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Analysis of Management Accounting Systems Affecting Energy Efficiency, Environmental Uncertainty and Environmental Performance of Small and Medium Enterprises

Eko Riyan Setiawan and Khairina Nur Izzaty[*)]
Accounting Department, STIE Bank BPD Jateng

E-mail to:
[*)]izzaty33@gmail.com

Abstract.The purpose of this study was to analyze the management accounting system in influencing energy, environmental uncertainty and environmental performance in SMEs in Grobogan Regency. The population of this study is SMEs in the grobogan registered at the Grobogan Regency Cooperative and SME Office with a sample of 60 SME owners. The analytical tool used is Smart PLS 3.0. The results of this study are a positive management accounting system on energy efficiency, a positive negative management accounting system on environmental planning, a positive management accounting system supporting environmental improvement. The results of the fourth hypothesis confirm positive energy efficiency on Environmental performance. Subsequent results indicate environmental policy.

Keywords: *Management accounting system, energy efficiency, environmental improvement, environmental performance*

1. Introduction

Environmental performance is one of the focuses of attention of stakeholders and investors in today's business world. Modern businesses are busy with inventive solutions to reduce their role in causing environmental pollution and nowadays economies around the world are starting to be interested in taking steps to improve environmental conditions by practicing environmentally friendly business methods [1]. The company wishes to be able to continue to produce and keep the environment in good condition, because the company's spirit is to fulfill its sustainable economic goals by maintaining profitability through strong internal awareness and maintaining environmental responsibility in the future [1].

Companies are part of society and the environment, so companies should not develop themselves without paying attention to society and the environment. Companies in Indonesia have experienced very rapid growth and development, especially manufacturing companies. The impact arising from the company's operational activities will reduce the trust of the public and stakeholders in the company so that it will affect the sustainability of the company in view of the fact that there are still some companies that do not pay attention to the conditions of society and the environment [2]

There are still many industries in Indonesia that violate environmental regulations, for example environmental pollution in Grobogan district. The activity of the soy sauce industry in Purwodadi Village, Purwodadi District, Grobogan Regency has an influence on the water and land of the

population. The negative impact of this soy sauce waste for the water quality of residents in Purwodadi Village, Purwodadi District, Grobogan Regency can be identified from taste, color and smell. The taste of the well water which was contaminated with soy sauce industrial waste, which at first had no taste, turned out to be somewhat acidic. Based on observations from polluted residents, the color of the well water has turned slightly blackish brown. The smell of polluted well water has become unpleasant and the agricultural areas that were formerly arable are now defunct. If you look physically at the well water of residents in Purwodadi Village, Purwodadi District, Grobogan Regency, it is identified as being contaminated with soy sauce industrial waste because it has a characteristic that the rainy season is a bit black and smells so that it will cause various effects, which can be seen from various consequences such as: the population becomes difficult to get water. clean, the land becomes less fertile, the health of the population becomes disturbed due to skin diseases and itching [3].

The management accounting system (MAS) contributes very important to business development and increases company profits, as well as the opportunity to improve the environment by implementing an efficient management accounting system. (Marina, 2009). In this regard, several studies have found that reliable administration in managing company assets can empower institutions and economies to recognize environmentally friendly regulations that tend to limit environmental burdens. In this way, the economy today has identified major resolutions to eradicate and reduce dependence on harmful industrial methods such as extensive energy dependence on harmful carbon emissions.[1].

In order to reduce carbon emissions, many organizations use appropriate accounting tools to identify and provide solutions to reduce the company's carbon contribution. In this context, research Burritt, Schaltegger, & Zvezdov, (2011) has recognized the significant contribution of management accounting systems that help companies to record and measure their direct and indirect contributions to reducing carbon emissions. The role of accounting in managing, disclosing and monitoring carbon emissions within the company not only helps in reducing the amount of carbon emitted but also assists in management decision making by collecting data on the organization's energy dependence and contribution to harmful carbon emissions resulting from energy consumption (Haseeb, et al, 2019).

Linking success to corporate organizations, environmental uncertainty and MAS. The research findings indicate that the success of management accounting systems and firm structures depends on changing environments (Ahmed, et al, 2019). This study also determined that MAS is significant for influencing environmental uncertainty and that decision makers consider uncertainty in the external environment to be important in the environmental management process.

As well as, Marina (2009) examined the relationship between environmental uncertainty, MAS design, performance and decentralization in organizations. The results of empirical evidence that decentralization established that MAS is significant for achieving higher performance in the presence of lower environmental uncertainty. On the other hand, in the case of low uncertainty, decentralization and MAS found high performance results.

Likewise, the role of the management accounting system has been deemed important to generate corporate competence and performance in environmental management [8]. Mostly, the prevailing emphasis on environmental MASs in achieving sustainable cost effective solutions is significant.

In this case, Schaltegger, (2018) examines the relationship of management accounting systems in natural issues around the world covering atmospheric issues as a key to sustainability around the world. Using a qualitative approach, it can be concluded that management accounting systems underlie the tendency to prove to be an innovative management accounting tool for identifying and managing various systematic methods to aid in ecologically useful decision making in organizations.

Sroufe & Gopalakrishna-Remani, (2019) analyzed 500 organizations to examine the relationship between the environment and the implementation of the accounting system. In his research, he analyzed the contribution of company resources in improving sustainable company performance [6]. Likewise, Tetiana et al, (2018) describe that techniques and data are assembled to protect administrations in implementing great energy effectiveness and offer productivity information on company performance and progress for the use of energy-efficient innovations with reduced energy dependence.

Similarly, Rotzek, Scope, & Günther, (2018) also analyzed energy culture to identify energy efficiency measures of modern organizations. The authors attribute energy efficiency to the driving force for environmental performance, corporate production and organizational success.

In India, Hameed, (2018), examined environmental accounting, determined that environmental management accounting affects environmental estimates and costs. In assigning these costs to business options, it is used to create and extend models to reduce environmental burdens, such as carbon emissions, energy dependence and help build a responsible image within the organization and reduce external uncertainties. In addition, this study finds that management accounting systems are an important tool for conveying environmental costs to organizational management and leadership to inspire them to recognize methods for reducing harmful environmental practices, thereby enhancing company performance and competence. Likewise, in United States, Hughes, (2001) analyzed the importance of organizational recording, information disclosure, environmental practices on environmental performance.

The role of MAS is considered important to identify carbon consumption and provide awareness to use energy more efficiently. Thus, the utilization of MAS can help an organization to expand its environmental quality and improve its environmental performance. Given the growing importance of MAS in meeting sustainable development goals, this study is intended to explore the impact of MAS in reducing environmental uncertainty and improving energy efficiency in small and medium enterprises in Grobogan (SMEs). Apart from that, current research also analyzes the role of energy efficiency and environmental uncertainty in influencing the environmental performance of SMEs.

Knowledge related to MAS will not only assist SMEs in Grobogan in identifying the important role of MAS in achieving sustainable development goals but also assist companies in reducing levels of environmental uncertainty and energy dependence which can increase organizational costs and affect environmental performance. Based on this, the research questions were raised, namely (1) does the management accounting system have a positive effect on energy efficiency? (2) Does the management accounting system have a negative effect on environmental uncertainty? (3) Does the management accounting system have a positive effect on environmental performance? (4) Does energy efficiency have a positive effect on environmental performance? (5) Does environmental uncertainty have a negative effect on environmental performance?

2. Literature Review

2.1 Stakeholder Theory

The definition of stakeholder according to Badjuri, (2011) is all parties, both internal and external, who have a relationship that affects or is influenced, directly or indirectly by the company. Lindawati (2015) explaining stakeholder theory is that the company's business role is no longer limited to a few stakeholders and now the company is considered a social institution that can provide benefits and welfare to all stakeholders. From the two definitions above, it can be concluded that stakeholders are the parties who influence or are influenced by the company that play a role in determining the success of the company itself. Stakeholders need companies to fulfill their interests, while companies also need stakeholders to achieve success and maintain the continuity of the company.

2.2 Legitimacy Theory

Legitimacy is a situation where the attention between the community and the environment has been fulfilled. Legitimacy is a psychological condition of taking sides of people and groups of people who are very sensitive to the symptoms of their surrounding environment, both physical and non-physical [15]. Lindawati (2015) states the legitimacy theory that companies continuously try to ensure that their activities / activities are in accordance with the boundaries and norms of the community where the company operates or is located.

Company legitimacy in the eyes of stakeholders can be carried out by implementing business ethics integrity and increasing corporate social responsibility [15]. Thus, companies that carry out Corporate

Social Responsibility and protect the surrounding environment that can provide benefits to the community are also one of the company's efforts to be legitimate.

2.3 Environmental Performance

The company's environmental performance is the company's performance in creating a good environment [17]. This environmental performance is seen as a form of corporate social responsibility. Moreover, social responsibility is also related to stakeholders. Concept of Ecoefficiency or also known as ecosystem efficiency is a concept that can support discussion of environmental performance. Ecoefficiency is environmental management which argues that organizations can produce more useful goods and services while simultaneously reducing negative impacts on the environment, resource consumption, and costs [18]. Thus, in this concept the company is not only tasked with producing products but must also pay attention to the environment and surrounding resources.

2.4 Management Accounting System

The management accounting system is an organizational control mechanism, where the management accounting system is an effective tool in providing useful information to predict the possible consequences of various alternatives that can be done. The management accounting system is a reflection of the management planning function, namely providing information for decision making, motivating manager behavior and as a means of increasing efficiency (Marina, 2009). The above research reveals that management accounting generates useful information to assist workers, managers and executives in making better decisions. Traditionally, management accounting information has been dominated by financial information, but in its development, it turns out that the role of non-financial information also determines the output generated from the system. Research by Marina, (2009), prove that the characteristics of management accounting system information that are useful according to managers' perceptions include broad scope, timeliness, aggregation and integration.

2.5 Environmental Uncertainty

According to Hammad et al, (2013), environmental uncertainty is a manager's perception of factors outside the company, such as the industrial environment, technology, competition, and the customer environment. Environmental uncertainty is an external environmental condition that can affect company operations. Environmental uncertainty has been identified as an important contextual variable in management accounting systems.

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2.6 Energy Efficiency

Energy efficiency is defined as the rational and wise use of energy without reducing the energy that is really needed to support development. Generally, the industry uses the power of machinery and material handling equipment in its production process. The use of energy in the industrial sector is highly dependent on activities in producing products. Industry uses large amounts of electrical energy both in the processing (manufacturing), in packaging, and for its supporting units. Because the types and types of industries are very diverse, the efficiency of electrical energy in this sector is highly dependent on the equipment and technology used in the production process (Worrell, et al, 2009).

2.7 Triple Bottom Line Concept

The term of triple bottom line was first popularized by John Elkington (1997). This theory formulates that the sustainability and growth of a company does not depend solely on operating profit (profit), but also on concrete actions that companies take towards the environment (planet) and justice (people).

Everything is done in order to create sustainable development (sustainable development). The state of society depends on the economy, and the economy depends on society and the environment, even the global ecosystem. The three components of the triple bottom line are unstable, but dynamic depending on social, political, economic and environmental conditions and pressures, as well as possible conflicts of interest. The following is an explanation of the triple bottom line concept:

1. Profit
   Companies must still be oriented to seek economic benefits that allow them to continue to operate and develop.
2. Planet
   The company cares about the environment and the sustainability of biodiversity. Some CSR programs that are based on this principle are usually in the form of greening the environment, providing clean water facilities, improving housing, developing tourism (ecotourism) and so on.
3. People
   Companies must have a concern for human welfare. Some of the CSR programs that are often developed by companies include: providing scholarships for students in the vicinity of the company, establishing education and health facilities, strengthening local economic capacity and so on.

The triple bottom line balance is a serious effort to synergize with the goals of sustainable development that consistently promote economic, social and environmental balance. Ideally, of course, the company does all triple bottom line activities for its stakeholders. However, the most important thing is that companies carry out CSR by emphasizing the principles of sustainable development [21].

2.8 Prior Research

In this study, there are several studies that can be used as a reference. The research, among others, is from Alaeddin et al.(2019) which discusses the effect of management accounting systems in influencing environmental uncertainty, energy efficiency and environmental performance. By taking the MSME's object in Malaysia. The results obtained are that energy efficiency, environmental performance and environmental uncertainty are influenced by the management accounting system. Furthermore, energy efficiency has a positive and significant effect on environmental performance, and environmental uncertainty does not have a significant impact on environmental performance.

Research conducted by Agbejule (2005) which discusses the relationship between management accounting systems and perceived environmental uncertainty on managerial performance. With the object of a medium-sized manager of business units operating in Finland. The results obtained are that MAS has a positive and significant relationship with environmental uncertainty.

Gholami et al (2013) conducted a study on the Perceptions of Senior Managers on Management Accounting Systems and Environmental Performance. With industrial objects in the Klang Valley, Malaysia. The results obtained are that the manager's attitude is significantly related to population prevention, product stewardship and sustainable development.

2.9 Hypothesis Development

In order to reduce carbon emissions, many organizations use appropriate accounting tools to identify and provide solutions to reduce the company's carbon contribution. In this context, the research of Burritt, Schaltegger, & Zvezdov, (2011) has recognized the significant contribution of carbon management accounting which helps companies to record and measure their direct and indirect contributions to reducing carbon emissions. The role of accounting in managing, disclosing and monitoring carbon emissions within the company not only helps in reducing the amount of carbon emitted but also assists in management decision making through collecting data on the energy dependence of the organization and the contribution to harmful carbon emissions resulting from energy consumption (Haseeb, et al, 2019).

Hypothesis 1. Management Accounting System has a positive effect on energy efficiency.
Linking success to corporate organizations, environmental uncertainty and MAS. The research findings show that the success of the management accounting system and firm structure depends on environmental changes (Ahmed, et al, 2019). His study also determined that MAS is significant for influencing environmental uncertainty and that decision makers consider uncertainty in the external environment to be important in the environmental management process. Similarly, Marina (2009) examined the relationship between environmental uncertainty, MAS design, performance and decentralization in organizations. The results of empirical evidence that decentralization established that MAS is significant for achieving higher performance in the face of lower environmental uncertainty. On the other hand, in the case of low uncertainty, decentralization and MAS found high performance results.

Hypothesis 2. Management Accounting System has a negative effect on environmental uncertainty
Likewise, the role of the management accounting system has been considered important to generate firm competence and performance in environmental management [8]. Mostly, the prevailing emphasis on environmental MASs in achieving sustainable cost effective solutions is significant. In this case,

Schaltegger, (2018) examines the relationship of management accounting systems in natural issues around the world including atmospheric issues as the key to sustainability around the world. Using a qualitative approach, it can be concluded that environmental management accounting underlies the tendency to prove to be an innovative management accounting tool for identifying and managing various systematic methods to assist ecologically useful decision making in organizations.

Hypothesis 3. MAS has a positive effect on environmental performance.
Sroufe & Gopalakrishna-Remani, (2019) analyzed 500 organizations to examine the relationship between the environment and the implementation of the accounting system. In his research, he analyzed the contribution of company resources in improving sustainable company performance [6]. Likewise, Tetiana et al, (2018) describe that techniques and data are assembled to protect administrations in implementing great energy effectiveness and offer productivity information on company performance and progress for the use of energy-efficient innovations with reduced energy dependence.

Similarly, Rotzek, Scope, & Günther, (2018) also analyzed energy culture to identify energy efficiency measures of modern organizations. The authors attribute energy efficiency to the driving force for environmental performance, corporate production and organizational success.

Hypothesis 4. Energy Efficiency has a positive effect on environmental performance.
In India, Hameed, (2018), examined environmental accounting, determined that environmental management accounting affects environmental estimates and costs. In assigning these costs to business options, it is used to create and extend models to reduce environmental burdens, such as carbon emissions, energy dependence and help build a responsible image within the organization and reduce external uncertainties. In addition, this study finds that environmental management accounting is an important tool for conveying environmental costs to organizational management and leadership in order to inspire them to recognize methods for reducing harmful environmental practices, thereby enhancing company performance and competence. Likewise, in the United States Hughes, (2001) analyzed the importance of organizational recording, information disclosure, environmental practices on environmental performance. In addition, the current research also analyzes the role of energy efficiency and environmental uncertainty in influencing the environmental performance of SMEs.

Hypothesis 5. Environmental uncertainty has a negative effect on environmental performance

3. Research Model

Based on the development of the above hypothesis, the research model is described as follows:

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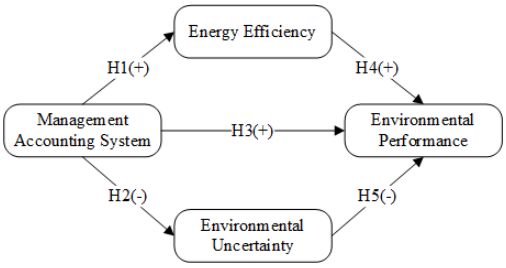

Figure 1: Research Model

3.1 Population

The population of this research is SME (Small and Medium Enterprises) in the Grobogan area.

3.2 Sampel

Sampling in this study using purposive sampling method with the aim of obtaining a sample that fits the criteria used in sample selection. The criteria used in selecting the sample of SMEs according to law no. 9/1995 on small businesses:

1. Number of employees 5- 99 people
2. Annual income <1 billion
3. Assets ≤ 200 million
4. Manufacturing company

3.3 Independent Variable

The Management Accounting System as an independent variable that has characteristics, namely broad scope, timeliness, aggregation and integration (Marina, 2009)

a. Broad Scope
   The scope of information includes external and internal factors of the company, non-economic, economic information, estimated events that may occur in the future, information related to environmental aspects. The higher the scale, the broader the information available. To measure using 4 questions by selecting a value on a scale of 1 to 5
b. Information Timeliness
   Timeliness of information is information that reveals the timeliness of showing the time between requests for information and the presentation of desired information as well as the frequency of reporting information and the speed of making reports. To measure the timeliness (Time Lines) consists of 3 question items. Respondents were asked to choose one value on a scale of 1 to 5.
c. Information Aggregration
   Aggregation of information is information that takes into account the application of formal policy forms or final outcome information analytical models that are based on functional areas or are based on time. So that the higher or more important the information generated will be more aggregated. To measure using a unit (Aggregation) which consists of 4 question items. Respondents were asked to answer questions by selecting one value on a scale of 1 to a scale of 5.
d. Information Integration
   Information integration reflects aspects such as targeted provisions or calculated activities between interaction processes between sub-units within the organization. To measure using Integration (Integration) consists of 2 question items. Respondents were asked to answer questions by selecting one value on a scale of 1 to a scale of 5.

3.4 Dependent Variable

3.4.1 Energy Efficiency

Energy Efficiency is an effort carried out with the aim of reducing the amount of energy required, in using a device or even an energy-related system. Various technologies have the potential to reduce

industrial greenhouse gas emissions, of which energy efficiency is one of the most important, especially in the short to medium term. Including fuel replacement, material efficiency, renewable energy, and reduced emissions in each category, some technologies such as the use of more efficient motor systems are widely applicable across all industries, while others are process specific. In research [20] Energy efficiency has four indicators of cross-sectoral opportunities, process technology across industries, sector-specific technologies, and management or operational opportunities. Consists of four questions and is measured on a Likert scale from a scale of 1 to 5.

3.4.2 Environmental Uncertainty

Environmental uncertainty is an external condition as a sense of one's inability to predict accurately the company's operations. Environmental uncertainty is expressed in questions related to the ability to predict circumstances against the organization's environment. Environmental uncertainty is measured by 7 indicators, namely environmental stability, new products in the industry, predictability of competitors, consumer preferences, emergence of scientific discoveries, competitive, regulatory constraints [24]. Measurements use a 5 point Likert scale. Respondents were asked to choose one value on a scale of 1 to 5 (Marina, 2009).

3.4.3 Environmental Performance

Environmental performance is a measurable result of an environmental management system, which is related to the control of its environmental aspects [25]. Environmental performance is measured using a Likkert scale of 1 to 5. Consists of 8 indicators (environmental certification, waste reduction, emission reduction, recycling, increased environmental compliance, enhancement of company image, preserving the environment, social commitment) developed by [23]

3.4.4 Data Collecting Method

The method of collecting data in this study is a questionnaire method. One way of collecting data in this study is by sending a questionnaire or questionnaire. The questionnaire or questionnaire is a list of questions given to other people who are willing to respond according to user requests. The purpose of distributing questionnaires is to find complete information about a problem from the respondent without feeling worried if the respondent gives an answer that does not match the reality in filling out the list of questions. Questionnaire with a Likert scale of 1 to 5 which means: (1) strongly disagree, (2) disagree, (3) neutral agree, (4) agree, (5) strongly agree

3.4.5 Description of Research Object

The object of this research is SME (small and medium enterprises) located in Grobogan district. In this study, using purposive sampling to determine the sample based on certain criteria, namely SME manufacturing which has a total income of less than 1 billion in a year with a minimum of 5 employees. In this study, samples were obtained from the cooperative and SME offices in Grobogan district. The number of SME was recorded at 988 in the last 3 years. The sample of this study that met the criteria was only 80 SMEs in Grobogan district. Based on the SME data above, there are a number of samples that can be distributed to SME owners. The data obtained were only 60 questionnaires and 20 questionnaires were not returned.

4. Result

The next analysis is hypothesis testing, this analysis is carried out by comparing the T-table value with the T-statistic generated from the bootstrapping results in PLS. The hypothesis is accepted (supported) if the T-statistic value is higher than the T-table value (1.96) with a significance level of 5% or exceeds the P-value $\alpha = 5\%$, p-val = 0.05 (Ghozali and Latan 2015). The results of hypothesis testing can be seen below:

Tabel 1. Result

	OSE	t-Stat	P Value	Result
Management Accounting System ➔ Energy Efficiency	0,614	8,762	0,000	Accepted
Management Accounting System ➔ Environmental Uncertainty	-0,480	5,376	0,000	Accepted
Management Accounting System ➔ Environmental Performance	0,526	4,468	0,000	Accepted
Energy Efficiency ➔ Environmental Performance	0,354	2,859	0,001	Accepted
Environmental Uncertainty ➔ Environmental Performance	-0,057	0,693	0,227	Rejected

Source: Processed Data, 2020

Based on the table in the study, it is found that there is an influence between variables, namely the management accounting system on energy efficiency, which results in (0.614, P value 0.000 <0.05), so that H1 is accepted. The management accounting system on environmental uncertainty has a significant negative effect with the acquisition value (-0.480, P 0.000 <0.05) thus H2 is accepted. Furthermore, the management accounting system on environmental performance has results (0.526, P 0.000 <0.05) thus with energy efficiency on environmental performance 0.354 obtains a significance value of 0.001 <0.05, so that H3 and H4 are accepted so that the partial results will have a positive effect and significant means that the better the independent variable will have a better impact on the dependent variable. This result is different from the effect of environmental uncertainty on environmental performance which is found to have no effect and results in a value of -0.057 with a significant level of 0.227, therefore H5 is rejected and states that good or bad environmental uncertainty will not have an impact on the performance of the surrounding environment.

5. Discussion

5.1 The Management Accounting System has a positive effect on Energy Efficiency

In this study, the management accounting system has a positive effect on energy efficiency, which can be proven by the presence of a coefficient value of 0.614 and a significance (P value) of 0.000 smaller than 0.05. The results obtained are significant, indicating that if a management accounting system owned by the manufacturing industry SMEs in the Grobogan area has increased, it will have an impact on energy efficiency which tends to increase.

The management accounting system can also be used to determine strategies, planning, controlling and optimizing the use of natural resources so that it can save energy that will be used when the physical marginal productivity of each natural resource in the production activity of a product is the same, if an activity can produce more output. Many of these inputs can lead to an increase in energy efficiency. Therefore, with the development of management accounting system technology, it is very necessary to optimize the energy that must be used in order to get profit in the development and sustainability of its business [5].

The results of this study are in line with that conducted by Haseeb et al., (2019) which states that there is a positive influence between management accounting systems on energy efficiency. The management accounting system can optimize and manage the energy needed by SMEs according to the operations used.

5.2 The Management Accounting System has a negative Effect on Environmental Uncertainty

In this study, the results of the management accounting system have a negative impact on environmental uncertainty because it has a significance value of 0.000 smaller than 0.05 and a value of -0.480. Thus, a more sophisticated management accounting system will affect the ability of business actors to make

decisions to reduce the impact of environmental uncertainty through organized internal and external management accounting system information.

Seeing the changing environment that is constantly changing, there is high environmental uncertainty to plan and predict economic growth in the future. Higher environmental uncertainty puts pressure on the organization to achieve competitive advantage and improve environmental, economic and social performance. Modern businesses faced with broad uncertainty in terms of competition, scientific discoveries, strict regulations, technological advances, and environmental changes need to take advantage of an effective management accounting system so that business voters can make decisions to reduce environmental uncertainty. Therefore, the use of a management accounting system can help reduce the impact of environmental uncertainty [1]. The results of this study are in line with that conducted by Alaeddin et al., (2019) which states that there is a negative influence between the management accounting system on environmental uncertainty.

5.3 Management Accounting System has a Positive Effect on Environmental Performance

The results of the study indicate that the management accounting system has a significant positive effect on environmental performance which is indicated by a significant value of 0.000, which means it is smaller than 0.05 and 0.526. The higher the management accounting system can improve the environmental performance of the manufacturing industry SMEs, the better for managing methods of systematically making decisions and making plans in achieving good natural environmental targets effectively and in a timely manner with a management accounting system to collect, calculate, analyze cost reports the environment reduces the information gap that will be generated because the costs of environmental damage are not identified. The management accounting system used can have an impact to minimize environmental damage that will occur so that it will be easy to control and the performance of the environment is more optimal [1].

The results of this study are in line with that conducted by Schaltegger, (2018) which states that there is a positive influence between management accounting systems on environmental performance if the management accounting system used is very useful for better environmental performance and the information obtained is actual in accordance with procedures. Formal procedures and systems use financial and environmental information to maintain or modify environmental performance.

5.4 Energy Efficiency has a Positive Effect on Environmental Performance

The results obtained in this study have a statistical T value of more than 1.96, namely 2.942 and a coefficient and significance of (0.354, P 0.001 <0.05) which means that there is a positive influence between energy efficiency and environmental performance. This indicates that if a business actor has the ability to use energy sources in its operational activities effectively and efficiently, it will improve and improve the performance in the surrounding environment. Energy efficiency is carried out by looking at data to protect and implement the effectiveness of energy and environmental performance information to obtain maximum results. Energy efficiency can be used to save costs incurred by the company and reduce the impact of carbon emitted by production machines. Modern production machines with the latest technology can produce more efficiently and can reduce the negative impact on the environment [1]. The results of this study are in line with that conducted by Haseeb et al., (2019) which states that there is a positive influence between energy efficiency on environmental performance.

5.5 Environmental Uncertainty has No Effect on Environmental Performance

This study produces a significance level of 0.227> 0.05, thus environmental uncertainty does not affect environmental performance, therefore, a high or low level of an entrepreneur's sense of inability to predict external and internal factors in order to make decisions in the organization will not have an impact on the increase or decrease in environmental performance at SME in Grobogan.

Conditions of changing environmental uncertainty do not cause business actors to face difficulties in understanding a very complex environment so that a business actor will not experience difficulties in planning and controlling his business. Thus it does not result in planning and control of the environment,

it will be constrained only because of environmental factors that are uncertain and unpredictable [1]. The results of this study are in line with that conducted by [1] which states that environmental uncertainty does not have a significant impact on environmental performance.

6. Conclusion

This study aims to obtain empirical evidence of the effect of management accounting systems on environmental uncertainty, energy efficiency and environmental performance. Based on the results of the research conducted, it can be concluded that:

1. The management accounting system has a positive effect on energy efficiency
2. The management accounting system has a negative effect on environmental uncertainty
3. The management accounting system has a positive effect on environmental performance
4. Energy efficiency has a positive effect on environmental performance
5. Environmental uncertainty has no effect on environmental performance

7. Limitations

The limitation in this study is the distribution of questionnaires to SME business owners whose owners have work-related activities and some of the respondents who go out of town for certain reasons, resulting in not being able to fill out the questionnaire.

8. Reccomendation

Based on the discussion and research conclusions above, suggestions that can be conveyed to researchers who will conduct research with the same and similar themes, should pay more attention to time in distributing questionnaires. So that the time and distribution of the questionnaires can run effectively and smoothly.

9. Managerial Implications

Based on the discussion and research conclusions above, suggestions that can be conveyed to researchers who will conduct research with the same and similar themes, should pay more attention to time in distributing questionnaires. So that the time and distribution of the questionnaires can run effectively and smoothly.

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