

Key Indicators Towards the Implementation of Green Government Procurement in Malaysia

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Abstract: Green issue is considered as one of the worldwide issues. Many countries such as the United Kingdom, Japan and European Union countries have been actively adopting the sustainable green living concept in their normal lives. Since government is considered as the main purchaser in a country, it represents a large proportion of total public spending in both developed and developing countries. One of the initiatives that already been taken in Malaysia is the implementation of green government procurement (GGP). It has been recognized as an effective tool in minimizing the environmental impacts and can be determined as the government's commitments in sustaining the environment that can be emulated by the society as a whole. However, there is no specific policy, regulation and legal framework that has been implemented in regards to GGP since GGP is a very new concept in Malaysia. GGP has been outlined in Chapter 6 in 10th Malaysian Plan under valuing the nation's environment endowment and the New Economic Model under ensuring sustainability of growth. This research is undertaken due to there is no specific guideline or framework that can be used or referred by the procurement officers in implementing GGP practices in their organizations by using the proposed model. Three main indicators that been involved are familiarity with policies, organisational initiatives and supplier availability that leads to the implementation of the GGP practices in the organization. These indicators hopefully will be useful for the regulators and policy makers, statutory bodies, government linked companies (GLCs) and suppliers in managing the GGP practices.

JEL Classification Codes: M48 • Q56 • H57

Key words: Green Government Procurement • Sustainable Development • Statutory bodies • Government Linked Companies

INTRODUCTION

Sustainability is considered as one of the crucial issues that actively being discussed globally. With increasing awareness of environmental protection in the worldwide, the green trend of conserving the Earth's resources and protecting the environment is overwhelming. In response to the call made in promoting the public procurement policies that encourage the development and diffusion of environmentally sound goods and services, many

countries have been actively adopting the sustainable green living concept in their daily lives [1]. As in Malaysia, remarkable socioeconomic development has significantly impacted on the environment [2]. For instance, Malaysia's emission intensity levels were higher than the global average in energy sector even though Malaysia only contributes 0.7 percent to global carbon dioxide (CO₂) emissions [3]. Therefore, the issue of environmental degradation must be addressed in avoiding more severe environmental destructions.

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The obstacles of sustainable development are progressively being addressed by supply chain management (SCM) practitioners and researchers [4-7]. As being part of the sustainable development, public procurement was recognized as an important instrument for encouraging more environmentally sound goods and services to be used [1]. Since government is considered as the main purchaser, it represents a large proportion of total public spending in both developed and developing countries [8]. Countries in both developed and developing regions are using public procurement in pursuing social objectives such as reduce unemployment rate, raise the labour standard and provide employment opportunities for disabled persons. The usage of public procurement also encourages gender, racial and ethnic equality [9]. Besides that, governments which are attempting to meet sustainability objectives need to reconsider the approach that the public sector purchases “green” goods and services [10].

As discussed previously, the term of government procurement, also known as public tendering is considered as an important component in Malaysia’s administrative system. It has been noticed as a vital mechanism in achieving socioeconomic and development objectives. Due to this matter, the government has taken an initiative to implement Green Government Procurement (GGP) practices in Malaysia. GGP has been implemented widely in many countries such as the United Kingdom, Canada, Japan and European Union countries. The implementation of GGP can be determined as the government’s commitments in sustaining the environment that can be emulated by the society as a whole. GGP can be defined as a process to reduce the environmental impact of purchasing goods through their whole life cycles by motivating the manufacturers to implement eco-friendly product design and production [11] through public purchasing effort.

In the Malaysian context, GGP refers to government procurement that takes into environmental criteria in conserving and in minimizing the impact towards the environment. It will also drive the organisations towards the national economy sustainable development. It has been agreed by Walker and Brammer [12] that the GGP is an acquiring process that is consistent with the principles of sustainable development such as ensuring a strong, healthy and just society, living within environmental limits and promoting good governance. Environmental criteria that have been mentioned referring to products, equipment or systems that decrease degradation to the environment, have zero or low greenhouse gas (GHG)

emission, safe for use and encourages healthy and improved environment for all forms of life, conserve the use of energy and natural resources and promote the use of renewable resources [13].

With increasing environmental concerns and depleting resources, the effective implementation of green government procurement is urgently needed and possibly having greater effects in the developing countries rather than in the developed countries [14]. By adapting the GGP practice, it will make the government plays two main roles which are by participating in the market as purchaser and by regulating it through the use of its purchasing power in progressing conceptions of social justice [9]. Thus, the government plays an essential part in persuading the demand of environmental friendly products and promoting the businesses to take part in environmentally friendly activities.

As for Malaysia, the initiative of GGP practices has been outlined in the Chapter 6 in 10th Malaysian Plan under valuing the nation’s environment endowment. The main objective of the Malaysian Government procurement is to support Government programs by obtaining value for money through the acquisition of works, supplies and services. The Malaysian Government will take the initiative by practicing based on the environmental sustainability which is focusing on saving the planet, developing business models and building values in ways to help address the environmental challenges [15]. Besides, it also has been mentioned in the New Economic Model under ensuring sustainability of growth by preserving the natural resources and safeguarding the interest of future generations. These aims must be facilitated by applying appropriate pricing, regulatory and strategic policies in order to manage non-renewable resources efficiently [16].

Nevertheless, GGP is still considered as a new concept in Malaysia [17] since there is no specific policy and guidelines yet related to it. The Government is currently in developing specific policies and guidelines related to GGP with KeTTHA and Ministry of Finance. These ministries will be collaborated with SIRIM in developing a green procurement manual, procedures and standards, certification and labelling mechanism to ease the management of the green purchasing process between the government and the private sector [18]. Most of the green procurement practices carry out by the foreign firms, while many local industries, especially small and medium enterprises (SMEs) are still lagging behind and yet to implement the environmental friendly practices in their organisations [19]. It is noticed that the companies

which are involved with green purchasing practices are mostly from the large companies with headquarters in the United Kingdom, Japan and other European countries [20]. Thus, this study can be the pioneer in helping the policy makers to develop policies and guidelines that related to GGP practices. Hence, this study will examine three main indicators that will lead to the implementation of green government procurement in Malaysia.

Literature Review

Government Procurement and Sustainability: The government considered as the largest purchaser of a country and at the same time is able to regulate the use of purchasing power to advance social and environmental objectives [9, 21]. The purchasing function plays a strategic role in assisting an organisation reach its sustainable development objectives as recognized by a collective body of research and publications on sustainable procurement [22]. Thus, the government procurement can contribute significantly to the sustainability of the economy and the environment. Therefore, the government plays an essential role in prompting the demand of environmental friendly products and encouraging the businesses to participate in environmentally friendly activities.

With increasing environmental issues and depleting resources, the effective implementation of green government procurement is urgently needed and possibly having larger effects in the emerging countries rather than in the developed countries [14]. Nevertheless, the green procurement practices are still very restricted in the developing countries since few countries have specific procedures regarding this issue. The comparison could be made between developed and developing countries. For example, most developed countries, such as Japan, the United Kingdom and European Union countries have their own guidelines and tools related to sustainable procurement such as “Japan’s Law Concerning the Promotion of the Procurement of Eco-Friendly Goods and Services by the State and Other Entities” (Ministry of the Environment, Government of Japan (2007), EU Eco- Label (2000), Renewed EU Sustainable Development Strategy (2006) and Sustainable Consumption and Production Action Plan in the year 2008 (CSR Europe, 2009). Instead, Korea, a developing country, also takes the initiative to implement the green purchasing policy with the implementation of the Green Purchasing Law that has been enforced in July 2005 [17].

The environmental, social and economic aspects make up the sustainability concept. As for sustainable procurement, it can be defined as “the procedures used to secure the acquisition of goods and services in a way of ensuring there is the minimum effects on society and the environment during the full life cycle of the product” [23]. This is due to many organisations applied the business models to include the environmental aspect in their business activities in line with the triple bottom line (TBL) concept [24]. These three aspects are related to the meeting of the needs of the present and future generations in the sustainability concept [25]. For example, Sharfman *et al.* [26] said that firms looking for in increasing their environmental performance may cooperate with suppliers to reduce the materials’ toxicity or the volume of packaging used in supplies.

The sustainability concept also gives advantages in the procurement activities in terms of the aspects of human rights, philanthropy and small businesses, which was being combined by Carter and Jennings [27] into the concept of Purchasing Social Responsibility in Supply Chain Management that include five dimensions which are environment, diversity, safety, human rights and philanthropy. For example, as for the philanthropy and human rights aspects, it is a need to select a supplier that pays a living wage and avoid the use of vicious working environments in their factories [28].

Malaysia’s Commitment Towards Implementation of Green Government Procurement (GGP): GGP practices have been implemented extensively in many countries throughout the world. It has also already been accepted as an effective instrument for reducing the environmental impacts. As the world aggressively encourages green initiatives to safeguard the quality of life and the global environment, the Malaysian government has presented its urgency in the promotion of green technology and eco-products in all sectors of the economy. Its commitment is reflected in the policies, strategies and the institutions that it has commenced to green the economy. One of the plans of the government’s green technology policy is green purchasing [17].

During the 10th Malaysia Plan, government procurement has been stressed out as one of the key prospects in increasing the level of Malaysian innovation and to drive small and medium enterprises (SMEs) in developing useful products to the nation. Moreover, in the New Economic Model, it has been outlined under

ensuring sustainability of growth that conserving the natural resources and safeguarding the interest of future generations must be facilitated by applying appropriate pricing, regulatory and strategic policies to manage non-renewable resources efficiently [16].

The primary policy of Malaysian government procurement highlights on supporting the growth of local industries through the maximum use of local materials and resources. In addition, it boosts the participation of Bumiputera entrepreneurs in line with the national aspiration to form a Bumiputera Commercial and Industrial Community (BCIC). The policy enhances the capability of institutions and local industries through the transfer of technology and expertise, stimulating and encouraging local industries and services such as freight and insurance and accelerates the country's economic growth [29].

As the GGP practices are still fresh in Malaysia, the Malaysian Government already made a target for 50 percent of goods and services across ministries will attain the eco-label certification by the year 2020 [30]. Through SIRIM, the government is also embarking on developing eco-labelling for local products which will be globally recognised in support of green procurement. There is also a need to promote more labelling of environmentally friendly goods and services for easier credentials by consumers such as organic food and Green Building Index [18].

In promoting the green procurement practices, there are few initiatives that been taken by the Government in Malaysia. As an example, awareness campaigns are the strategy to the successful implementation of any policy or program. The Green Technology and Eco-Products Exhibition (IEGM) will encourage green technology and eco-products and services, hence, contributing to green growth and showcasing Malaysia as a green-technology hub. Besides, there is a requirement to build a green-technology and eco-products database system to track and classify credible green products. The Malaysian Green Directory is also being developed with the support from the Green Purchasing Network Malaysia (GPNM), the Malaysian Industrial Development Authority (MIDA) and the International Green Purchasing Association (IGPA) in supporting the green procurement practices that have been initiated by the Government [17].

Key Indicators of Green Government Procurement

Familiarity with Policies: Main key indicator that led to the successful implementation of green procurement practices is familiarity with policies. Alhola [11] and Yang

and Zhang [31] found that familiarity with policies, laws and regulations that are related to procurement influence the implementation of green procurement practices in the organisations. Alhola [11] specified that the procurement unit in the organisations must be acquainted with the policies, laws and regulations that are involved during the tender and contract process. Since the GGP practices are related to sustainability concept, the policies need to be aligned with the eco-friendly environment which comprises environmental aspects in granting tender and contract to the suppliers.

Yang and Zhang [31] recognised that the users of the GGP practices are necessary to follow with all the requirements that have been stated in the laws and regulations that been structured by the Government in enhancing the sustainability. Further, the Government can penalize actions towards the users of GGP that lead to the environmental contamination in the computation of taxes and charges.

Organisational Initiatives: Organisational initiatives in an organisation also play an essential role towards implementation of the green government procurement practices. It has been mentioned by Gelderman [32], which found that the organisation itself plays an imperative part towards the GGP practices in European Union countries. The approach and instructions of top management in public agencies might have a substantial influence on the compliance behaviour of purchasing staff. Any initiatives that have been drawn in applying the GGP practices must come with the management actions to make it a reality.

By applying the GGP practices, it can determine the organisation's commitment towards the environmental issues [33]. It also shows that the organisation is willing to achieve the National aspirations that been outlined by the Malaysian Government. Moreover, he also stated that in ensuring the environmental practices are achieved, top management must be totally dedicated in taking out any initiatives or actions that are related to environmental issues [33-35].

Supplier Availability: Suppliers play an imperative part in adopting GGP practices in Malaysia. The significance of the availability in providing sustainable-produced goods and services will lead to the ability of public sector organisation's implementation of GGP practices with success [12]. It is a requirement for suppliers to have environmentally certificates, for example ISO 14001 [19] in ensuring the GGP practices will become smooth

In addition, the perception of public procurers on the supplier's readiness to take action is probable to influence the compliance with the rules. Due to the respect to suppliers, purchaser might take into account the familiarity with and knowledge of the rules, as recognized to offer tender and contract to the suppliers. The lack of knowledge among prospective suppliers has been stated as a potential explanation for the limited compliance to the directives [32].

MATERIALS AND METHODS

Instrumentation: Data will be collected under primary sources of data by using developed questionnaires. In this study, the questionnaire is adapted from four different past research papers from Gelderman [32], Walker and Brammer [10], Meehan and Bryde [23] and Adham and Siwar [36]. The questions are selected according to the variables that are used in this study. The questionnaire has also been revised to ensure that it can be adapted and used in the context of current procurement in Malaysia.

Data Collection: Statutory bodies are established with the objective of implementing certain duties and responsibilities in line with the national objectives and as for the government-linked companies can be defined as the companies that have a primary commercial objective and in which the Malaysian Government has a direct controlling stake of more than twenty percent of equity shares through Government-Linked Investment Companies (GLICs). It also can participate with the appointment the Board of Directors' members, senior management and make major decisions such as contract awards, strategy, restructuring and financing, acquisitions and divestments" [37]. For this study, a pilot study has been conducted. A total of 28 procurement officers from 2 statutory bodies and a government linked companies have been participated. Results from the pilot study will be used as a benchmark for the next phase which is the distribution of improved questionnaires to the procurement officers across Malaysia.

RESULTS

The findings are based on the pilot study that been conducted due to the implementation of GGP in Malaysia is yet to be applied as national policy. The pilot study has

been conducted in Kuala Lumpur that consists of three selected organisations. Two analyses have been taken at this point which are descriptive analysis and reliability test.

Descriptive Analysis: The purposes of the descriptive analysis are to have data exploration of the data collected and to summarize and describe the observation. As for this study, Table 1 will provide the result of demographic background of the procurement officers.

The procurement officers that involved in this study consist of 18 male respondents and 10 female respondents. Most of the respondents are aged between 31 to 35 years (46.4%), followed by aged between 36 years and above (32.1%) and others (21.5%). The procurement officers mostly are Bachelor Degree holders which represent 64.2% and Diploma holders which represent 17.9%. The respondents generally have been worked more than 10 years. This study involved the procurement officers in statutory bodies (82.1%) and government linked companies (17.9%).

Based on the study that has been conducted, the results in Table 2 show that the mode for gender is 1 which is categorized as male with a standard of deviation (SD) of 0.488. As for the age category, it shows that the mode is 3 which reflect of aged between 31 to 35 years old and the SD is.813. The mean for level of education and working experience of the procurement officers represents with the same result of 2.57 with different SD that consists of 0.879 and 0.742 for each group. For the type of organisation, the mean represents of 1.18 and the result of SD is 0.39.

Reliability Test: The reliability test has been conducted for the three key indicators in this study. The results shown in Table 3, Table 4 and Table 5 as below:

The familiarity with policies consists with five items that have been included in the questionnaire which has been stated in the Table 3. Cronbach's alpha reliability coefficient normally ranges between 0 and 1. The closer Cronbach's alpha coefficient is to 1.0, the greater the internal consistency of the items in the scale. As for this study, the results shows that Cronbach's alpha for this variable is 0.84 which considered as strong and high internal consistency for each of the items.

The organisational initiatives consist of nine items that have been included in the questionnaire has been stated in Table 4. As for this study, the result shows that the Cronbach's alpha for this variable is 0.929 which considered as strong and high internal consistency for each of the items.

Table 1: Results of demographic background of the procurement officers

Category		Frequency	Percent (%)	Valid Percent (%)
Gender	Valid Male	18	64.3	64.3
	Female	10	35.7	35.7
	Total	28	100	100
Age	25 years and below	1	3.6	3.6
	26-30 years	5	17.9	17.9
	31-35 years	13	46.4	46.4
	36 years and above	9	32.1	32.1
	Total	28	100	100
Level of Education	Bachelor Degree	18	64.2	64.2
	Diploma	5	17.9	17.9
	Others	5	17.9	17.9
	Total	28	100	100
Working Experience	Less than 5 years	4	14.3	14.3
	6 to 10 years	4	14.3	14.3
	More than 10 years	20	71.4	71.4
	Total	28	100	100
Type of Organization	Statutory Bodies	23	82.1	82.1
	Government Linked Companies	5	17.9	17.9
	Total	28	100	100

Table 2: Descriptive analysis for demographic background

	Gender	Age	Level of Education	Working Experience	Type of Organisation
N	Valid	28	28	28	28
	Missing	0	0	0	0
Mean	1.36	3.07	2.57	2.57	1.18
Mode	1	3	2	3	1
Std. Deviation	.488	.813	.879	.742	.390
Variance	.238	.661	.772	.550	.152

Table 3: Reliability test for familiarity with policies

Reliability Statistics				
Cronbach's Alpha				N of Items
.840				5
Item-Total Statistics				
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
I am familiar with the environmental policies, laws and regulations related on green procurement	14.71	4.434	.674	.803
I am aware with the potential liability of disposal of hazardous materials during the procurement process	14.68	5.263	.428	.875
I am familiar when the procurement laws, regulations and policies that can be applied	13.96	5.073	.775	.779
I am familiar when the procurement policies can be exempted	14.00	5.037	.755	.782
I am clearly and understand with the procurement policies	13.93	5.106	.698	.795

Table 4: Reliability test for organisational initiatives

Reliability Statistics				
Cronbach's Alpha	N of Items			
.929	9			
Item-Total Statistics				
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
My organization has specific policy which requires implementation of green procurement	22.89	27.210	.641	.926
My organization established objectives for purchases of green products and services	22.86	27.460	.769	.920
My organization has documented procedures in green procurement	22.93	27.180	.901	.915
My organization conducts awareness training program on green procurement	23.11	25.877	.842	.914
My organization assigns responsibility for routine evaluation of green procurement performance	23.04	26.480	.804	.917
My organization provides follow-up action of deficiencies in green procurement	23.14	25.683	.700	.924
My organization includes a management review process on green procurement	23.39	24.618	.817	.915
We have taken action to develop procurement policies that consider sustainability	23.18	26.226	.661	.926
All our procurement staffs receive training on the impact of sustainability on purchasing decision-making.	23.18	25.485	.675	.926

Table 5: Reliability test for supplier availability

Reliability Statistics				
Cronbach's Alpha	N of Items			
.914	10			
Item-Total Statistics				
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
My organization will look for suppliers that promote environmentally-friendly products	27.82	30.226	.753	.903
There is mutual understanding on Green Supply Chain Management between supplier and organization	27.89	31.358	.726	.906
My organization will look for suppliers who have been awarded Suppliers' ISO 14000 certification	28.04	28.776	.632	.909
It is difficult to obtain high quality product or services from suppliers	27.89	30.396	.598	.910
It is difficult to acquire product or services that meet the green requirement or policy	27.75	30.120	.723	.904
Time to obtain green products or services from suppliers is quite longer	27.71	29.619	.777	.901
It is difficult to obtain supplier that comply with green policy	27.68	30.374	.720	.904
It is difficult for us to persuade our existing suppliers to become more sustainable	27.86	28.646	.752	.901
My organization favours suppliers that rate highly on sustainability during tender process	27.61	29.433	.524	.918
We have made our suppliers aware of our sustainable procurement policies and practices	28.43	25.735	.842	.895

The Table 5 shows that the supplier availability which consists of ten items and has been included in the questionnaire. The Cronbach's alpha for this variable is 0.914 which considered as strong and high internal consistency for each of the items.

CONCLUSION AND FUTURE RESEARCH

From the pilot study result, it shows that these three variables are reliable to be tested and used in the second phase of data distribution to the Malaysian procurement officers in the statutory bodies and government linked companies. Even though GGP is quite a new concept in Malaysia, the Malaysian government has shown its' commitment towards the implementation of this practice. This study will enhance the knowledge and understanding of GGP concept and yet to examine the procurement officers perception towards it. As for overall, is expected that the application of GGP in Malaysia will boost the economic and social development of Malaysia and therefore increase its people's quality of life.

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