

Factors Influence Green Practice Adoption in Johor Manufacturing Industry

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Abstract: This study examines four factors that may influence green practice adoption. The determinant factors are organizational support, quality of human resource, customer pressure and governmental pressure. Questionnaires were distributed to ISO 14001 certified firms in Johor manufacturing industry, and only 38 questionnaires were returned. The results show all factors didn't influence green practices adoption. Due to the small sample size, generalizations could not be made. Limitation of this can be used as a suggestion for further research. The future study also should examine another influential factor such as environment uncertainty and technological complexity. Moreover, by increasing the sample size, more validated analyses may be performed in the future.

Keywords: Green practice, Manufacturing industry, ISO 14001

1. Introduction

The green practice focuses on supply chain management policies to achieve sustainable financial growth while taking into consideration market management and resource transfer to minimize the cost (Rodrigue, Slack, & Comtois, 2017). Malaysia aims to be an eco-friendly country with targeting at low carbon usage while maximizing the current recourses (The 11th Malaysia Plan, 2016). Implementation of green practice able to reduce the gas emission from the vehicle and improve the quality of the environment. However, there are a few challenges such as lack of awareness regarding environmental issue, limited technology and resources (Malaysia Economic Planning Unit, 2018). The green practice is important to the modern transportation system because it can control carbon dioxide emission, improve business performance and optimize the supply chain system in the organization (Saroaha, 2014; Shahrudin *et al.*, 2018).

1.1 Research Background

Malaysia aspires to be an industrial country with the ability to increase manufacturing growth and generate revenue. The manufacturing sector is the second major contributor to the Malaysian economy (The 11th Malaysia Plan, 2016). BNM Quarterly Bulletin reported the Malaysian economy grew by

4.7% in the fourth quarter of 2018 (3Q 2018: 4.4%), supported by continued expansion in domestic demand and positive growth in net exports (Bank Negara Malaysia, 2018).

Environmental issues caused by waste generated by the manufacturing plants were difficult to deal with (Beamon, 1999). Biodegradable waste needs to be treated carefully so as not to spread into the air. Therefore, green supply chain practice is one of the approaches dealing with biodegradable waste (Kumar & Chandrakar, 2012). Lack of resources from the government and regulatory pressure become the main obstacle for the organization to implement. In order to reduce environmental pollution, the manufacturing plant should use non-toxic chemical or recycled materials. For instance, the application of green supply chain practices (GSCP) along the process production may reduce energy usage. GSCP also improve the efficiency of the production process and lead toward green practice.

The green practice is described as strategies and techniques that reduce the negative impact on the environment along the supply chain process, specifically focus on material handling, waste management, packing and transportation (Rodrigue *et al.*, 2017). Other researchers interpret green practices as an attempt to find efficient methods to reduce costs and achieve compatibility between three elements namely environmental, social and economic (Sbihi & Eglese, 2010; Yildiz & Yercan, 2011). Benefits of green practice implementation such as reduced carbon dioxide (CO₂) emissions, cost savings, increased supply chain optimization and increased market efficiency (Saroha, 2014). Thus, the study aims to identify significant factors and their relationship.

1.2 Problem Statements

Human activities that cause environmental pollution pose a major concern of the local community (Nee & Wahid, 2010). For instance, increasing carbon dioxide into the air, natural waste produced by dead plant and animal and non- biodegradable waste (Khan, Rasli, Hassan, Noordin, & Aamir, 2017). According to the World Bank Report (2013), carbon dioxide emissions from manufacturing plants in Malaysia amount to 53 million metric tons or 20% of the total carbon dioxide outflow in Malaysia. This contributes to unhealthy environment, and might affect our health and well-being (Kumar Piaralal, Nair, Yahya, & Karim, 2015). Also, there are hazardous substances released in the air but lack of enforcement regarding this issue. Besides that, some industrial waste was classified as hazardous and non-degradable waste, but it was openly released and contribute to environmental pollution (Rahman, 2010).

A study by the European Environment Agency (2017) reported the highest rate of urban solid waste recycling in Germany in 2015 have achieved 66%, and Austria has the second-highest rate of urban solid waste recycling with 57%. The rate of urban solid waste recycling in Slovenia is 54%, in Switzerland and Belgium has 53%. The issue of urban solid waste recycling has brought pressure to Malaysia because Malaysia had a low rate this has marked that a large portion of solid waste in Malaysia is still being disposed of in landfills (Malaysia Economic Planning Unit, 2018). Approximately almost 17,000 tons of garbage is generated daily and this is expected to increase to 30,000 tons by 2020 (Abdullah, 2016). Even so, there needs to be an explanation, only 5% of this amount goes into the recycling section.

1.3 Research Questions

This study aims to address the following research questions:

- (i) What is the relationship between the determinant factors and green practices adoption?
- (ii) Do these factors influence green practice adoption?

1.4 Research Objectives

The objectives of the study are:

- (i) To determine the relationship between the determinant factors and green practices adoption.
- (ii) To examine the factors that influence green practice adoption.

1.6 Scope of the Study

This study involves manufacturing industry in Johor. The main focus is the manufacturing companies certified by ISO 14001 Environmental management systems. There are 55 manufacturing companies have been identified and qualified as a sample for this study.

1.5 Significance of the Study

The significance of this study lies in the determinant factors that influence green practices adoption among the local manufacturing company. Although various studies have been done, less concrete studies exist that focus on the local manufacturing industry, specifically in Johor. This study helps to improve knowledge and understanding of the local manufacturing industry regarding green practices implementation in the era of globalization.

2. Literature Review

The implementation of green practice practices depends on organizational, environmental and technological factors (Lin & Ho, 2011; Shaharudin *et al.*, 2018; Yahya, Nair, & Piaralal, 2014; Zhang & Yang, 2016). However, this study focuses on two factors, which are the organizational factor and environmental factor. For the organizational factor, it was measured by organizational support and quality of human resources. Meanwhile, for the environmental factor, it was measured by customer pressure and government pressure.

2.1 Organizational Support

Organizational support is the extent to which employers encourage their employees to implement green practices (Ho, Lin, & Tsai, 2014; Lin & Ho, 2011). Additional incentives, financial stability and adequate technical fund have a positive effect on the successful implementation of technical innovation (Damanpour & Schneider, 2006; Lee, Lee, & Kwon, 2005). Top management plays an important role in ensuring adequate budget allocation to ensure companies can adopt green practices (Gonzalez-Benito & Gonzalez-Benito, 2006b; Jeyaraj, Rottman, & Lacity, 2006). Employees will be motivated to adopt green practices if their employers take this approach seriously by providing adequate relevant resources (Lin & Ho, 2011). Adopting green practices is a complicated process which required commitment and discipline from all departments (Russo & Fouts, 1997). Thus, all departments and divisions must work together during the implementation of green practice practices. In order to ensure this practice success, it should be supported and encouraged by the superiors. Therefore, the following hypothesis is proposed.

H1: Organizational support positively affects green practice adoption.

2.2 Quality of Human Resource

Quality of human resource refers to employee competency and innovation skill (Ho *et al.*, 2014; Lin & Ho, 2011). Although adopting green practices is a complicated process (Russo & Fouts, 1997) but with the qualified human resource, it's possible to be done. Training and skill development provided

by the organization will enhance employee tacit skill and competency (Del Brio & Junquera, 2003). Employees with competent learning ability can adopt green practices in the organization. Besides, a company with higher innovation capacity has a better green practices strategy (Christmann, 2000; Judge & Elenkov, 2005). A result of the recent study proved, the quality of human resource has a significant impact on green practices adoption (Shaharudin *et al.*, 2018). Therefore, the following hypothesis is proposed.

H2: Quality of human resources positively affect green practice adoption.

2.3 Customer Pressure

Several researchers have stated customers play an important role in pressuring manufacturing plants to adopt green practices (Gonzalez-Benito & Gonzalez-Benito, 2006a; Lin & Ho, 2006; Zhang & Yang, 2016). Customer awareness of environmental pollution drives manufacturing plants to reduce the negative impact on the environment (Gonzalez-Benito & Gonzalez-Benito, 2006a). According to Cai and Zhou (2014), additional pressure also comes from business competitors who can produce eco-friendly products. It has been estimated, 75% customers made their purchase decision based on company green product image, while 80% customers are willing to pay more for the green product (Carter, Ellram, & Ready, 1998; Carter & Jennings, 2002). In other case, researchers claimed several manufacturing organizations in the transition to adopting green practices due to customers preference and awareness of green products (Jabbour, Jugend, De Sousa Jabbour, Gunasekaran, & Latan, 2015). Due to the growing environmental crisis, customers more emphasis on the green product for a better quality of life and a healthy environment (Follows & Jobber, 2000). Therefore, the literature leads to the following hypothesis.

H3: Customers' pressure positively affects green practice adoption.

2.4 Government Pressure

Since the growth of the environmental crisis, the government decided to establish more stringent rules to promote green practices among manufacturers. Manufacturing sector as the main polluters have experienced extraordinary pressure due to government rules and regulations. The manufacturing sector as a major polluter is under tremendous pressure due to government rules and regulations. Yalabik and Fairchild (2011) agree that strict rules and regulations are the main reason manufacturing plants compliant with green practices. They believe some organizations have adopted green practices to avoid fines or penalties from the local government body. Similarly, Buisse and Verbeke (2003) believe that commands and controls from the authorities are an effective way to enforce all manufacturers to adopt green practices. Therefore, the following hypothesis is proposed.

H4: Governments' pressure positively affects green practice adoption.

2.5 Green Practices Adoption

Green practice adoption refers to the implementation of a group of practices, new or modified techniques intending to minimize environmental harm (Henriques & Sadorsky, 2007; Jansson, Marell, & Nordlund, 2010; Rothenberg & Zyglidopoulos, 2007). Green practices become popular among manufacturers in the hope of reducing damage to the environment while improving firm performance (Cai & Zhou, 2014; Cronin, Smith, Gleim, Ramirez, & Martinez, 2011; Zhang & Yang, 2016). Previous researchers' emphasis, a variety of factors can be a motivating factor and push the firms to implement green practices (Buisse & Verbeke, 2003; Del Brio & Junquera, 2003; Gonzalez-Benito & Gonzalez-Benito, 2006a; Ho *et al.*, 2014; Lin & Ho, 2006, 2011; Shaharudin *et al.*, 2018; Yalabik & Fairchild, 2011; Zhang & Yang, 2016). For example, environmental regulations imposed by local authorities are identified as a key factor as such regulations are mandatory (Darnall, Seol, & Sarkis, 2009; Yalabik &

Fairchild, 2011). Besides, customer awareness of environmental issues also forces manufacturers to implement initiatives to be green (Gonzalez-Benito & Gonzalez-Benito, 2006a). Apart from that, organizational support and quality of human resource also play an important role in promoting green practices (Ho *et al.*, 2014; Shaharudin *et al.*, 2018). Figure 1 illustrates the research framework of the study.

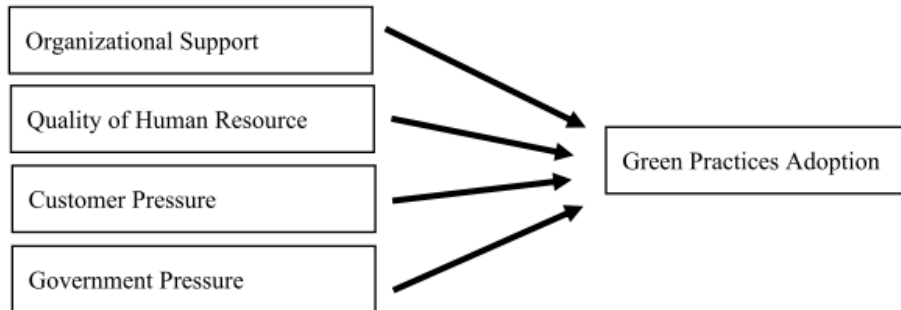


Figure 1: Research framework

3. Research Methodology

3.1 Survey Instrument

The survey instrument was adopted from the previous researchers (Lin & Ho, 2011) meanwhile the respondent general information was changed to fit the context of the study. The first section in the questionnaire consists of general information (gender, races, age, marital status, education level, position in the company). The objective is to get general information about the respondent profile. The second section consists of items that measure four independent variables (organizational support, quality of human resource, customer pressure and government pressure) and the third section focus on the dependent variable (green practice adoption). All variables involved in this study are shown in Table 1. This study employed a 5-point Likert scale with scores 1-strongly disagree to 5-strongly agree.

Table 1: Variables for the determinant factors of green practice

Dimension	Numbers of Item	Reference
Organizational Support	4	(Lin & Ho, 2011)
Quality of Human Resource	4	
Customer Pressure	4	
Government Pressure	4	
Green Practices Adoption	5	

3.2 Sampling and Data Collection

The questionnaires were emailed to 55 targeted populations. The email addresses were obtained from the company official website as well as a phone call to the person in charge from each department. During the data collection process, researchers also sent a reminder email to the targeted respondents. Data collection process took almost seven weeks and researchers managed to get 38 responses. Researchers did not receive replies to the remaining questionnaires.

4. Data Analysis and Results

Descriptive analysis for all variables is provided in Table 2. The mean rating for independent variables in ascending order of low to high was governmental pressure (3.51), organizational support (3.56), quality of human resources (3.66) and customer pressure (3.80). The overall mean ratings of 0.90 up to 1.00 are considered very high correlation, 0.70 up to 0.90 are high, 0.50 up to 0.70 are moderate and 0.30 up to 0.50 are low correlation. If the mean value less 0.30 it can be assumed as no correlation (negligible correlation). According to this division, the mean for the quality of human resources was moderate (0.629) while a low correlation for customer pressure (0.492) and governmental pressure (0.409). Surprisingly, a weak correlation for organizational support and this can be considered a negligible relationship. In this case, organizational support should be removed from the multiple regression model and rerun the analysis with three predictors. However, R^2 not much change after deleted one predictor. Researchers decided to present the multiple regression model with four predictor variables.

Table 2: Variables for the determinant factors of green practice

Variables	Mean	Std. Deviation	1	2	3	4	5
Green practices	3.42	0.92	1.00				
Organizational support	3.56	0.77	0.173	1.000			
Quality of human resources	3.66	0.56	0.243	0.629	1.000		
Customer pressure	3.80	0.64	0.002	0.417	0.492	1.000	
Governmental pressure	3.51	0.54	-0.053	0.369	0.475	0.409	1.000

A-four predictors of multiple linear regression model were proposed. The four predictor variables are organizational support (x_1), quality of human resources (x_2), customer pressure (x_3), and government pressure (x_4). The equation of the proposed multiple linear regression model is as follows. Where β_0 = constant and ϵ = error.

$$Y (\text{green practices}) = \beta_0 + \beta_1(x_1) + \beta_2(x_2) + \beta_3(x_3) + \beta_4(x_4) + \epsilon$$

Based on multiple linear regression analysis, all predictor variables were found not significant in explaining green practices adoption.

$$Y (\text{green practices}) = 2.844 + 0.094 (x_1) + 0.575 (x_2) + (-0.176) (x_3) + (-0.340) (x_4) + \epsilon$$

The R^2 of 0.108 indicates that all predictor variables explain about 10.8% of the variance in green practices adoption. The ANOVA table shows the F statistic (4,33) = 1.003, residual = 0.855, $p > 0.05$. Table 3 shows, organizational support [$b = 0.078$, $t(33) = 0.362$, $p > 0.720$], quality of human resources [$b = 0.348$, $t(33) = 1.500$, $p > 0.14$], Customer pressure [$b = -0.121$, $t(33) = -0.618$, $p > 0.541$] and governmental pressure [$b = -0.198$, $t(33) = -1.027$, $p > 0.312$]. Thus, there is not enough evidence to support all hypotheses (H1, H2, H3 and H4).

Table 3: Estimates of coefficients for the model

	<i>B</i>		<i>Beta</i>		<i>t</i>	<i>p</i> -value
	Unstandardized Coefficients	Std. Error	Standardized Coefficients			
Constant	2.844	1.219			2.333	0.026
Organizational support	0.094	.259	0.078		0.362	0.720
Quality of human resources	0.575	.384	0.348		1.500	0.143
Customer pressure	-0.176	.285	-0.121		-0.618	0.541
Governmental pressure	-0.340	.331	-0.198		-1.027	0.312

Notes: R= 0.329; R² 0.108; Adjusted R² 0.000

5. Discussion and Conclusion

The results show, three independent variables (quality of human resources, customer pressure and governmental pressure) were significantly correlated to the adoption of green practices. Meanwhile, organizational support was not significant to green practices. Based on multiple regression model, all four variables did not influence green practices adoption. This is predicted since the number of respondents is very low. The sample is restricted to a company certified by ISO 14001 which is located in Johor. Thus, it would be recommended to expand the geographical area for data collection to increase the sample size and accurate result.

References

- Abdullah, R. (2016). *Green Supply Chain Management Practices and Sustainable Performance Among Iso 14001 Manufacturing Firms: The Moderating Effect of Supply Chain Integration*. Universiti Sains Malaysia. PhD Thesis.
- Bank Negara Malaysia. (2018). *BNM Quarterly Bulletin*. Retrieved from https://www.bnm.gov.my/files/publication/qb/2018/Q3/3Q2018_fullbook_en.pdf
- Beamon, B. M. (1999). Designing the green supply chain. *Logistics Information Management*, 12(4), 332–342. <https://doi.org/10.1108/09576059910284159>
- Buysse, K., & Verbeke, A. (2003). Proactive environmental strategies: A stakeholder management perspective. *Strategic Management Journal*, 24(5), 453–470. <https://doi.org/10.1002/smj.299>
- Cai, W. G., & Zhou, X. L. (2014). On the drivers of eco-innovation: Empirical evidence from China. *Journal of Cleaner Production*, 79, 239–248. <https://doi.org/10.1016/j.jclepro.2014.05.035>
- Carter, C. R., Ellram, L. M., & Ready, K. J. (1998). Environmental Purchasing: Benchmarking Our German Counterparts. *International Journal of Purchasing and Materials Management*, 34(3), 28–38. <https://doi.org/10.1111/j.1745-493x.1998.tb00299.x>
- Carter, C. R., & Jennings, M. M. (2002). Social responsibility and supply chain relationships. *Transportation Research Part E: Logistics and Transportation Review*, 38(1), 37–52. [https://doi.org/10.1016/S1366-5545\(01\)00008-4](https://doi.org/10.1016/S1366-5545(01)00008-4)
- Christmann, P. (2000). Effects of “best practices” of environmental management on cost advantage: The role of complementary assets. *Academy of Management Journal*, 43(4), 663–680. <https://doi.org/10.2307/1556360>
- Cronin, J. J., Smith, J. S., Gleim, M. R., Ramirez, E., & Martinez, J. D. (2011). Green marketing strategies: An examination of stakeholders and the opportunities they present. *Journal of the Academy of Marketing Science*, 39(1), 158–174. <https://doi.org/10.1007/s11747-010-0227-0>
- Damanpour, F., & Schneider, M. (2006). Phases of the adoption of innovation in organizations: Effects of environment, organization and top managers. *British Journal of Management*, 17(1), 215–236. <https://doi.org/10.1111/j.1467-8551.2006.00498.x>
- Darnall, N., Seol, I., & Sarkis, J. (2009). Perceived stakeholder influences and organizations’ use of environmental audits. *Accounting, Organizations and Society*, 34(2), 170–187. <https://doi.org/10.1016/j.aos.2008.07.002>
- Del Brio, J. A., & Junquera, B. (2003). A review of the literature on environmental innovation management in SMEs: implications for public policies. *Technovation*, 23(12), 939–948.
- Follows, S. B., & Jobber, D. (2000). Environmentally responsible purchase behaviour: a test of a consumer model. *European Journal of Marketing*, 34(5/6), 723–746. <https://doi.org/10.1108/03090560010322009>
- Gonzalez-Benito, J., & Gonzalez-Benito, O. (2006a). A review of determinant factors of environmental

- proactivity. *Business Strategy and the Environment*, 15(2), 87–102. <https://doi.org/10.1002/bse.450>
- Gonzalez-Benito, J., & Gonzalez-Benito, O. (2006b). The role of stakeholder pressure and managerial values in the implementation of environmental logistics practices. *International Journal of Production Research*, 44(7), 1353–1373. <https://doi.org/10.1080/00207540500435199>
- Henriques, I., & Sadorsky, P. (2007). Environmental technical and administrative innovations in the Canadian manufacturing industry. *Business Strategy and the Environment*, 16(2), 119–132. <https://doi.org/10.1002/bse.475>
- Ho, Y. H., Lin, C. Y., & Tsai, J. S. (2014). An Empirical Study on Organizational Infusion of Green Practices in Chinese Logistics Companies. *Journal of Economic and Social Studies*, 4(2), 159–189. <https://doi.org/10.14706/jecoss11427>
- Jabbour, C. J. C., Jugend, D., De Sousa Jabbour, A. B. L., Gunasekaran, A., & Latan, H. (2015). Green product development and performance of Brazilian firms: Measuring the role of human and technical aspects. *Journal of Cleaner Production*, 87(15), 442–451. <https://doi.org/10.1016/j.jclepro.2014.09.036>
- Jansson, J., Marell, A., & Nordlund, A. (2010). Green consumer behavior: Determinants of curtailment and eco-innovation adoption. *Journal of Consumer Marketing*, 27(4), 358–370. <https://doi.org/10.1108/07363761011052396>
- Jeyaraj, A., Rottman, J. W., & Lacity, M. C. (2006). A review of the predictors, linkages, and biases in IT innovation adoption research. *Journal of Information Technology*, 21(1), 1–23. <https://doi.org/10.1057/palgrave.jit.2000056>
- Judge, W. Q., & Elenkov, D. (2005). Organizational capacity for change and environmental performance: An empirical assessment of Bulgarian firms. *Journal of Business Research*, 58(7), 893–901. <https://doi.org/10.1016/j.jbusres.2004.01.009>
- Khan, N. U., Rasli, A. M., Hassan, M. A., Noordin, N. F. M., & Aamir, M. (2017). Assessment of imbalance among environmental and economic performance within Malaysian manufacturing industry: A sustainable approach. *International Journal of Energy Economics and Policy*, 7(4), 149–155.
- Kumar Piaralal, S., Nair, S. R., Yahya, N., & Karim, J. A. (2015). An Integrated Model of the Likelihood and Extent of Adoption of Green Practices in Small and Medium Sized Logistics Firms. *American Journal of Economics*, 5(5), 251–258. <https://doi.org/10.5923/c.economics.201501.32>
- Kumar, R., & Chandrakar, R. (2012). Overview of Green Supply Chain Management: Operation and Environmental Impact at Different Stages of the Supply Chain. *International Journal of Engineering and Advanced Technology*, 1(3), 1–6.
- Lee, H. Y., Lee, Y. K., & Kwon, D. (2005). The intention to use computerized reservation systems: The moderating effects of organizational support and supplier incentive. *Journal of Business Research*, 58(11), 1552–1561. <https://doi.org/10.1016/j.jbusres.2004.07.008>
- Lin, C. Y., & Ho, Y. H. (2006). An Empirical Study on Green Practice Adoption for SMEs In Taiwan. *Business Strategy and the Environment*, 15, 87–102.
- Lin, C. Y., & Ho, Y. H. (2011). Determinants of Green Practice Adoption for Logistics Companies in China. *Journal of Business Ethics*, 98(1), 67–83. <https://doi.org/10.1007/s10551-010-0535-9>
- Malaysia Economic Planning Unit. (2018). *Mid-Term Review of The Eleventh Malaysia Plan 2016-2020*.
- Nee, G. Y., & Wahid, N. A. (2010). The Effect of ISO 14001 Environmental Management System Implementation on SMEs Performance: An Empirical Study in. *Journal of Sustainable Development*, 3(2), 215–220.
- Rahman, H. A. (2010). Human rights to environment in Malaysia. *Health and the Environment Journal*, 1(1), 59–64.

- Rodrigue, J.-P., Slack, B., & Comtois, C. (2017). Green Logistics. In D. A. Brewer, A.M., Button, K.J. and Hensher (Ed.), *Handbook of Logistics and Supply-Chain Management* (pp. 339–350). Emerald Group Publishing Limited. <https://doi.org/10.1108/9780080435930-021>
- Rothenberg, S., & Zyglidopoulos, S. C. (2007). Determinants of environmental innovation adoption in the printing industry: The importance of task environment. *Business Strategy and the Environment*, 16(1), 39–49. <https://doi.org/10.1002/bse.441>
- Russo, M. V., & Fouts, P. A. (1997). A resource-based perspective on corporate environmental performance and profitability. *Academy of Management Journal*, 40(3), 534–559. <https://doi.org/10.2307/257052>
- Saroha, R. (2014). Green Logistics & its Significance in Modern Day Systems. *International Review of Applied Engineering Research*, 4(1), 89–92.
- Sbihi, A., & Eglese, R. W. (2010). Combinatorial optimization and Green Logistics. *Annals of Operations Research*, 175(1), 159–175. <https://doi.org/10.1007/s10479-009-0651-z>
- Shaharudin, M. R., Akbar, J., Zainal, N. N., Hassam, S. F., Zainoddin, A. I., & Nizam, M. F. M. (2018). Factors That Influence Green Practices Adoption Amongst Logistics Services Providers. *International Journal of Supply Chain Management*, 7(6), 242.
- The 11th Malaysia Plan. (2016). *The Eleventh Malaysia Plan*. Putrajaya, Malaysia. Retrieved from <http://rmk11.epu.gov.my/index.php/en/>
- Yahya, N., Nair, S. R., & Piaralal, S. K. (2014). Green Practices Adoption Framework for Small and Medium Sized Logistics Firms in Malaysia. *Sains Humanika*, 2(3), 79–84.
- Yalabik, B., & Fairchild, R. J. (2011). Customer, regulatory, and competitive pressure as drivers of environmental innovation. *International Journal of Production Economics*, 131(2), 519–527. <https://doi.org/10.1016/j.ijpe.2011.01.020>
- Yildiz, T., & Yercan, F. (2011). Environmental reporting of industrial and supply chain business processes within the context of sustainable development. *Business: Theory and Practice*, 12(1), 5–14. <https://doi.org/10.3846/btp.2011.01>
- Zhang, H., & Yang, F. (2016). On the drivers and performance outcomes of green practices adoption: An empirical study in China. *Industrial Management and Data Systems*, 116(9), 2011–2034. <https://doi.org/10.1108/IMDS-06-2015-0263>