maximum value reaches 0.8737 (close to 1). From Table 1, the average value of BME is 0.6973, which means that the average supervision of the board of commissioners in the observation company is in a fair or fair level, and as many as half of the total observations (403) have supervisory boards above the average. From Table 1 it can be seen that the average company-year has a level of environmental responsibility disclosure of 0.3138, this means that the level of disclosure is still at a low level or as much as 31.38% of all environmental disclosure items.

#### 4.2. Data Analysis Results

In line with the hypothesis, this study uses two models which are the Hypothesis 1 using the Multinomial Logistics model, because there are 3 alternative dependent variable values namely prospector, defender and analyzer. The second model is a multiple linear regression model. It is because in the second model the PPROS, PDEF and PANZ variables are endogenous variables in the first model, so this research model can be classified as a recursive research model. According to Roodman (2009), Conditional Mixed Process (CMP) can analyse the TSLS model into one run so that it becomes more efficient.

Table 2 summarizes the results of hypothesis testing using CMP. In general, goodness of fit for CMP testing is good based on the prob> chi2 value of 0,000. From Table 2 it is known that the EUI \* BME coefficient is positive and significant, which means that the effectiveness of the board of commissioners' supervision positively influences the contingent fit between the strategy and the conditions of environmental uncertainty. These results indicate that Hypothesis 1 was accepted.

Hypothesis 2 test results show that the coefficients of PPROS and PANZ are positive and significant, while the coefficient on PDEF is negative. These results indicate that strategies that are fit with environmental conditions have a good level of sustainability reporting, but are only proven in the prospector strategy. The results of the research prove that the defender strategy which is also a fit strategy with environmental conditions is not proven to have an influence on the level of sustainability reporting, because Table 2 shows that the defender coefficient is negative and insignificant. Thus it can be said that Hypothesis 2 is partially accepted.

#### 4.3. Discussion

The test results show that the board of directors who supervise the managers effectively is proven to increase the tendency of companies to choose a strategy that fits with the conditions of uncertainty in the business environment. These results confirm the results of various previous studies (Baysinger and Hoskisson, 1990; Moon, 2013; Arietiara, 2017) that effective supervision of the board of commissioners is able to provide direction to managers to stay focused on innovation or prospectors, especially in conditions of high environmental uncertainty. The results of this study are both concurrent and explanatory to the results of Arietiara (2017) that if, without being accompanied by effective supervision from the board of commissioners, the company is not proven to choose a defender strategy over the analyzer strategy, but accompanied by effective supervision from the board of commissioners, managers are directed to choose positions that are focus on low cost and low risk, which is the defender, so it does not turn into a follower or analyzer, especially in conditions of high environmental uncertainty. Thus it is evident that the effectiveness of the board of commissioners supervision is able to increase the suitability of the choice of strategy with conditions of environmental uncertainty, in other words the effectiveness of the board of commissioners has a positive effect on the contingent fit of business strategy with environmental uncertainty.

The test results show that the research hypothesis is partially proven, that is, only the prospector as a strategy that is compatible with the environment that is proven to have a high level of environmental information disclosure. This study cannot prove that the defender who in the results of Hypothesis 1 proved to be a strategy that was environmentally fit, when managers received oversight from an effective board of commissioners, also had a high level of disclosure of environmental information. The results of this test indicate that showing that a defender is a fit strategy with the uncertainty of the business environment is not a factor in causing companies to prepare sustainability reporting. This can be due to the characteristics of the defender who focus on low cost and CSR activities are activities that add costs, so that the defender has not become the main concern of managers. In addition, additional voluntary disclosure requires additional costs for the company, so the defender chooses to disclose it in detail according to GRI. It can also be explained if the focus on the environment has been realized by the defender, but the information has not been disclosed in detail by the defender because it creates additional costs. This is in accordance with Miles and Snow (1978) that defenders will adapt to the environment through a focus on low costs.

**Table 2:** Summary of Hypothesis Testing Results with CMP

| <b>Model 1:</b>   |                             |               |             |  |                 |                             |               |             |
|---|-----------------------------|---------------|-------------|--|-----------------|-----------------------------|---------------|-------------|
| $\log \left[ \frac{\text{Prob}(STRA \geq 1)}{\text{Prob}(STRA = 0)} \right] = \beta_0 + \beta_1 EUI_{it} + \beta_2 BME_{it} + \beta_3 EUI_{it} * BME_{it} + \beta_4 AGE_{it} + \beta_5 SIZE_{it} + e_{it}$  |                             |               |             |  |                 |                             |               |             |
| <b>Model 2:</b>   |                             |               |             |  |                 |                             |               |             |
| $SR_{it} = \alpha_0 + \alpha_1 PPROS_{it} + \alpha_2 PDEF_{it} + \alpha_3 PANZ_{it} + \alpha_4 SIZE_{it} + \alpha_5 AGE_{it} + e_{it}$  |                             |               |             |  |                 |                             |               |             |
| <b>Conditional Mixed Process (CMP)</b>  |                             |               |             |  |                 |                             |               |             |
| <b>Variable</b>   | <b>Sign<br/>Expectation</b> | <b>Coeff.</b> | <b>Sig.</b> |  | <b>Variable</b> | <b>Sign<br/>Expectation</b> | <b>Coeff.</b> | <b>Sig.</b> |
| (1) EUI   | +                           | 1.1079        | 0.007***    |  | PPROS           | H2a: +                      | 0.01053       | 0.000***    |
| BME   | +/-                         | -1.615        | 0.034**     |  | PDEF            | H2b: +                      | -0.0004       | 0.366       |
| EUI*BME   | H1:+                        | 1.4923        | 0.032***    |  | PANZ            | H2c: +                      | 0.0172        | 0.000       |
| AGE   | -                           | -0.0034       | 0.255       |  | SIZE            | +                           | 0.0003        | 0.002***    |
| SIZE  | +                           | 0.0775        | 0.009***    |  | AGE             | +                           | 0.0079        | 0.000***    |
| Constant  | +/-                         | -7.4299       | 0.000***    |  | Constant        | +/-                         | 0.0056        | 0.016**     |
|   |                             |               |             |  |                 |                             |               |             |
| (2) EUI   | +                           | 0.2633        | 0.266       |  |                 |                             |               |             |
| BME   | +/-                         | 1.2468        | 0.103       |  |                 |                             |               |             |
| EUI*BME   | H1:+                        | 2.3246        | 0.027**     |  |                 |                             |               |             |
| AGE   | -                           | 0.0057        | 0.108       |  |                 |                             |               |             |
| SIZE  | +                           | 0.1041        | 0.055*      |  |                 |                             |               |             |
| Constant  | +/-                         | 3.7688        | 0.002***    |  |                 |                             |               |             |
|   |                             |               |             |  |                 |                             |               |             |
| Prob>chi2   |                             |               | 0.0000      |  | Prob>chi2       |                             |               | 0.000       |
| N   |                             |               | 743         |  | N               |                             |               | 743         |
| Information:  |                             |               |             |  |                 |                             |               |             |
| PPROS: prediction of the probability of choosing a prospector; PDEF: prediction of the probability of selecting a defender type; PANZ: probability prediction of the type of analyzer chosen; EUI: Environmental Uncertainty Index (EUI) consisting of market uncertainty, competition uncertainty, and technological uncertainty; BME: Effectiveness of supervision by the board of commissioners, index score of 32 checklist items on 5 indicators. SR: index score of 34 CSR disclosure items according to GRI G4. SIZE: company size, natural logarithm of total assets; ROA: company probability (ratio of accounting profit before tax plus interest expense after tax to total assets); AGE: company experience (years of operation). |                             |               |             |  |                 |                             |               |             |
| *** Significant at the 1% level; ** Significant at the 5% level; * Significant at the 10% level.  |                             |               |             |  |                 |                             |               |             |

## 5. Conclusion and Limitations

### 5.1. Conclusion

This study aims to examine the supervisory role of an effective Board of Commissioners for contingency fit between business strategies and environmental uncertainty conditions, in addition to testing how those strategies are fit for the environment in preparing Sustainability Reporting (SR) especially in disclosing information related to environmental sustainability activities. The results show that BME is proven to have a positive effect on managers' tendency to choose strategies that are fit with environmental uncertainty conditions.

It is proven that a strategy that focuses on innovation (prospector) or focus on low cost (defender) is the fittest strategy if the company faces conditions of high environmental uncertainty compared to strategies that are not focused or are lying in the middle (analyzer).

This research is able to prove that only prospector as a strategy that is compatible with the environment is proven to have a positive effect on the level of Sustainability Reporting. This study failed to prove that defender as a strategy is also a fit with the environmental uncertainty and it proved to have a positive effect on SR. This study is the first study to examine the effect of contingency fit between business strategy and environmental uncertainty on Sustainability Reporting using the Conditional Mixed Process (CMP) method.

## 5.2. Implication

The implication for the companies, especially for defender companies is to consider start focussing on the environmental impact of the company's operational activities, and not just focus on low costs. Defenders should start to consider disclosing environmental information even though it is still voluntary, because in the long term this will bring benefits for the company. For the Financial Services Authority (FSA), the results of the study can provide additional regulations related to the disclosure of corporate environmental liability information. For shareholders, it can be considered to always choose investments in companies that have effective Board of Commissioners Oversight, so that the analysis of the selection of strategies will be compatible with the environment, and pay attention on how the company is concerned with environmental sustainability issues.

## 5.3. Limitedness

This research is limited to the environmental information disclosure component only in GRI Standard. To obtain results on how the company's attention to CR as a whole, further research can use the GRI Standard component.

## References

- Ali, M. A., Topaloglu, C., Parnell, J. A., & Lester, D. L. (2013). Linkages among business strategy, uncertainty and performance in the hospitality industry: Evidence from an emerging economy. *International Journal of Hospitality Management*, 34, 81–91.
- Ariefiara, D., Utama, S., Wardhani, R., & Rahayu, N. (2020). Contingent fit between business strategies and environmental uncertainty. The impact on corporate tax avoidance in Indonesia. *Meditari Accountancy Research*, 28(1), 139-167. doi.org/10.1108/MEDAR-05-2018-0338
- Ariefiara, D., Utama, S., & Wardhani, R. (2017). Environmental Uncertainty as a Contingent Factor of Business Strategy Decisions: Introducing an Alternative Measure of Uncertainty. *Australasian Accounting, Business and Finance Journal*, 11(4), 116-130. doi:10.14453/aabfj.v11i4.9.
- Bastian, E., & Muchlisch, M. (2012). Perceived Environment Uncertainty, Business Strategy, Performance Measurement Systems and Organizational Performance. *Procedia: Social and Behavioral Sciences*, 65, 787-792.
- Baysinger, B., & Hoskisson, R. E. (1990). The composition of board of directors and strategic control: Effects on corporate strategy. *Academy of Management Review*, 15(1), 77–87.
- Bui, B., & Villiers, C. (2017). Business strategies and management accounting in response to climate change risk exposure and regulatory uncertainty. *The British Accounting Review*, 49, 4–24.
- Chenhall, R. H. (2003). Management control systems design within its organizational context: findings from contingency-based research and directions for the future. *Accounting, Organizations and Society*, 28(2–3), 127-168.
- Cooper, D. R., & Schindler, P. S. (2006). *Business Research Methods*. New York, NY: Irwin/McGraw-Hill
- Dang, H. N., Pham, C. D., Nguyen, T. X., & Nguyen, H. T. T. (2020). Effects of Corporate Governance and Earning Quality on Listed Vietnamese Firm Value. *Journal of Asian Finance, Economics and Business*, 7(4), 71-80. https://doi.org/10.13106/jafeb.2020.vol7.no4.71
- DeSarbo, W. S., Di Benedetto, C. A., Song, M., & Sinha, I. (2005). Revisiting the Miles and Snow strategic framework: Uncovering interrelationships between strategic types, capabilities, environmental uncertainty, and firm performance. *Strategic Management Journal*, 26, 47–74.
- Freel, M. S. (2005). Perceived Environmental Uncertainty and Innovation in Small Firms. *Small Business Economics*, 25(1), 49-64.
- Gyampah, A. K. (2003). The relationships among selected business environment factors and manufacturing strategy: Insights from an emerging economy. *Omega International Journal of Management Science*, 31, 287–301.
- Hambrick, D. C. (1983). Some Tests of the Effectiveness and Functional Attributes of Miles and Snow's Strategic Types. *The Academy of Management Journal*, 26(1), 5–26.
- Hanh, R., & Kuhnen, M. (2013). Determinants of sustainability reporting: A review of results, trends, theory, and opportunities in an expanding field of research. *Journal of Cleaner Production*, 59, 5–21.
- Jantadej, K., & Wattanatorn, W. (2020). The Effect of Corporate Governance on the Cost of Debt: Evidence from Thailand. *Journal of Asian Finance, Economics and Business*, 7(9), 283-291. https://doi.org/10.13106/jafeb.2020.vol7.no9.283
- Jensen, M. C., & Meckling, W. H. (1976). Theory of the Firm: Managerial Behavior, Agency Costs and Ownership Structure. *Journal of Financial Economics*, 3(4), 305–360.
- Jermias, J., & Gani, L. (2004). Integrating business strategy, organizational configurations and management accounting systems with business unit effectiveness: A fitness landscape approach. *Management Accounting Research*, 15, 179–200.
- Ittner, C. D., & Larcker, D. F. (1997). Quality strategy, strategic control systems, and organizational performance. *Accounting, Organizations and Society*, 22(3/4), 293–314.
- Liu, X., & Anbumozhi, V. (2009). Determinant factors of corporate environmental information disclosure: an empirical study of Chinese listed companies. *Journal of Cleaner Production*, 17, 593–600.
- Miles, R. E., & Snow, C. C. (1978). *Organization strategy, structure and process*. New York, NY: McGraw-Hill.
- Moon, C. (2013). Performance implications of the fit between strategy and contextual variables at the business-unit level: A systems approach. *Journal of Strategic Management*, 4, 75–103.
- Otley, D. T. (1980). The contingency theory of management accounting: Achievement and prognosis. *Accounting Organizations and Society*, 4, 413–428.

- Prescott, J. E. (1986). Environments as Moderators of the Relationship between Strategy and Performance. *The Academy of Management Journal*, 29(2), 329–346.
- Roodman, D. (2009). Estimating Fully Observed Recursive Mixed-Process Models with CMP. *Working Paper No.168*, Center for Global Development.
- Russell, D., & Russell, C. J. (1992). An Examination of The Effect of Organizational Norms, Organizational Structure, and Environmental Uncertainty on Entrepreneurial Strategy. *Journal of Management*, 18(4), 639–647.
- Salehi, M., Arianpoor, A., & Dalwai, T. (2020). Corporate Governance and Cost of Equity: Evidence from Tehran Stock Exchange. *Journal of Asian Finance, Economics and Business*, 7(9), 149-158. <https://doi.org/10.13106/jafeb.2020.vol7.no7.149>
- Utama, S. (2011). An evaluation of support infrastructures for corporate responsibility reporting in Indonesia. *Asian Business & Management*, 10(3), 405-424.
- Venkatraman, N., & Prescott, J. (1990). Environment-strategy coalignment: an empirical test of its performance implication. *Strategic Management Journal*, 11, 1–23.
- Xu, S., Cavusgil, T., & White, J. C. (2006). The Impact of Strategic Fit among Strategy, Structure, and Processes on Multinational Corporation Performance: A Multimethod Assessment. *Journal of International Marketing*, 14(2), 1–31.