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Environmental Uncertainty and Manager's Personnel Value Affect on Environmental Disclosure

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Abstract

This study aims to examine the effect of environmental uncertainty and managers' personnel value on environmental disclosure. This study uses a saturated sampling of manufacturing companies listed on the Indonesia Stock Exchange, and the respondents are all managers' levels. The total sample of this study is 161 manufacturing companies. The respondents got the questionnaires via email, and 64 respondents completed them. These can be processed using the Structural Equation Model - Partial Least Square. **Findings.** The result shows that environmental uncertainty and managers' personnel value have a positive effect on environmental disclosure. Furthermore, this result shows that the manager's personnel value is the most dominant influence of environmental disclosure. These research findings add to the literature, especially about environmental disclosure, and support contingency theory and structuration theory. The findings can give information especially environmental disclosure for the manufacturing companies in Indonesia Stock Exchange. The policymakers should concern about environmental disclosure for companies listed on Indonesia Stock Exchange. The limitation of this research is the low response from the respondents of the research. Another limitation is related to R-Square's results, which still need further research.

1. Introduction

Environmental disclosure is part of reporting on corporate social responsibility. The report on social responsibility provides information about human resources, community involvement, energy, and the environment. Deegan and Gordon, (1996) reveal that the disclosure of social responsibility is related to the organization's social and physical environment. They interviewed several environmental organizations in Australia. They also selected some industries that received the most attention from the group and measured their environmental sensitivity. They found that firms in sectors with higher environmental sensitivity would see managers increase their level of environmental disclosure under pressure from environmental organizations.

Nguyen⁷ et al. (2019) used a sample of 170 issuers listed on the Hanoi Stock Exchange regarding the environmental information disclosure, which is still low. Three sectors have a high level of environmental concern, namely utilities, oil, and gas (water, gas, electricity production, and distribution), construction materials (production of bricks, cement, and concrete, etc.), and

essential resources (metal, mining, paper). The published information about the environment is environmental obligations, violations regarding the environment, and environmental policies and objectives (Nguyen et al., 2019).

Environmental uncertainty effects on environmental disclosure using the contingency theory. The fundamental essence of contingency theory also states that people must adapt to their contingent structure, namely the environment, organization's size, and business strategy, to run well (Gerdin and Greve, 2004). They conducted a meta-analysis of various studies and found that contextual factors are very influential in designing a management control system (Chenhall, 2003, 2007). These factors are environment, technology, organizational structure, organizational size, strategy, and organizational culture. One of them is an uncertainty environment. Pondeville, Swaen, & De Ronge, (2013) research the manufacturing companies in Belgian. The results of their survey showed that companies with high ecological, environmental uncertainty would result in the underdevelopment of a proactive environmental strategy, environmental information system, or formal environmental management control system (Pondeville et al., 2013).

Environmental uncertainty poses challenges for all companies today due to the lack of information on green accounting and the speed of information on the environment as limiting factors in taking action. Conditions of high uncertainty, sophisticated information can assist managers in improving the quality of decisions and reduce environmental impact because this information provides several alternatives and solutions. Thus this can be useful for accountability and transparency in making environmental management decisions (Cadman et al., 2016). Environmental uncertainty is an unpredictable situation, for example, natural disasters or climate change or the rate of market change, for instance, competitor challenges, technological changes, and customer desires that can result in companies being better able to adapt well in the present and the future (Pondeville et al., 2013). On the other hand, these changes can cause new uncertainties related to the uncertainty of the perceived ecological environment or the natural environment (Lewis & Harvey, 2001).

Environmental uncertainty is a contingency concept related to the environment by considering environmental uncertainty with environmental characteristics and its adaptation (Darvishmotevali et al., 2020). Environmental uncertainty is one of the contingent factors managed by the company. The factor of environmental uncertainty is one of the factors of the organization by adjusting the organizational conditions to the environment (Dwirandra & Astika, 2020). Abu-Rahma & Jaleel (2019) revealed that environmental uncertainty affects business in an organization, affecting environmental information in decision-making. Furthermore, Lin & Ho (2011) used 322 samples from the Chinese logistics industry. They concluded that environmental uncertainty has a negative and significant impact on green practice adoption (Lin & Ho, 2011). Research conducted in Singapore. They showed that environmental uncertainty affected environmental scanning (Zhang et al., 2012). They conclude that effective environmental scanning requires organizing and gathering information and clearly defining the need for appropriate information processing, monitoring, dissemination, and evaluation (Zhang et al., 2012). Pondeville et al. (2013) used the sample from Belgian manufacturing companies. They concluded that the environmental uncertainty shows insignificant results with the environmental information system (Pondeville et al., 2013). On the other hand, environmental uncertainty positively impacts waste, energy, and resource management from Malaysian manufacturing firms (Ali et al., 2019).

Cormier, Gordon, and Magnan, (2004) researched in European and North American multinational companies showing that environmental managers' attitudes towards various stakeholder groups and how these managers respond to stakeholders through decisions in

disclosing and disclosing the real ones, especially regarding environmental disclosures. Fukukawa, Shafer, and Lee, (2007) argued that attitudes towards the environment test values and attitudes towards socio-environmental accountability support. They conducted a study in which MBA students were respondents at a private university in the United States (Fukukawa et al., 2007). Schultz et al., (2005) revealed the environmental values and attitudes of six countries, namely Germany, Brazil, the Czech Republic, New Zealand, India, and Russia. In addition, Roxas & Coetzer (2012) examined 166 small manufacturing companies located in three Philippine cities. This study investigates the positive attitudes of company owner-managers that influence the company's overall attitude towards environmental sustainability. Borghesi, Houston, and Naranjo, (2014) conclude that CEO personnel characteristics have a positive and significant impact on the investment of Corporate Social Responsible. The research results from Clarkson, Fang, Li, and Richardson (2013) showed that top management has a proactive environmental strategy to disclose about the environment that is transparent and beneficial voluntarily.

The previous discussion has described that managerial personnel values that affect environmental disclosure should be analyzed in organizational structure because the structure is very important in understanding the agency's potential (Sewell, 1992). Sewell (1992) explains that although all agents have an agency in principle, the institution's capacity to open up is facilitated by different structures that empower agents in different ways. As a result, the same agency will never be ascribed to all agents (in all contexts). It is a structure that empowers agents to make themselves visible in various organizational contexts (commitments, practices, routines, and habits). Only with the support of this structure can agents see their intentions, desires, and values (Orlikowski, 2000; Sewell, 1992; Whittington, 2015).

Manager's personnel values affect environmental disclosure based on structuration theory. This structuration theory reveals that structures are rules and resources organized as characteristics of social systems. Thus, structures exist only as 'structural properties'. Meanwhile, the system is a reproducible relationship between actors or collectivities, organized regularly by social practices. However, the concept of structuration is a provision that governs the continuity or transformation of structures, and therefore the reproduction of the system (Giddens, 1979). Structural theory illustrates a framework for investigating the internal and external structures of using management accounting information (Pierce, 2016), the manager's experience, and other networks of managers (Coad et al., 2018). The theory of structuration uses accounting and management disciplines (Makrygiannikis & Lisa Jack, 2018), management (Kholeif & Jack, 2019), and social sciences (Morse, 2020).

Bellamy et al. (2020) described that environmental disclosure illustrates information about the impacts and practices regarding the company's environment. Kim et al. (2020) stated that this environmental disclosure is still voluntary. Fan et al., (2020) stated that environmental disclosure provides economic benefits. However, according to Bellamy et al. (2020), environmental disclosure affects company value, reputation, and performance. Boura et al. (2020) stated environmental disclosure is non-financial information to benefit reputation. Shahab et al. (2018) revealed that environmental disclosure provides information to external parties regarding activities, environmental policies, and company performance.

Furthermore, firms cannot make accurate trade-offs between informed environmental decisions from a cost and benefits standpoint. Executives have the flexibility to make decisions. Many decision-making problems are similar, such as green innovation decisions in companies, so that further research can lead to research into other situations (Ma et al., 2019). Based on the previous study showed the different results of why this research is conducted.

Thus, this study is essential to research factors that influence environmental disclosure in manufacturing companies listed on Indonesia Stock Exchange. Environmental uncertainty and manager's personnel value effect on environmental disclosure is essential to investigate in Indonesia due to the lack of empirical evidence about these variables. The result can give suggestions and also information about environmental disclosure for manufacturing companies especially. The implication is to investigate the environmental uncertainty and manager's personnel value in the role of environmental disclosure. Another implication is the findings give a different result.

This study investigates the effect of environmental uncertainty on environmental disclosure and managers' personnel value on environmental disclosure in manufacturing companies listed on the Indonesia Stock Exchange. This research aims to analyze the influence of environmental uncertainty and managers' personnel values on environmental disclosure. Thus the hypotheses are as follow:

H1: environmental uncertainty has a positive impact on environmental disclosure.

H2: manager's personnel value has a positive impact on environmental disclosure.

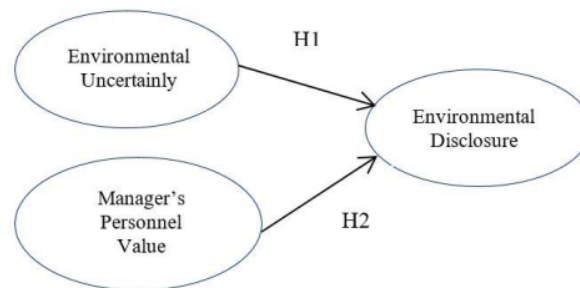


Figure 1. Research Model

2. Research Method

This study uses quantitative research. The quantitative research uses primary data from the respondents who answered the online survey questionnaires. The variables in this study are environmental uncertainty, manager's personnel value, and environmental disclosure in manufacturing companies on the Indonesia Stock Exchange.

2 Saturated sampling, the sample in this study is managers from manufacturing companies listed on the Indonesia stock exchange. The respondents of this study are all managers, including financing, human resources managers, production managers, general managers, and others. This study used saturated samples. That is, all populations were as samples in this study. The total population is 161 manufacturing companies, and all as a sample in this study.

Environmental uncertainty is the ability of management to accurately understand external environmental conditions (Dwyer & Welsh, 1985). Previous studies used the varying strengths of the external environment as an index to measure environmental uncertainty (Liao, Chuang, and To, 2011). However, environmental uncertainty instruments by environmentalists Liao et al. **1** (2011) are more suitable and thus adapted. These instruments use environmental uncertainty using a 7 Likert scale (1: strongly disagree, 7: strongly agree).

Personnel Manager values are "concepts and beliefs; regarding the last desired state or behavior; those that go beyond a particular situation; guide the selection or evaluation of behavior or events; and are ordered by relative importance" (Hemingway and MacLagan, 2004). This

variable has also been used to explain environmental responses (Papagiannakis and Lioukas, 2012) and environmental strategies (Fernández, Junquera, and Ordiz, 2006). We used the original questionnaire developed by Schwartz, (2003), to measure the value of self-transcendence to measure the personal value of managers. We used the original questionnaire developed by (Schwartz, 2003), to measure the value of self-transcendence using a Questionnaire with a Likert scale (from 1: strongly disagree until 7: strongly agree).

Environmental disclosures are included in environmental and social responsibility reports or similar disclosures provided at the company (Clarkson et al., 2008). The environmental disclosure developed by Clarkson et al. (2008) is applied to measure companies' quality of environmental information. These instruments are related to environmental disclosure using a 7 Likert scale, a scale of 1 "very not applied" to a scale of 7 "Highly applied". These questionnaires can be seen in Appendix 1. Before the research questionnaires send to respondents, this study has already done the pilot study to look at the reliability and validity of the research questionnaires. This study uses a structural equation model (SEM) using a Partial Least Square (PLS) analysis tool. The Partial Least square is suitable for valid confirmatory factor analysis and is more reliable (Afthanorhan, 2013). This study has collected data by sending questionnaires via email and also online questionnaires to respondents. Respondents are all managers in manufacturing companies on the Indonesia Stock Exchange.

3. Results and Discussions

The variables used in this study are environmental uncertainty, manager's personnel value, and environmental disclosure. Table 1 shows the descriptive statistic from the variables. The minimum value is 1 and the maximum value is 7, the highest mean value is 5.88, and the highest standard deviation is 1.33.

Table 1. Descriptive Statistic

Variable	N	Min	Max	Mean	Std Deviation
Environmental Uncertainty	64	1	7	5.63	1.15
Manager's Personnel Value	64	2	7	5.88	1.05
Environmental Disclosure	64	1	7	5.53	1.33

Source: Data processed, 2021

² This study distributes online questionnaires to approximately 161 manufacturing companies listed on the Indonesia Stock Exchange. The returned questionnaires were 73 questionnaires, but there were 9 incomplete questionnaires, so that the data that could be processed was about 64. The following Table reveals the percentage of returned questionnaires.

Table 2. Questionnaires rate of return

Criteria	Total	Percentage
Distributed questionnaires	161	100
Returned	73	45
Incomplete questionnaires	9	6
The Process Data	64	40

Source: Data processed, 2021

Table 3. Data of Respondents

Description		Total	Percentage (%)
Gender	Male	43	67,2
	Female	21	32,8
Age	30– 40 years	53	82,8
	41 - 50 years	10	15,6
	>51	1	1,6
Education Level	Bachelor	53	82,8
	Master	11	17,2
	Financial	20	31,25
	Human Resources	7	10,94
Division	General	5	7,81
	Marketing	3	4,69
	Production	12	18,75
	Environmental	9	14,06
	Other	8	12,5

Source: Data processed, 2021

The data based on gender shows as many as 43 men (67.2%) and the rest 32.8% women. Based on the age of the respondents, there were 53 people aged between 30 to 40 years or 82.8%. The rest is between 15.6% for 41 to 50 years old, and the rest is 1.6%. For the education, most of them were at the undergraduate level as much as 82.8%, and the rest were at the master's level as much as 17.2%. Finally, the most workplace division is in the finance division with 20 people (31.25%). The rest varies from the production division, environment division, resource division, general division, marketing division, and other divisions.

3.1 Analyze the Outer Model

Model Partial least square analysis uses the goodness of fit model from the average R-Squared (ARS) to show the model's suitability. It can be seen Table from Table 4. The average path coefficient (APC) to reveal the interrelations between variables, and the average variance inflation factor (AVIF) indicate the multicollinearity among independent variables (Hapsoro & Falih, 2020).

Table 4. The goodness fit of Model

Result	P-value	Criteria	Description
PC = 0,368	P < 0,001	Good if P < 0,001	Supported
ARS = 0,408	P < 0,001	Good if P < 0,001	Supported
AVIF = 1,236		P < 5	Supported

Source: Data processed, 2021

3.2 Analyze the inner model

Based on Table 5, it can be seen that the loading factor value for each indicator is > 0.5, the AVE value is > 0.5, and the composite reliability value is > 0.7. Thus, all constructs and research indicators have met the criteria.

Table 5. Loading factor values, AVE, and composite reliability

Variable	Indicator	Outer Loading Factor Value	AVE	Composite Reliability
Uncertainty Environment	KPL1	0.749	0.531	0.748
	KPL2	0.757		
	KPL3	0.549		
	KPL4	0.587		
	KPL5	0.512		
Manager Personnel Value	NPM1	0.788	0.584	0.875
	NPM2	0.896		
	NPM3	0.729		
	NPM4	0.802		
	NPM5	0.710		
Environmental Disclosure	PL1	0.585	0.579	0.904
	PL2	0.835		
	PL3	0.910		
	PL4	0.739		
	PL5	0.641		
	PL6	0.883		
	PL7	0.919		

Source: Data processed, 2021

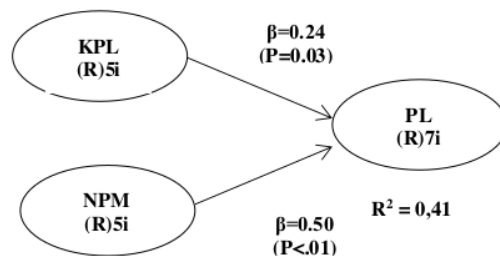
Table 6. The Results of Cronbach Alpha, Composite Reliability, and Average Variance Extracted

	Cut Off Value	KPL	NPM	PL	Note
Cronbach Alpha	>0,6	0,583	0,821	0,872	All item meet the requirement
Composite Reliability	>0,7	0,748	0,875	0,904	
Average Variance Extracted	>0,5	0,559	0,584	0,579	

Source: Data processed, 2021

Note: KPL = Environmental uncertainty, NPM = Manager's Personnel Value, PL = Environmental disclosure.

The R Square is about 0.408, meaning that environmental uncertainty and manager's personnel value could explain the environmental disclosure variable by 40.8%. We used three steps in analyzing with Partial Least Square (PLS). The first step is related to the outer model includes composite reliability, Cronbach's Alpha, and Average Variance extracted. The second step, the reliability of constructs, for the composite reliability value above 0,7, for the Cronbach's Alpha above 0,60. The last step, the Average Variance Extracted (AVE) is about 0,4 (Ghozali, 2013). From Table 4 shows that all the outer model can fulfill and has good validity. Based on Chin (1998) if the value of R Square (R^2) is 0,19, it is a weak level. If the value of R Square (R^2) is 0,33, it is moderate. If the value of R Square (R^2) is 0,67, it is strong.

**Figure 2.** The result of Research from PLS

Based on Figure 2 and Table 7 shows that the result of the research. All the hypotheses are accepted or supported. The value of the path coefficient (β) on the effect of KPL \rightarrow PL is 0.24, the p-value is 0.03. This means that hypothesis 1 (H1) is fully supported. Environmental uncertainty has a positive and significant effect on environmental disclosure that supports previous research (Zhang et al., 2012).

Table 7. The result of hypotheses

Hypothesis	β	P-value	Result
KPL \rightarrow PL (H ₁)	0,24	0,03	Supported
NPM \rightarrow PL (H ₂)	0,50	< 0,01	Supported

Source: Data processed, 2021

The final hypothesis is NPM \rightarrow PL (H₁) which reveals the effect of manager personnel value which has a positive and significant effect on environmental disclosure. The path coefficient (β) is 0.50 with a p-value < 0.01. This means that hypothesis 2 (H₂) shows that the hypothesis is accepted. Thus, the result of this study supports the previous research (Borghesi et al., 2014; Clarkson et al., 2013; Cormier et al., 2004).

The first hypothesis (H₁) states that environmental uncertainty affects environmental disclosure, which is empirically accepted. This means that Hypothesis 1 is supported. The higher the environmental uncertainty, the greater the environmental disclosure made by companies. Research supports previous research related to environmental uncertainty and environmental disclosure (Zhang et al., 2012). Environmental uncertainty is an unpredictable situation, including natural disasters, climate change, to respond now and in the future (Pondeville et al., 2013). Environmental uncertainty is a challenge for every company today and is linked to the lack of environmental information and the speed of environmental information as limiting factors for action. In conditions of high uncertainty, fast information can help managers improve decision quality and reduce environmental impact because this information provides several alternatives and solutions in decision making (Cadman et al., 2016). Thus, environmental uncertainty requires information about the environment. This research also supports the contingency theory. The underlying theory is a contingency theory, namely the influence of environmental uncertainty and environmental disclosure (Otley, 1980). Thus, it can be concluded that the environmental uncertainty affects on the decision making, one of them is to disclose environment for company based on the contingency theory.

The last hypothesis (H₂) states that "Manager's Personnel Value positively affects environmental disclosure". Empirical evidence from the results of this study can be concluded that H2 is supported. This finding support Luque-Vílchez et al. (2019) revealed that manager personnel values positively affect environmental disclosure a result from Spanish firms. Papagiannakis and Lioukas (2012) showed managers' personnel values influence environmental disclosure. Whittington, (2015) describes the transformation of manager personnel values into actual changes in social interactions. The determinant role of the structure is what makes Giddens (1984) refer to the mediating role of structure in actor agents: structure always underlines agency in social action (Giddens, 1984). In this case, the effect of structure mediation on actor agency can represent a structural or empowerment constraint. That is, the structure can determine the direction and intensity of agency effects (Archer, 2003; Giddens, 1984). This finding result supports the Structuration theory.

4. Conclusions

The result of the research shows that all hypotheses are supported. Environmental uncertainty has a positive and significant impact on environmental disclosure. It means that the higher the uncertainty environment, the higher the environmental disclosure. The manager's personnel values also have a positive and significant impact on environmental disclosure. The higher manager's personnel values, the higher the environmental disclosure.

There are several limitations of this study. The first limitation of this research is the low response from the research object. Another limitation is related to the results of R Square, which still needs to be done further research. Suggestions for future research are to conduct qualitative research, namely conducting case studies and interviews. In addition, the future studies may consider variables that have not been studied, for example, organizational culture, government responsibility, media, and so on.

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Appendix 1.

Table 1. Environmental Uncertainty

No	Indicator
1	Diversity on the needs of customers
2	Diversity from competition
3	Similarities to Suppliers
4	Size of the Allies (Partnership)
5	The number of competitors

Table 2. Manager's Personnel Value

No	Indicator
	Universalism
1	Everyone in the world is treated the same. He wanted justice for everyone, even for people he didn't know
2	It is important to listen to people who are different from him. Even when he disagreed with them, he still wanted to understand them
3	I believe that humans should care about nature.
	Virtue
4	It is very important for me to help those around him. He wants to take care of others
5	It is important for me to be loyal to his friends. He wants to devote himself to those who are close to him

Table 3. Environmental Disclosure

No	Indicators
1	Governance structures and management systems related to an environment such as ISO 14001
2	Credibility related to the use of the Global Reporting Index, certification and linkages from Stakeholders.
3	Environmental Performance Indicators related to the efficient use of natural resources, gas.
4	Expenditures related to the environment
5	Vision and Strategy Claims
6	Environmental Profile
7	Environmental initiatives related to training, awards, audits

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