

A Review of Environmental Management Accounting Practices in Malaysia

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Abstract

Purpose: This paper aims to review the environmental management accounting practices – environmental strategy, environmental uncertainty, environmental regulation, environmental sustainability and environmental cost, in Malaysia.

Design/methodology/approach: An analysis of previous studies on accounting practices, management accounting and environmental management accounting practices was employed to explore the pattern of environmental management accounting practices in Malaysia.

Findings: The review provides valuable insight into the relationship between environmental management accounting practices and environmental performance in Malaysia.

Research limitations/implications: A review and analysis of environmental management accounting contribute to the management accounting literature, theory and practices.

Practical implications: Malaysian manufacturing firms significantly benefited in strategising internal efficiency through practising environmental management accounting.

Originality/value: This paper adds to the body of knowledge by reviewing the existing association between environmental management accounting practices and environmental performance in Malaysia and advocates the academic researcher on empirical evidence associating manufacturing firms on implementing environmental management accounting practices for future firms sustainability.

Paper type: Conceptual paper

Keywords: Management accounting practices, Environmental management system, Environmental management accounting practices, Accounting practices, Manufacturing, Malaysia

Introduction

Environmental problems have now become the world's public attention which is very important to discuss. This raises various demands for companies to pay more attention to responsibility and be responsible for environmental conditions and the surrounding community (Honesty, 2021). Management accounting has been performed to provide individuals with important information and decision-making processes (Eslami et al., 2019). The manufacturing sector holds 27% of the entire GDP of a country, and therefore, in the case of distribution, the

manufacturing industry needs more capital to execute their plans. Besides that, this industry has also helped to mitigate environmental issues by adopting modern technology.

Zhu (2018) predicted that organisations are under pressure to promote better and facilitate sustainable corporate growth. It has been observed that both domestic and international political advocates are conducting such pressures for extracting better sustainable products and services from the organisations. For instance, UK's governmental advocates are deciding to conduct net zero emission of greenhouse and toxic margins by 2030 (Rodríguez-Olalla & Avilés-Palacios, 2017). Nowadays, sustainable development matters have been hyped in the market and global warming; pollution, climate change, desertification, floods, tsunami and other terrible environmental advantages have increased continuously (Zhu, 2018). Industrial growth has been increasing, which requires more engagement of natural resources and causes severe damage to the earth.

Environmental management accounting practices play an essential role in managing the environmental activities in the manufacturing industry. Thus, this current study argues that the implementation of environmental management accounting practices is vital in improving the performance of the Malaysian manufacturing industry (Mohd Fuzi et al., 2019). Environmental management accounting practices can suppress uncertainty risks of the environment to enhance the managerial performance of the company. Based on the previous research, environmental uncertainty arises when business conditions consistently change within a business environment. Latan (2018) stated that most of the manufacturing companies of Malaysia went through environmental management accounting practices by which their companies have increased their productivity by managing manufacturing costs. Malaysia has adopted environmental management practices, more specifically, the ranking positions of Malaysia have increased by 63% in 2016 (Soares, 2017). Moreover, compared to Malaysia and Singapore, environmental strategies are more effective in mitigating various environmental errors faced by manufacturing companies in the future.

Helfaya and Moussa (2017) stated that Malaysia provides 32% of tin, 39% wood, 37% palm oil, and 41% of rubber worldwide. Besides that, Malaysia is a rich environment country, and it is facing numerous problems, such as biodiversity degradation, climate change, hazardous waste management and many more. Weak environmental governance and lack of environmental accounting have decreased the growth and GDP of the manufacturing industry of Malaysia very severely. However, Malaysia GDP has grown up to 81699.00 billion in the last two years, which showed financial growth of the country's manufacturing sector. Therefore, every individual needs to be responsible for managing environmental factors to improve productivity and financing growth of manufacturing companies (Soares, 2017). Apart from that, the most effective ways to manage environmental factors are waste production, lower carbon emission rates and use more renewable energy.

Toxic waste, water pollution, ozone layer depletion, acid rain, and global warming are poor environmental management. In a recent business era, manufacturing companies use more new technology that produces UV rays, and it is also harmful to the environment that could affect the ozone layer (El-Kassar & Singh, 2019). Therefore, environmental performance practice influences the lack of control of management over the internal and external factors of businesses. Environmental uncertainty includes the demand of consumers, availability of products, and availability of resources. Moreover, EMAP is an effective programme that reduces risks and issues regarding environmental factors.

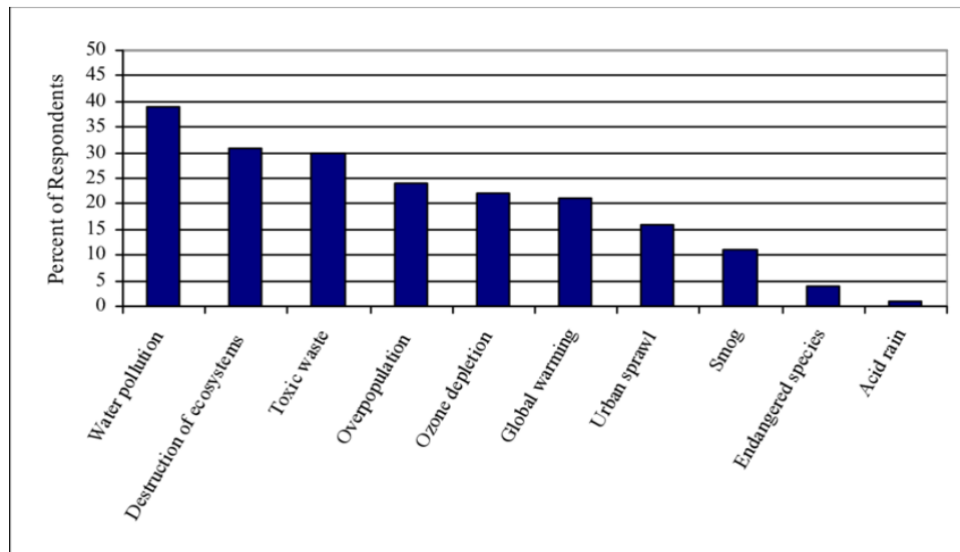


Figure 1: Effect of Manufacturing Industry on Environment (Cadez, 2017)

Environmental Management Accounting

Environmental management accounting can be referred to as identifying, collecting, analysing and using two different types of information for internal decision making. Firstly, using the physical information of rates and flow of energy, water, and materials, including wastes. On the other hand, the second one is financial information on costs related to environmental protection, profit earnings and savings of manufacturing companies in Malaysia. Environmental management accounting addresses the information a manager or management requires for corporate affairs and activities that impact the environment. As per the studies done by Liu and Xie (2020), environmental management account practices include all the necessary information and work on reducing the negative impact on the environment that lowers the environmental impacts on the corporation.

Environment management practices include environmental considerations within the investment decision making of the company. Environmental accounting includes routine performance monitoring and its impact on the environment. Furthermore, working on environment-related indicators provides the business enterprises of the manufacturing industry with some areas for their improvement. It includes environmental practices against the benchmarking activities to assess the quality of existing environment accounting operations running within the organisation. Mohd Fuzi et al. (2019) found that implementing environmental management accounting practices can assist the organisation in improving operational performance. At this time, there are many environmental management tools used to manage environmental performance, such as environmental impact assessments, environmental auditing, life cycle assessments, substance flow analysis, and EMSs (Habidin et al., 2017).

Environment accounting practising looks through every aspect of a company's production and manufacturing process and finds the areas to reduce cost. According to Raj (2017), environmental costs must be included within the production process to achieve socially optimal production of a commodity in a market. The environmental management accounting practices estimates the prevention costs that are adversely related to the environmental upgradation. Furthermore, the costs of eliminating the impacts on the environment generated by the organisation while running the production operations. Table 1 presents the environmental management accounting practices studies and the benefits gained from adopting environmental management accounting practices.

Table 1: Environmental Management Accounting

| Author | Title | Variable | Key findings | Benefits of EMAP |
|--------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------|
| Mabroul (2021) | Drivers, barriers and incentives to implementing environmental management systems in the manufacturing industry | Environmental Strategy | Environmental strategy in a proactive manner includes the anticipation of Malaysian regulations in future. | Environmental strategy is more forward-oriented and it is documented to construct the future roadmap of a country. |
| Kwok (2019) | Interactive effects of information exchange, relationship capital and environmental uncertainty on international joint venture (IJV) performance: An emerging markets perspective. | Environmental Uncertainty | Environmental management accounting practices have the ability to suppress uncertainty risks of the environment in order to enhance the managerial performance of the company. | Environmental uncertainty is considered to be a crucial element influencing the organisational structure. |
| Wang et al. (2020) | Three Lines One Permit” policy: An integrated environmental regulation in China | Environmental Regulations | Environmental regulations mostly influence the manufacturing firms to bring within a resource efficient path that enhances the level of competitiveness in the market. | However, economic growth of a manufacturing firms is influenced by the environmental regulations placed in the economy. |
| Kocmanova (2017) | Corporate sustainability measurement and assessment of Czech manufacturing companies using a composite indicator | Environmental Sustainability | Cost reduction and waste materials can lead to operational efficiency that further influences the environmental sustainability of the company. | Environmental sustainability helps to reduce the wastage of physical resources as well as human resources. |
| Honesty (2021) | Environmental performance , | Environmental Cost | Environmental costs has an effect on the | Environmental costs has an |

| | | | | |
|--|------------------------------------------------|--|--------------------------------------------------------------|-----------------------------------------------------------------------------------|
| | environmental costs and financial performance. | | financial performance of mining and manufacturing companies. | impact on financial performance and minimise the risk of environmental pollution. |
|--|------------------------------------------------|--|--------------------------------------------------------------|-----------------------------------------------------------------------------------|

Elements of Environmental Management Accounting

Environmental Strategy

Environmental strategy is considered to be a long-term orientation of a firm on how to manage environmental practices to achieve the target and expectation of stakeholders of any organisation. As per the studies done by Mabrouk and Ibrahim (2021), an environmental strategy in a proactive manner includes the anticipation of regulations in future. Furthermore, it voluntarily prevents negative environmental impacts of production or business activities of an organisation that can hurt the brand value or reputation of the company.

Environmental strategies must be constructed so that organisations can look at environmental management as a tool for strategic advantage in the market. As per Baah (2021) view, a proactive environmental strategy is more forward-oriented and is documented to construct the future roadmap. The environmental strategies include assessing risks, economic evaluation of the company, predicting environmental regulations, and identifying the best environmental strategies. Furthermore, internal cost reduction helps in emphasising other environmental management practices through greater monetary support and flexibility of operations, which reduces the organisation’s carbon footprints.

Proposition 1: Environmental strategy has a significant association with environmental performance.

Environmental Uncertainty

Environment uncertainty is a factor associated with the risks a company must bear during environmental management accounting practices. Previous research studies have observed that accounting techniques and research hypotheses are not always helpful in predicting environmental factors of the environment in the future period. According to Kwok (2019), environmental management accounting practices can suppress uncertainty risks of the environment to enhance the managerial performance of the company.

Environmental uncertainty includes the demand of consumers, availability of products, availability of resources, political influence and market competition. Furthermore, better environmental governance is observed to be effective in encountering environmental uncertainty existing in the manufacturing industry of Malaysia. Business management with a lack of information is perceived to create environmental uncertainty that influences environmental performance. As per the studies done by Naughton (2020), the inability to predict the future impacts of environmental changes and the consequences of a certain choice of responses impact organisational performance.

Proposition 2: Environmental uncertainty has a significant association with environmental performance.

Environmental Regulation

Environmental regulations are linked with environmental productivity as regulations are highly influential in reducing emission intensity in the manufacturing industry in Malaysia. The competitiveness of the manufacturing firms was intensely affected due to increasing curbs in

the market by the regulatory bodies. However, the environmental regulations mostly influence the manufacturing firms to bring within a resource-efficient path that enhances competitiveness in the market. As per the studies done by Wang (2020), the economic growth of manufacturing firms is influenced by the environmental regulations placed in the economy.

Regulations in the manufacturing industry are observed to be leading towards adopting green technologies. As per Yordanova (2019) view, greener technologies are more suitable for performing contemporary approaches that lead to environmental sustainability and greater economic performance by an organisation. Previous research studies have shown that manufacturing companies' environmental and economic performance is correlated with each other.

Proposition 3: Environmental regulation has a significant association with environmental performance.

Environmental Sustainability

Sustainable manufacturing is considered to develop manufactured products through an economically sound process and minimises negative environmental impacts. The environmental sustainability of a manufacturing company is achieved through the conservation of energy and natural resources. Recent studies in this area have shown that an increasing number of manufacturing firms are considering environmental sustainability as a necessary objective in their strategic decision-making. The main intention of these business enterprises is to increase operational growth and global competitiveness in the market. According to Kocmanova (2017) study, effective corporate governance is influential in achieving greater environmental sustainability that requires close inspection in the overall operation of a manufacturing company.

As per the studies done by Busco (2020), more significant environmental sustainability would reduce the wastage of physical resources and human resources. Building business visibility and success in a longer run require greater environmental sustainability, leading to a higher environmental performance of a manufacturing company in Malaysia.

Proposition 4: Environmental sustainability has a significant association with environmental performance.

Environmental Cost

Environmental costs include any costs incurred in conjunction with environmental protection, both domestically and externally. The use of the environmental cost budget will influence the items that are manufactured and sold. One is a positive image to customers who desire high-quality, ecologically friendly, and cheap items. This will have a positive influence on manufacturing company performance. Environmental costs have a positive effect against competitive advantage because the environmental costs incurred by the company can afford to increase the company's reputation, which positively affects financial performance (Honesty, 2021).

This implies that environmental cost influences a company's financial performance, and a company's concern, both in terms of detection costs, preventive costs, external failure costs, and internal failure costs, may help reduce the risk of pollution. Henri et al. (2016) debated that pursuing environmental costs could enhance managers' consciousness toward cost structure, enabling them to manage environmental costs, enhancing their decisions and eventually the organisational performance.

Proposition 5: Environmental cost has a significant association with environmental performance.

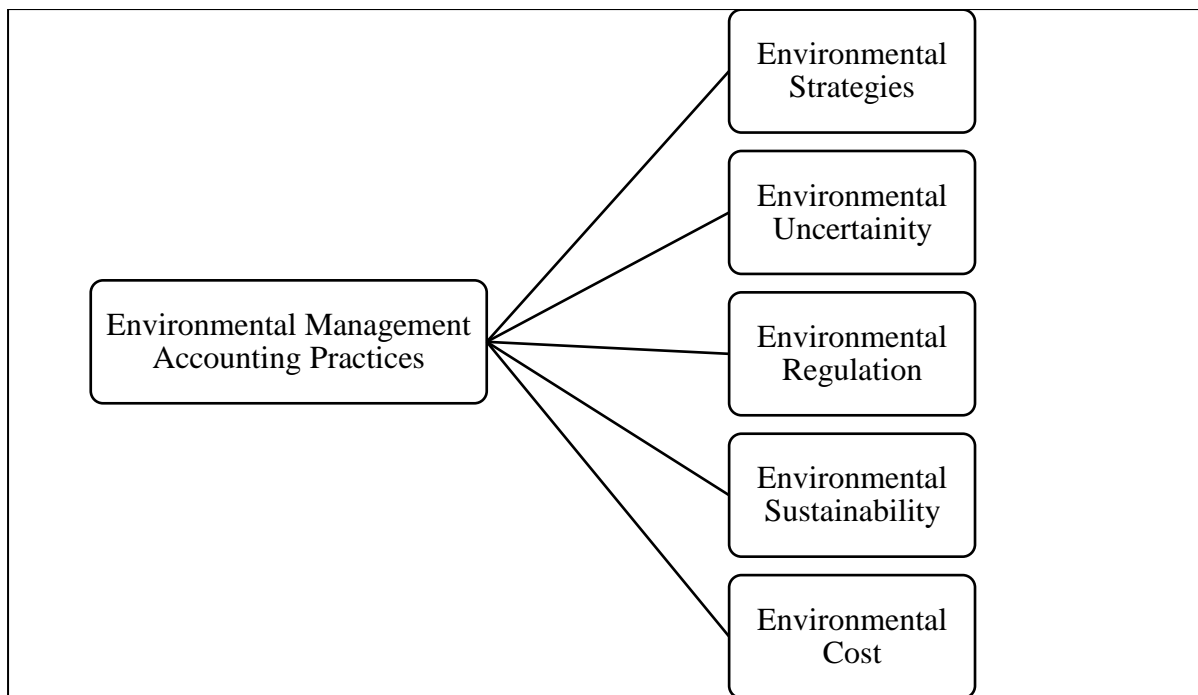


Figure 2: Factors of Environmental Management Accounting Practices

Conclusion

This study reviews the factors of environmental management accounting practices in Malaysia. It is crucial to help managers understand the factors that influence environmental management accounting practices and later affecting environmental performance, particularly in Malaysian manufacturing firms.

Theoretical Implications

The outcomes of this study are intended to benefit academics and the industry, primarily Malaysian manufacturing managers. As a result, the manufacturer may consider implementing environmental management accounting for environmental performance and business sustainability.

Practical and Social Implications

This research is also helpful to policymakers and the government since it will serve as a guideline for developing policies pertaining to the Malaysian manufacturing industry to improve environmental management accounting practices.

Limitations and Suggestions for Future Research

Empirical evidence associated with manufacturing firms in Malaysia on environmental management accounting practices is required to value its impact on environmental performance.

Acknowledgement

The researcher appreciates and thank you the Ministry of Higher Education (MOHE) Malaysia for financial support of this research under the Fundamental Research Grant Scheme (FRGS) with project code FRGS/1/2019/SS08/UNITEN/03/1.

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