

CHARACTERIZING SME SUSTAINABLE (GREEN) PERFORMANCE IN THE GREEN ECONOMIC TRANSITION THROUGH THE ADOPTION OF GREEN MANAGEMENT

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ABSTRACT: Green management is synonym with large organizations and its adoption would be rather new for small medium enterprises (SME) in Malaysia. Therefore, SME which has been under pressure must initiate some moves in transforming into green companies as well as to ensure their survival in the future of the green economic. Hence, this paper attempted to discuss the major influences on SME in realizing a green or sustainable performance. In order to diverge from conventional products into green products compliance, it is crucial to identify new attributes for their existing business conducts. Organizational resources and capabilities should be fully-utilized in manufacturing processes which is abided by the green principles. The built-in of sustainability concept around the business ecosystem is important and inevitable. Ultimately, the research outcome has demonstrated a total of 14 significant observed variables implementation by SME. These are the critical variables that are vital in the green practice and should become a common reason for the future business venture and our nation competitiveness. Consequently, the green economic transition manifested the SME readiness to adopt common strategies to accomplish business advantage. Therefore, overcoming the current economic setback must be in-line with the performance of a sustainable business.

KEYWORDS: *Green; SME; Strategies; Resources; Sustainable*

1.0 INTRODUCTION

The propagation of green policies by governments, international agencies or their joined forces on a range of green initiatives has helped to re-launch the global economic growth, which remaining the business ecosystem as a top priority [1]. Unfortunately, small-medium enterprises (SME) which are operating domestically have limited resources and capabilities. This was due to the non-complexity of the company's management. It had been agreed that most of management were only concerned about the direct and simple factors that existed around them; in particular the profit, culture, labor and market analysis [2]. Hence, it is time for them to venture on the new business opportunities and improve on their business performance in line with the growing global challenge. As the cost of managing businesses has increased, SME organizations are also lacking of creative and innovative ideas and this would hinder them to get financed for their green projects. On top of that, it seems impossible for the company to compete with larger organizations and this will lead to the inefficiency and the company will become less sustainable. Hence, the company should change the way they are managing their resources and adapting with the new ecosystem.

When Malaysia endorsed its National Green Technology Policy (NGTP) on the 24th July 2009, small medium enterprises were relief but anxious to learn how the green economic agenda could benefit their business. This endorsement is important since failure of the world's financial system revamp has furthered the economic downturn that severely affecting many business and individuals [3]. With a significant drop in Ringgit Malaysia's value, multinational companies (MNC) are competing to invest or enlarge their existing business in the country. This is inevitable and certainly posed double challenges for SME. The foreign investments are not only able to overcome the shortage of various business resources, but also contribute revenues to the country through taxes and help to fund the development of the ongoing projects. With their oligo-politic supremacy, they have succeeded in their domination of a few sectors or products at the domestic and international business levels.

So, apart from their up-to-date manufacturing operations, they are in control of the market price and profit of various key products. International organizations often plot with their companions and block the entry of new companies that might create competition to them. Green management has emerged at the right time mainly to help enterprises to focus their attention on how to 'go-green' and

place the environmental issues as a major responsibility of every business. Enterprise's responses have triggered the government to analyze the vital factors that can influence the SME business to move toward sustainable development [4-5]. In compliance with today's global trend, our government has encouraged the exploration of green business to preserve the ever-increasing environmental damages. The products and processes innovation which is known as an eco-innovation; shall contribute to sustainable development and commercialization of scientific knowledge application, which is intended to stimulate directly or indirectly the ecological improvements.

By emphasizing on the ideas of green technology concept, Malaysia has looked forward to enhance the solutions towards socially acceptable reforms which are able to reduce the negative impacts on the environment. Therefore, companies should opt for green management in order to ensure the resources are being used wisely and responsibly and at the same time to ensure that their manufacturing capabilities are in place to drive eco-innovation [2]. The implementation of eco-friendly or clean technology is in fact a long-term effort to preserve the environmental interests as well as to lift the nation economic to a higher level. Such engagement and investment could help our country to achieve its environmental objectives by mitigating the global warming and pollution issues. Thus, SME should start improving their resources utilization effectively with the new, simple and holistic business strategies.

In term of operations, study has identified environmental collaboration as a main capability for the formulation and execution of new strategies [6]. It could also be appropriate to look for other performance indicators (besides financial) in measuring the business growth. Different benchmarks to quantify their effectiveness are proposed in order to enhance SME's innovation and creativity [7]. In the manufacturing industry, these multinational companies are not only providing financial resources and facilities, but more importantly they are offering a 'package' of resources that needed to build sustainable manufacturing processes. These 'package' included extensive management and entrepreneurial competencies, entrepreneurial capabilities, and international marketing networks. Ultimately, the best practices needed to be adopted by local entrepreneurs. Thus, whatever has been implemented by the large organizations should inspire local managers to enhance their strategy by maximizing the use of the available resources. It could be done through the integration of advanced technology, knowledge

management and systematic production processes, as well as modern machines and equipment to ensure that sustainability of SME industry is achievable.

According to a few studies conducted in Malaysia, many research have argued that the small medium-sized companies still held a rhetoric that they are unlikely to cause an environmental impact [8]. Such perception is totally untrue. SME must adopt relevance strategies to ensure that their business establishment will become one of the largest in the country. At different rate of success, implementing the green strategy is expected to create a huge business opportunity that assured their future sustainable performance. As a developing nation, Malaysia is lacking of the economic power and definitely is in need of the advantages offered by world giant companies. The best option is to collaborate with the foreign organizations as sub-contractors for their manufacturing projects. SME should learn to produce quality products in accordance with the international standards. They should not feel fearful or discouraged by the rapid global competition and competitiveness. Basically, the purpose of foreign companies' investment in any country is merely to maximize their profits. In other words, they are not really keen to develop Malaysia although they might influence our socio-economic and environmental affairs. They come here on the entrepreneurial ground as they see the opportunities to yield huge revenues. For that case. they would go elsewhere after finding a better opportunity. The Government of Malaysia is aware that it could not fully depend on these MNC to resolve the absolute poverty problems, the existence of unbalanced income and the high unemployment rates in the country. Eventually, it is about the SME businesses survival and how they sustain the economic prosperity toward vision 2020.

Apart from that, it is obvious that each industry is now facing its own unique challenge due to the change and variety of green consumer expectations. Thus, it is asserted that the change of business process might lead to increase market shares in green products [9]. New tool to market new products like using the social media would be able to create attention, interest, desire and action from the stakeholders [10]. In addition, every company must commit to reduce the impact of fossil fuel consumption from their industries and shift to a low carbon economy. Regrettably, it is noted that while the green technology is unable to provide an immediate momentum to the small medium enterprises; creating awareness by urging them to apply the green business concept in their activities and processes has become a major and critical agenda. Companies must understand their roles to

minimize the impacts in their operations by implementing a new strategy. Hence, eco-innovation would be seen as an appropriate strategy that addressed the environmental problems such as pollutions, global warming, wastages and depletion of resources as a result of dependencies on certain sources. It actually coincided with our country's goal of reducing greenhouse gas emissions by about 40 percent by 2020. The implementation of green programs among SMEs should also be implemented by all business entities. Thus, the extensive exploration of eco-innovation will open up a great opportunity for the new economic development based on green economy in the country. It should also be in line with the government's goal to see that all SME in Malaysia would be able to become an exporter of green products to the world in spite of the huge green market.

2.0 METHODOLOGY

The survey instrument used for this research was a five-point Likert scale. The content of the questionnaire was reviewed and validated by 2 business representatives and 2 academicians. The modifications of the questionnaire were also done based on their feedbacks. All items in the questionnaire were generated from extensive literature on green and sustainable subject matters of business. A pilot run was sent out randomly to 30 members of SME to confirm the suitability of all 38 questions being asked in term of the understanding of the items and estimated time taken to complete the questionnaire. Based on previous literature, these questions were modified and used to measure variables of the green management and the sustainable (green) performance of business [11].

Furthermore, in best practice, it would be more advisable to collect a sample size of at least between 100-200 respondents for an acceptable quantitative statistical analysis [12]. At least 500 survey questionnaires were distributed by-hands to SME representatives in several major business carnivals, expo, exhibitions and public trainings. These activities took place around Malacca, Johor and Kuala Lumpur. It had to be done this way since many respondents were found lacked proficiencies with the green issues and still needed a face-to-face guidance in answering the questions accurately.

Accordingly, raw data were processed using SPSS version 23. A total of 281 usable responses were obtained from SME manufactures for

this exploratory study; 72% from small (and micro) companies and 28% from the medium size companies. Out of the total numbers, 23% of the companies have been in operational for more than 10 years, while 37% and 40% were involved in business for 5 years above and between 1 to 4 years respectively.

Hence, the exploratory factor analysis (EFA) was performed to identify the underlying factor structure of the constructs. To determine the model fit, data analysis were performed using the structural equation model (SEM) AMOS version 23. SEM allows the testing of the hypothesized model from a priori and correlational of the latent constructs.

3.0 RESULTS AND DISCUSSION

3.1 The Instrument Reliability

The reliability test results of the instrument factors are exhibited in Table 1. For this study, loadings above 0.6 were considered as very good [13]. On the other hand, the overall reliability of internal data consistency was well measured above a threshold value of 0.7 [14]. After considering the item discrimination for correlation >0.3 , Cronbach's Alpha attained were 0.88 and 0.80 respectively for green management factor (GM) and green performance factor (GP).

Table 1: Instrument reliability test

Variable	Cronbach's Alpha	No. of Items
Independent Variable: GM (Green Management)		
Competitive Resources (f1)	0.62	4
Process Realization (f2)	0.66	3
Dependent Variable: GP (Green Performance)		
Environmental Control (f3)	0.75	3
Social-Economic Success (f4)	0.60	4

3.2 The Measurement Model

Figure 1 shows the path analysis result between GM and GP as performed by the SPSS-AMOS.

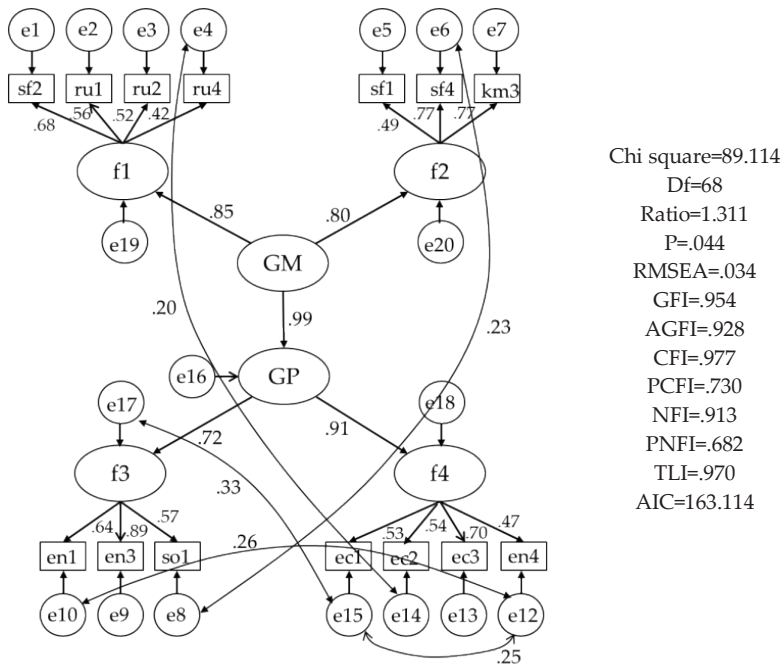


Figure 1: The relationship between GM and GP in structural equation model

Figure 1 also indicates that all the 14 items tested produced significance factor loadings ranged from 0.42 to 0.88. These variables comprised of:

- i. f1: sf3 (responsiveness), ru1 (exploitation), ru2 (economic values) and ru4 (harmless);
- ii. f2: sf2 (objectives), sf4 (competitive) and km5 (problem solving).
- iii. f3: en1 (natural resources), en3 (recycle) and so1 (safety).
- iv. f4: ec1 (sales), ec2 (ROI), ec3 (R&D) and en4 (schedule waste).

Table 2: Factor loadings of GM and GP constructs

Construct	Regression Weight	Significance (>0.4)
GM → GP	0.99	Yes
GM → f1	0.85	Yes
GM → f2	0.80	Yes
GP → f3	0.72	Yes
GP → f4	0.91	Yes

The hypothesis asserted that GM was measured by Competitive Resources (f1) and Process Realization (f2) constructs. Likewise, Environmental Control (f3) and Social-Economic Success (f4) have

formed the constructs for GP. Based on the outputs, all the four constructs loadings were found greater than 0.5 which were statistically significance at $p < 0.5$ as exhibited in Table 2.

3.3 Goodness of Fit Statistics

The following Table 3 summarizes the path analysis of relationship between the GM and the GP.

Table 3: Goodness of fit – Measurement model

Goodness of Fit Indices		Result	Threshold value	Significance
Absolute:	X ²	89.114	$p > 0.05$	Yes
	GFI	0.954	> 0.90	Yes
	RMSEA	0.034	< 0.30	Yes
Relative:	CFI	0.977	> 0.95	Yes
	NFI	0.913	> 0.90	Yes
Parsimonious:	PNFI	0.970	> 0.50	Yes
	PCFI	0.730	> 0.50	Yes

All the goodness of fit statistics exhibits in the table has been successfully achieved. The measure of absolute fit indices indicated that the correlation or covariance of the hypothesized model fits the correlation or covariance of the actual observed data. On the other hand, the relative fit indices measured well on the independent model and ascertain no relationship within the data as the model became saturated. Finally, the parsimonious fit indices suggested that even if the path becomes larger, it was still likely that the model would be accepted.

3.4 Impact of the Outcomes

SME companies would continue to become competitive in a short term if they are able to manipulate the low cost strategy. However, for a longer term, competitiveness could be achieved through the ability in innovating and fulfilling the customer's needs and wants [15]. SME must take a very responsive attitude towards the design, marketing and development of green products. SME also must be good at exploiting its competitiveness by maximizing capabilities of the internal resources. When this is possible, SME will enjoy high economic values based on its investment, marketing and sales strategies. Perhaps, it must be stated that the harmless resources used by the green manufacturing process itself to generate global products should be well acceptable and enhance its sustainable performance. Apart from having realistic green strategies including the right policy,

procedures and instructions in place; the strategic formulation would be more meaningful if accompanying with well-defined business objectives that every stakeholder of the company could understand, share, implement and appreciate in order to achieve the company's goals. By realizing all these processes alone (inputs and outputs), there would still be no warranty of the SME competitive advantage. The small medium enterprises should expect a bigger role at global level, such as by providing maintenance or problem solving services. After sales service has kept successful companies continuous profits and benefits as they gained good rapport and first-hand information about the future products expectation from their valuable customers.

Waste management which emphasized on Reduce, Reuse, and Recycle activities (3R) have been practiced for many decades. The 3R is meant to avoid thrown away items from landfills which might leave environmental footprint and carbon emissions. The energy used for 3R was substantial, which is at 5% only. In a systematic environmental control, SME is encouraged to formulate policies that emphasize on the preservation of the natural resources in their activities and ensure that the products used are contributing only a little impact on the environment. An integrated approach of pollution prevention and control could be practiced through appropriate precaution measures on the waste emissions into the air, soil and water. For this case, the implementation of environmental management system (EMS) should help to increase the SME capability to fulfil the green standards requirement and legal provisions; and supervise the schedule wastes. By addressing the pollution issues, it would be possible to incorporate the manufacturing technology, the innovative approaches and the allocated financial (that led to profits) to ensure that the companies are engaging with safe production and facilities in their products making. For continuous improvement, small medium industry might collaborate with academics and research institutes on a simple research and development (R&D) initiative to strengthen their image and capacity to innovate.

4.0 CONCLUSION

The main purpose of green management is to enhance companies' compliance toward the green performance. The result shows a significant influence of the four latent variables; in order to transform SME into green companies. However, the performance of a green company could be further enhanced if the internal resources have better awareness and prepared with the right skills and capabilities;

and the outcomes would have been anticipated. As the study focuses on the implementation of the green process in manufacturing, one factor that might be important but intentionally left out of discussion is the financial aspect. In addition, with regard to the limited resources owned by the SMEs in Malaysia, samples from different industries is useful, in order to make comparison of the best strategy to exploit for their future development.

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