

The Relationship between Environmental Information System and Performance for Malaysian Manufacturing Industry

Nursyazwani Mohd Fuzi^{1*}, Nurul Fadly Habidin², Sharul Effendy Janudin³, and Sharon Yong Yee Ong⁴

^{1*,3}Department of Accounting and Finance, Faculty of Management and Economics, Universiti Pendidikan Sultan Idris, 35900 Tanjung Malim, Perak, Malaysia

^{2,4}Department of Management and Leadership, Faculty of Management and Economics, Universiti Pendidikan Sultan Idris, 35900 Tanjung Malim, Perak, Malaysia

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Abstract

The purpose of this study is to examine the relationship between environmental information system and environmental performance for Malaysian manufacturing industry. This study is to examine the environmental information system (technology and processes) and environmental performance (financial performance and operational performance). This study proposed conceptual model between environmental information system and environmental performance for Malaysian manufacturing industry. Based on the proposed conceptual model, research hypothesis are being used and tested. Thus, this study provides new insights for the environmental information system to improve environmental performance for Malaysian manufacturing industry.

Keywords: Environmental information system, technology, financial performance, operational performance, manufacturing industry

Introduction

Manufacturing industry is an important sector in Malaysian economy (Habidin, Yusof, & Fuzi, 2016; Fuzi, Habidin, Hibadullah, & Ong, 2017). The importance of manufacturing is to contribute to the gross domestic product (GDP) in Malaysian economy (Hooi, 2016). This is because GDP growth is important to improve the performance for Malaysian manufacturing industry. In this study, Environmental Information System (EIS) is one of the tools that can be used to improve performance for Malaysian manufacturing industry. However, Spencer, Adams, and Yapa (2013) mentioned that manufacturing industry faces a gap in information systems, particularly to the environment. This study used EIS as a guideline to support information systems and to increase the higher performance for Malaysian manufacturing industry.

In relation to that, this study also focused on Environmental Performance (EP) for Malaysian manufacturing industry. According to Bran, Radulescu, and Ioan (2011), EP refers to improve measure outcome that influences the extent of performance measurement of the organizations. EP is important to the manufacturing industry to improve the performance, especially for Malaysian manufacturing industry (Dubey et al., 2017). By measuring EP, this study can achieve environmental objectives and improve the performance for Malaysian manufacturing industry.

This study, thus, proposes that EIS can improve the EP for Malaysian manufacturing industry. In order to achieve the success and sustain the environmental improvement, the relationship between EIS and EP can be important as guideline for Malaysian manufacturing industry.

Literature Review

The Relationship between Environmental Information System and Performance

The implementation of EIS is a tool to support environmental management which has a significant impact on the environment (Bechor, Neumann, Zviran, & Glezer, 2010; Yuronen, Yuronen, Ivanov, Kovalev, & Zelenkov, 2015; Scholtz, Calitz, & Jonamu, 2016). Furthermore, EIS covers environmental management activities including product, process, and cost allocation. This is supported by Spencer et al. (2013) who mentioned that EIS has a positive relationship on the EP. Hence, EIS plays a vital role in managing environmental management in the Malaysian manufacturing industry.

EIS refers to the system that provides information such as operation, technology, and decision-making in the organization (Belfo & Trigo, 2013; Brzozowska, Bubel, & Pabian, 2015; Kim, Chan, & Gupta, 2016). According to Williams (1997), EIS is important in managing the environment, especially for information technology. In addition, Melville (2010) supports EIS can improve EP in the organization. Thus, EIS can assist the organization to monitor, improve, and evaluate EP, particularly for Malaysian manufacturing industry.

Study by Spencer et al. (2013) suggested that EIS is useful for decision-making to improve EP. The positive relationship between EIS and EP can improve the environmental management accounting, particularly for Malaysian manufacturing industry. Meacham, Toms, Green, and Bhadauria (2013) stated that EIS has a significant relationship to EP in the manufacturing industry. This study supports the EIS can improve EP in achieving the industry's goal. The findings show that the implementation of EIS has a significant and positive relationship on EP.

According to Amiruddin and Pagalung (2016), EIS can be used to monitor and evaluate the company's operations for reducing the environmental problems. This study supports that a positive relationship between EIS and EP can improve the performance of the organization. Therefore, EIS can be implemented for Malaysian manufacturing industry in order to improve EP.

Research Methodology

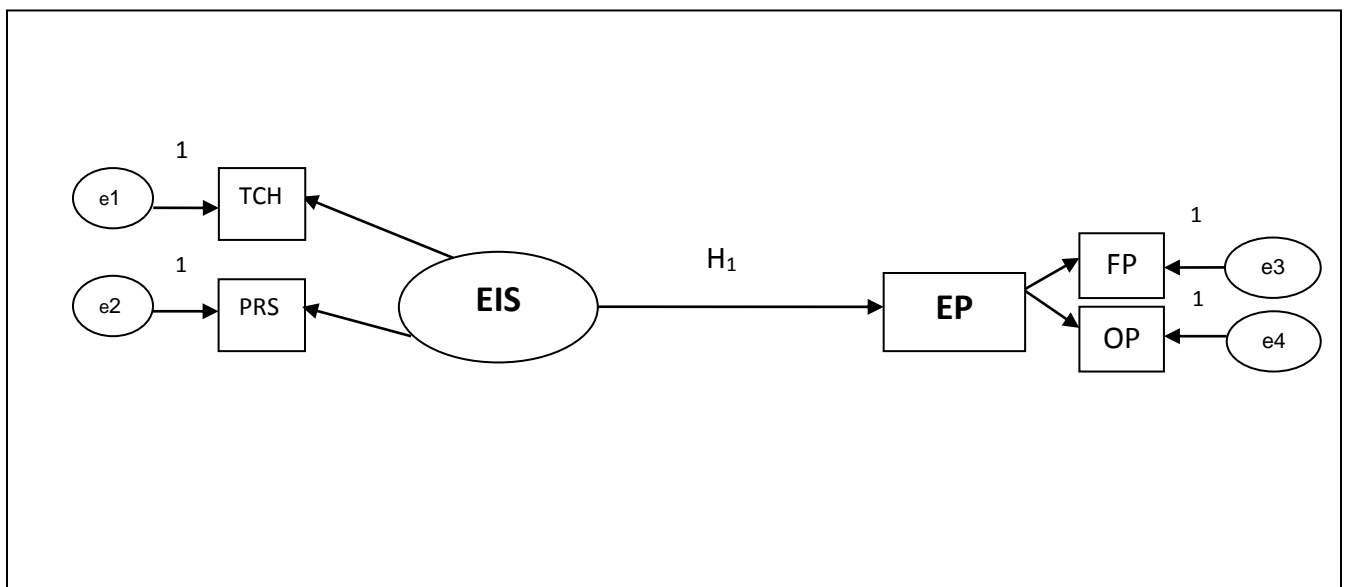
This study used a quantitative approach to test the model and research hypothesis. Statistical Package for the Social Sciences (SPSS) version 21.0 will use to analyze the descriptive analyses about sample such as means, standard deviations, and frequencies. This study used Structural Equation Modeling (SEM) technique by AMOS 21.0 to test the measurement model. Population of this study comprised on manufacturing industry in Malaysia. The population of this study is 2700 manufacturing companies. Therefore, the research hypotheses were developed to examine the relationship between EIS and EP by using SEM method.

A Proposed Conceptual Model

To understand the relationship between EIS and EP for Malaysian manufacturing industry, the following hypothesis is set up to be tested. Based on the reviews of literature, the following hypothesis is proposed:

H₁: There is a positive and direct significant relationship between EIS and EP for Malaysian manufacturing industry.

This study proposed conceptual model of EIS and EP for Malaysian manufacturing industry. Figure 1 presented the proposed conceptual model.



*Notes: EIS=Environmental Information System, EP=Environmental Performance, TCH= Technology, PRS= Processes, FP= Financial Performance, OP= Operational Performance

Figure 1. The Proposed Conceptual Model

Conclusion

A conceptual model has been proposed to examine the relationship between EIS and EP for Malaysian manufacturing industry. The implementation of EIS is significant for Malaysian manufacturing industry. In terms of the empirical research is to examine the relationship between EIS and EP for Malaysian manufacturing industry. For practical aspect, this study provides important guidelines for Malaysian manufacturing industry to implement EIS and EP in order to improve the performance. Therefore, this study fills the research gap by providing a reliable and useful reference on the EIS and EP for Malaysian manufacturing industry.

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Corresponding Author

Nursyazwani Mohd Fuzi, Department of Accounting and Finance, Faculty of Management and Economics, Universiti Pendidikan Sultan Idris, 35900 Tanjung Malim, Perak, Malaysia, nursyazwanimohdfuzi@yahoo.com

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