# Benefits of Government Green Procurement Involvement Among Small and Medium Enterprises (SMEs) Government Suppliers

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## ABSTRACT

**Manuscript type**: Research paper

**Research aims**: The aims of this paper are two-fold. First, it aims to investigate the important benefits of government green procurement (GGP) involvement by small and medium-sized enterprises (SMEs). Second, it intends to examine the differences between the small and medium sized groups in relation to the benefits.

**Design/Methodology/Approach**: The study uses a questionnaire survey on 126 respondents who are working with SMEs that are holding the MyHIJAU status. Using Statistical Package for Social Sciences (SPSS), the descriptive analysis and t-test were conducted.

**Research findings**: The top five most important benefits of GGP involvement as perceived by the overall SMEs are 'reduced environmental problems', 'improved supplier's image', 'meeting environmental protection goals and targets', 'improved compliance of government environmental protection regulations' and 'contribution to the competitiveness of local industry'. In addition, there is no statistically significant difference between the small and medium enterprise groups in relation to importance of all the benefits.

**Theoretical contribution/Originality**: This study provides valuable insights into benefits gained from SMEs' involvement in GGP which ultimately ensures their sustainability.

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**Practitioner/Policy implications**: By identifying the benefits of SMEs engagement in GGP, various practical identifications can be derived to boost the SME businesses to participate in GGP which will improve the country's GDP.
**Research limitation**: The study can be extended to measure the response from a larger sample not within the MyHIJAU platform and qualitative measurement might provide different results from the quantitative measurements derived.

**Keywords**: Benefits, Government Green Procurement, MyHIJAU, Sustainable Procurement, Small and Medium Enterprises (SMEs)
**JEL Classification**: M48

## 1. Introduction

Climate change and environmental degradation are urgent global challenges that pose severe risks to human health, leading to an increase in illnesses and a decline in life expectancy. These adverse effects are largely the result of unsustainable human activities. The United Nations Environment Programme (UNEP) warns that GHG emissions could increase by 45 percent by 2030, raising global temperatures by 6 percent if current production and consumption trends continue (UNEP, 2009).

In response, the Malaysian government has introduced initiatives like Government Green Procurement (GGP) to promote sustainability in public sector activities. The 12th Malaysia Plan targets a 45 percent reduction in GHG emission intensity relative to GDP by 2023 (Economic Planning Unit, 2021). Green procurement, also known as Green Public Procurement (GPP), aims to reduce environmental harm and promote human well-being by prioritising environmentally friendly products and services in procurement decisions. This approach has been widely adopted globally, under various names, and is seen as a key strategy for achieving sustainable development (IGPN, 2010; KeTTHA, 2010).

Despite the potential benefits of GGP—such as reducing waste, lowering costs, and fostering technological innovation—research shows that large corporations have dominated the green procurement landscape in Malaysia, while small and medium-sized enterprises (SMEs) have been slow to adopt these practices (Abidin, 2010; Eltayeb & Zailani, 2009). Given that SMEs account for 98 percent of businesses in Malaysia and contribute significantly to the economy (SME Corp, 2021), their involvement in GGP is critical. However, many SMEs face challenges in meeting green criteria due to limited resources and expertise (Abidin, 2010).

In addition, recent years have seen a rise in green initiatives among SMEs, with more seeking recognition through the MyHIJAU mark. However, only 0.4 percent of SMEs are currently involved in GGP (SME Corp, 2022). This minimal participation raises concerns about the ability of SMEs, particularly smaller ones, to benefit from GGP in the same way that larger corporations do. Understanding the specific advantages that GGP offers to SMEs is crucial for enhancing their participation and ensuring they contribute to a sustainable industrial ecosystem.

Internationally, countries are increasingly recognising the need to engage SMEs in GGP to enhance environmental sustainability while supporting economic inclusivity (OECD, 2011). However, common challenges hinder SME participation worldwide, particularly in both developed and developing countries. For instance, in the European Union, SMEs face financial and knowledge-based barriers to green procurement, limiting their ability to comply with GGP standards and compete with larger firms (European Commission, 2018). In Japan, smaller enterprises also struggle with stringent environmental criteria and high initial investment costs, which can deter them from pursuing GGP opportunities (UNIDO, 2017). Developing nations, including Brazil and South Africa, similarly report that resource constraints and a lack of technical expertise impede SMEs' engagement in green procurement (UNIDO, 2017). These barriers reveal a global trend where smaller firms, despite their potential to innovate and adapt, often lack the financial and technical resources to meet GGP requirements effectively.

At the same time, there are emerging opportunities for SMEs as governments worldwide implement supportive measures to facilitate GGP participation. In South Korea, for instance, the government provides incentives and training to help SMEs develop green products and comply with environmental standards (Cho & Lee, 2018). The EU also offers funding programmes and technical assistance to promote GGP adoption among SMEs, recognising that their involvement is essential for achieving regional sustainability goals (European Commission, 2019). These international examples highlight the need for targeted support and capacity-building initiatives that enable SMEs to navigate the challenges of green procurement while unlocking opportunities for growth in the green economy.

Motivated by these challenges, this study aims to investigate the specific benefits that GGP offers to SMEs in Malaysia. Additionally, it seeks to determine whether small and medium-sized businesses

experience distinct advantages from GGP participation. Given the importance of SMEs to the economy, their active participation in GGP could foster innovation, reduce environmental impact, and support the government's sustainability goals. Understanding the distinct benefits for SMEs will also help the government design initiatives to boost their participation in GGP, ensuring a more inclusive and effective implementation of green procurement practices.

The remainder of this paper is structured as follows. Section 2 presents the literature review and Section 3 describes the research methodology applied in the study. Findings and discussions are presented in Section 4. Implications, limitations of the study and suggestions for future research as well as a conclusion are presented in Section 5.

## 2. GGP Initiative and Development in Malaysia

The Malaysian government is committed to enhancing its procurement procedures, and GGP stands as a significant component of its transformation agenda (Adham et al., 2012). As part of this commitment, as outlined in the 2015 EPU's plan, Malaysia has set a target for GGP to account for a minimum of 20 percent of government procurement by the year 2020. Remarkably, the government exceeded this goal, achieving a rate of 20.7 percent between 2016 and 2019, as reported in the EPU's 2021 publication. Furthermore, in the 12th Malaysia Plan, Malaysia has set an objective to have GGP to contribute at least 25 percent of government procurement by the year 2025 (EPU, 2021).

In alignment with these goals, the 12th Malaysia Plan has set forth a vision for Malaysia to achieve several key objectives by 2025. These objectives include having Micro, Small, and Medium Enterprises (MSMEs) contribute 45 percent of Malaysia's total GDP, achieving a 3.6 percent increase in labour productivity growth, and reducing the unemployment rate by 4 percent, as outlined by the EPU in 2021. More importantly, to facilitate the realisation of these targets, one of the initiatives involves generating 230,000 green jobs by 2030, as proposed by the Malaysian Green Technology and Climate Change Corporation (MGTC) in 2022.

Malaysia has established GGP guidelines in 2014, 2018, and 2020, delineating policies for environmentally responsible public purchasing and procurement. These guidelines were introduced to government procurers through the MGTC. By adhering to these policies, the public sector gains the capacity to exert a substantial influence on private sector entities and organisations, fostering the

adoption of cleaner and more efficient production approaches (Bohari et al., 2020; Razali et al., 2021). Moreover, awareness campaigns, such as the International Greentech & Eco Products Exhibition & Conference Malaysia (IGEM), play a pivotal role in promoting the utilisation of green technology and eco-friendly products, thereby contributing to sustainable growth and positioning Malaysia as a hub for green technology.

In contrast to conventional procurement processes, green procurement mandates that companies ensure their products or services are endorsed with green recognition or certification from government-approved authorities in Malaysia. Reflecting the growing prevalence of green practices in the nation, the Malaysian government has introduced the national green recognition program known as MyHIJAU. MyHIJAU is an initiative spearheaded by the MGTC, formerly known as GreenTech Malaysia, designed to promote the adoption of environmentally friendly products and services across Malaysia. This program was initiated in 2012 to facilitate the implementation of GGP, as stated in MGTC's report from 2017. Ahmad and Buniamin (2020) also concur that the MyHIJAU program serves as an effective platform for advancing GGP. The primary objective of this program is to drive the uptake of sustainable practices within the country while fostering the growth of Malaysia's green economy. Initially, MyHIJAU was a governmental initiative aimed at bolstering green procurement practices in the nation.

MyHIJAU advocates sustainable production and consumption through four key initiatives: (a) The MyHIJAU Eco Label scheme, (b) MyHIJAU Green Procurement, which delineates the criteria for green products, services, and projects for GGP, (c) MyHIJAU Green Directory, an online platform offering buyers information on green products and services, (d) MyHIJAU SME, which fosters green awareness and facilitates business connections across industries (Hassan et al., 2019). Concurrently with the program's establishment, the Malaysian government has officially endorsed the MyHIJAU mark as the country's recognized symbol of green credibility (Ahmad & Buniamin, 2020). The subsequent section presents the relevant literature, identifies gaps within the existing research, and leads into the rationale for the present study.

## 3. Literature Review

Prior studies on public procurement have explored a range of areas, including the objectives of GGP (Salam, 2008; Walker & Phillips, 2009; Ruparathna & Hewage, 2015; Bohari et al., 2017), factors contributing

to or hindering GGP success, and the benefits and challenges of GGP involvement (McMurray et al., 2014). GGP is seen as pivotal in tackling environmental challenges such as reducing greenhouse gas emissions, minimising waste, enhancing energy and water efficiency, promoting recycling, and advancing cleaner technologies (Salam, 2008; Ma et al., 2021; Ishak & Thiruchelvam, 2023). Moreover, sustainable procurement is increasingly recognised as a strategic path for achieving organisational sustainability goals (Walker & Phillips, 2009; Ruparathna & Hewage, 2015).

In addition to environmental benefits, GGP has been highlighted for its potential to drive economic growth, foster environmental innovation, and create new markets (KeTTHA, 2012; Adham et al., 2012). UNEP (2008) identified green procurement as a strategic approach for promoting environmental conservation, ensuring human rights, and supporting small and local businesses. Involvement in GGP can also enhance organisational reputation, improve efficiency, promote innovation, and create opportunities for green products and services (Testa et al., 2012; Adham & Siwar, 2012; Brammer & Walker, 2011). McMurray et al. (2014) also emphasised the challenges of GGP participation, including lack of awareness, limited resources, and inadequate expertise.

Furthermore, the availability of suitable suppliers and eco-friendly products plays a critical role in successful GGP implementation (Brammer & Walker, 2011). The government's preference for responsible, sustainable suppliers underscores the importance of supplier-buyer collaboration in GGP (Wang et al., 2020). Companies that meet government standards for green products benefit from public recognition and the opportunity to establish deeper partnerships with the public sector (Ma et al., 2021).

In terms of SMEs, Ghazilla et al. (2015) noted that SMEs face unique challenges compared to larger corporations when participating in GGP, including limited technical knowledge, resources, and access to data on green practices. SMEs are also required to develop products and services with reduced environmental impact, such as energy-efficient and sustainable products. However, research remains limited on the specific factors driving or inhibiting SME involvement in GGP and how these may differ between small and medium enterprises.

Hinrichs and Wettlin (2019) highlight that SMEs often struggle with adopting sustainable procurement practices due to limited financial resources, a common disadvantage when compared to larger businesses. Röhrich et al. (2017) further illustrate the financial barriers for many SMEs in Germany, who find the costs of achieving and

maintaining environmental certifications like ISO 14001 prohibitive. Upstill-Goddard et al. (2016) observe that SMEs sometimes refrain from renewing these certifications due to the recurring expenses, further exacerbating their resource limitations. Ferri et al. (2016), in her comparative study of Italian and German SME managers, underscores the additional challenges posed by complex legal constraints that hinder participation in sustainable procurement initiatives.

Despite the broad scope of research on GGP, significant gaps remain. First, most studies have focused on the general benefits of GGP for businesses but have not differentiated between the experiences of small and medium enterprises, whose capabilities and challenges can vary greatly. Second, there is a heavy emphasis on the customer or buyer perspective in GGP, with limited attention given to the supplier side, particularly SMEs. While the role of suppliers in green procurement is acknowledged, there is insufficient empirical investigation into the benefits specific to SME suppliers, especially in light of their distinct resource constraints and technical limitations. Third, while some studies have explored the challenges of GGP participation, such as resource limitations and regulatory barriers, there is little focus on the specific benefits SMEs can gain from GGP involvement. Finally, the existing research has largely overlooked the potential differences in benefits between small and medium enterprises participating in GGP. Hence, the current study aims to address this gap by exploring the specific benefits SMEs can derive from GGP and whether these advantages vary between small and medium-sized enterprises.

## 4. Methodology

### *4.1 Research Method and Instrument*

In achieving the objectives, a questionnaire survey method was used. The questionnaire items were adopted from McMurray et al. (2014) and Adham and Siwar (2017) with the addition of several new items based on reviews of prior studies. The questionnaire investigates the benefits gained by SME suppliers in engaging with GGP. In total there are 15 items representing benefits of GGP involvement. A five-point Likert scale in which '1' is strongly disagree and '5' is strongly agree was used to indicate respondents' level of agreement with each benefit. A higher score indicates a greater important of the benefits to the supplier, while a lower score means vice versa. Twenty questionnaires were distributed to relevant lecturers and practitioners for a pilot test. Feedback on statement clarity, grammar,

and presentation was incorporated, and the questionnaire was finalised. In ensuring the reliability of the instrument, the Cronbach's Alpha value was calculated and the value is 0.8 which indicates that the statements are reliable.

### *4.2 Respondents and Data Collection Procedures*

The survey's sampling frame consisted of SMEs with a known track record of supplying goods and services to the government, as evidenced by their presence in the MyHIJAU directory. Due to the impracticality of identifying the entire population of SMEs engaged in GGP, convenience sampling was chosen as the most suitable approach for this research. Convenience sampling, while efficient and accessible, introduces certain limitations, particularly concerning potential biases and the generalizability of the findings. This sampling method may skew results, as the sample may not represent the broader population of SMEs engaged in GGP. For instance, businesses willing to participate may inherently have a higher interest in sustainability, which could result in overrepresentation of environmentally proactive SMEs. To partially mitigate the limitations of convenience sampling, only SMEs that expressed a willingness to participate were provided with questionnaires for completion.

The survey respondents were primarily contacted via email and WhatsApp, with a small subset reached through direct phone calls. Out of the 394 businesses initially approached, 145 provided responses. Nineteen of these were excluded due to incomplete questionnaire answers or their status as non-SME suppliers. In addressing incomplete responses, specific exclusion criteria were established. Responses with missing critical data points essential for the study's analysis were excluded from the final sample to uphold data integrity and ensure analytical consistency. Although excluding incomplete responses may introduce some sample bias, this approach prioritises the reliability and robustness of the data. No imputation methods were used, as the study opted for a complete-case analysis.

The researcher made three contact attempts to reach all respondents, allowing an average gap of approximately seven days between each session. The data collection process spanned around 10 weeks. Two follow-up sessions were conducted, exclusively targeting those who had not yet responded to the questionnaire. The researcher primarily attempted to contact two individuals from each company, and all respondent and company details were sourced from the MyHIJAU directory. The MyHIJAU directory presently provides information for at least two company representatives who can be

contacted. Both representatives were approached, as some were not initially aware of the researcher's email request. However, if both representatives from a company responded to the questionnaire, only one respondent was chosen for inclusion.

The email communication contained comprehensive information about the research, including a link to the Google Form questionnaire and an accompanying Word document. Additionally, the WhatsApp application was utilised to prompt respondents to check their email for participation instructions and to address any queries that may have arisen during the study. The researcher's contact number and a Google Meet link were also provided in the email to facilitate engagement between the researcher and the respondents.

### *4.3 Data Analysis*

The collected questionnaire data were subjected to analysis through the Statistical Package for the Social Sciences (SPSS) software. The background and demographic profiles of the respondents were examined using descriptive analysis, providing average values derived from the 5-1 Likert Scale. To address the second research question, t-test analysis was employed to detect any significant variations in mean values between small and medium enterprises. The next section presents the findings of the study, based on the analysis conducted to achieve the research objectives.

## 5. Findings and Discussion

### *5.1 Response Rate and Demographic information of respondents*

Out of the 145 received responses, 126 were suitable for inclusion in the analysis. The remaining 19 questionnaires were either completed by suppliers not involved in GPP or by entities that did not qualify as SMEs. Additionally, some responses were deemed incomplete due to the respondents' admission of not fully comprehending the questionnaire's terminology. This resulted in an overall response rate of 31.98 percent, which is deemed satisfactory according to the standards outlined by Sekaran (2003). Sekaran suggests that a response rate of 30 percent is generally acceptable in most social science research. Since the SME serves as the primary unit of analysis in this study, Table 1 provides demographic information about the companies, including their industry type and their involvement in various public procurement activities. Additionally, respondents were questioned about their experiences with the GGP process to verify the credibility of their representation of their respective companies.

**Table 1. Demographic information of the respondents**

| Category | | Frequency | Percent |
|---|---|---|---|
| Gender | Male | 87 | 69.0 |
| | Female | 39 | 31.0 |
| | *Total* | *126* | *100.0* |
| Position in the company | Director/CEO | 40 | 31.7 |
| | Manager | 54 | 42.9 |
| | Assistant Manager | 6 | 4.8 |
| | Executive | 19 | 15.1 |
| | Other | 7 | 5.6 |
| | *Total* | *126* | *100.0* |
| Working experiences with GGP | None | 60 | 47.6 |
| | Less than 1 year | 8 | 6.3 |
| | 1 to less than 3 years | 20 | 15.9 |
| | 3 to 5 years | 14 | 11.1 |
| | More than 5 years | 24 | 19.0 |
| | *Total* | *126* | *100.0* |
| Types of Industry | Construction | 37 | 29.4 |
| | Consumer | 5 | 4.0 |
| | Industrial | 29 | 23.0 |
| | Properties | 1 | 0.8 |
| | Technology | 41 | 32.5 |
| | Trading-Services | 13 | 10.3 |
| | *Total* | *126* | *100.0* |
| Types of Procurement | Works | 31 | 17 |
| | Supplies | 75 | 42 |
| | Services | 74 | 41 |
| | *Total procurement activity engagement* | *180* | *100.0* |

Table 1 provides a breakdown of respondent demographics. It reveals that the majority of respondents, totalling 69 percent, are male, while the remaining 31 percent are female. In terms of current job positions held by SME representatives, a significant portion, 42.9 percent, are in managerial roles, and 31.7 percent hold director positions. The remaining respondents are distributed across positions such as executives, assistant managers, and related roles.

The SMEs that participated in the study represent a diverse range of industries. The largest group of SMEs belongs to the technology sector, accounting for 32.5 percent of the respondents. The construction industry comes next, comprising 29.4 percent, followed by the industrial sector at 23 percent. The trading services sector represents 10.3 percent, followed by the consumer industry at 4.0 percent, and the properties industry at 0.8 percent.

When it comes to the type of procurement activities, the majority of respondents, at 42 percent, are engaged in supply-based procurement activities. Services-based procurement activities are a close second at 41 percent, and work-based procurement activities make up 17 percent of the total procurement activities.

### *5.2 Overall Results on the Important Benefits of GGP Involvement*

Table 2 shows that mean scores range from 3.33 to 4.07, indicating a moderate to high level of importance of the benefits for GGP involvement to the SME suppliers. This implies that participating in GGP gives benefits to SME suppliers in various ways.

Based on the mean score ranking, the top five GGP involvement benefits as perceived by the overall SMEs are 'reduced environmental problems', 'improved supplier's image', 'meeting environmental protection goals and targets', 'improved compliance of government environmental protection regulations' and 'contribution to the competitiveness of local industry'.

The top-ranked benefit of GGP engagement is its ability to curb environmental problems such as global warming and ozone depletion (M=4.07, SD=0.80). This finding aligns with the core objective of GGP, which is to safeguard the environment for future generations, as highlighted by the Ministry of Energy, Green Technology and Water (KeTTHA, 2014). The recognition of GGP's role in addressing environmental concerns not only supports the government's sustainability agenda but also contributes to achieving Sustainable Development Goal 12, which emphasizes responsible consumption and production patterns. This positive perception of GGP aligns with previous studies by Haslinda and Muruga (2015) and Beleya et al. (2019), who similarly discovered the environmental benefits of GGP. The consensus among SME suppliers regarding the environmental advantages of GGP participation reflects a growing awareness and commitment to sustainable practices, suggesting that such initiatives can effectively foster a culture of environmental responsibility among businesses. By positioning GGP as a strategic tool for environmental protection, this finding reinforces the potential

**Table 2. The benefits of government green procurement involvement to SME suppliers**

| No | Benefit of GGP Participation | Overall | | | Small | | | Medium | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Mean | SD | Rank | Mean | SD | Rank | Mean | SD | Rank |
| 1 | Engaging with GGP helps in alleviating environmental problems such as global warming and ozone depletion. | 4.07 | 0.80 | 1 | 4.05 | 0.83 | 1 | 4.12 | 0.74 | 1 |
| 2 | Engaging with GGP has improved the image of the company. | 4.06 | 0.75 | 2 | 4.05 | 0.76 | 2 | 4.09 | 0.72 | 2 |
| 3 | Engaging with GGP has enabled the company to meet the environmental protection goals and targets. | 3.98 | 0.79 | 3 | 3.96 | 0.83 | 3 | 4.06 | 0.66 | 3 |
| 4 | Engaging with GGP has improved the compliance of company towards government environmental protection regulations. | 3.83 | 0.86 | 4 | 3.78 | 0.90 | 4 | 3.97 | 0.77 | 4 |
| 5 | Engaging with GGP has enabled the company to contribute to the competitiveness of local industry. | 3.80 | 0.87 | 5 | 3.77 | 0.93 | 5 | 3.88 | 0.65 | 5 |
| 6 | Participation in GGP has reduced company usage on natural resources. | 3.62 | 0.94 | 6 | 3.58 | 0.97 | 6 | 3.73 | 0.84 | 6 |
| 7 | Engaging with GGP has enabled the company to encourage foreign investment. | 3.57 | 0.92 | 7 | 3.55 | 0.93 | 7 | 3.64 | 0.90 | 7 |
| 8 | Engaging with GGP has improved the transparency of procurement procedures. | 3.57 | 0.85 | 8 | 3.55 | 0.89 | 8 | 3.64 | 0.74 | 9 |
| 9 | Engaging with GGP has improved the efficiency of procurement procedures. | 3.53 | 0.97 | 9 | 3.49 | 1.02 | 10 | 3.64 | 0.82 | 8 |
| 10 | Green procurement has improved healthy workplace behaviours within the company. | 3.49 | 0.87 | 10 | 3.47 | 0.93 | 11 | 3.55 | 0.71 | 10 |
| 11 | Green procurement has increased company's productivity. | 3.49 | 0.90 | 11 | 3.54 | 0.93 | 9 | 3.36 | 0.82 | 14 |
| 12 | Engaging with GGP has generated employment opportunities. | 3.45 | 0.91 | 12 | 3.45 | 0.92 | 12 | 3.45 | 0.90 | 11 |
| 13 | Engaging with GGP has enabled the company to provide community services. | 3.42 | 0.83 | 13 | 3.43 | 0.84 | 13 | 3.39 | 0.83 | 13 |
| 14 | Engaging with GGP has enabled the company to assist the disadvantaged groups in the society. | 3.35 | 0.88 | 14 | 3.32 | 0.86 | 15 | 3.42 | 0.94 | 12 |
| 15 | Company able to generate saving from GGP participation. | 3.33 | 0.99 | 15 | 3.34 | 1.02 | 14 | 3.30 | 0.92 | 15 |

for government policies to catalyse meaningful change and inspire broader participation in sustainable practices within the SME sector.

The second most significant benefit of GGP participation, as identified by SME suppliers, is the enhancement of the company's image. Engaging in GGP demonstrates a commitment to environmental protection, which resonates with consumers and stakeholders alike. As noted by Honey (2002), environmental concerns have become integral to corporate culture, shaping public perception. This finding aligns with Ma et al. (2021), who identified image improvement as a primary motivation for companies to engage with GGP. Thus, by prioritiing green procurement, SMEs can effectively bolster their reputation and foster a positive brand image in an increasingly eco-conscious market.

The benefit of 'meeting environmental protection goals and targets' ranks as the third most important advantage of GGP participation, highlighting its significant impact on SMEs. This finding is consistent with the UNEP (2008), which identified the fulfillment of environmental goals as a key benefit of engaging in GGP. Furthermore, the GGP guidelines issued by KeTTHA (2014) explicitly list this advantage for suppliers involved in GGP, implying its recognized importance. Additionally, McMurray et al. (2014) included meeting environmental goals among the top five benefits of GGP, reinforcing its critical role in the broader sustainability agenda. This emphasis on environmental accountability not only enhances the credibility of participating SMEs but also positions them as responsible corporate citizens committed to achieving national and global sustainability targets. By aligning their operations with environmental objectives, SMEs can contribute to significant ecological improvements, ultimately fostering a more sustainable business landscape. This alignment also serves to strengthen partnerships with government agencies and other stakeholders, as shared environmental goals can lead to collaborative efforts in promoting sustainable practices.

The benefit of 'improved compliance with government environmental protection regulations' ranks fourth, highlighting the importance of aligning business practices with regulatory frameworks. This finding supports Musa et al. (2013), who stressed that policies and regulations, including the awarding of contracts, must reflect environmental considerations. The strong compliance of GGP suppliers with these regulations demonstrates their commitment to sustainability through their participation in green procurement. Moreover, improving regulatory compliance directly

aligns with the Malaysian Green Technology Corporation (MGTC) strategic thrust, which emphasizes the promotion of sustainable practices and public awareness, encouraging a shift toward greener solutions (MGTC, 2022). This suggests that GGP participation not only fulfills environmental requirements but also enhances supplier credibility and readiness to meet future regulations, thus fostering stronger government partnerships and contributing to long-term environmental sustainability. The active engagement in regulatory compliance also reflects a shift towards greater environmental accountability among SMEs.

The fifth rank benefit is 'engaging with GGP has enabled the company to contribute to the competitiveness of local industry'. This can be attributed to the growing number of companies participating in GGP, as reflected in the increase of companies registered for the MyHIJAU mark, from 51 in 2015 to 580 in 2022 (MyHIJAU, 2022) as shown in Table 3.

**Table 3. MyHIJAU Mark Registration**

| No. | Number of Products/ Services | Year 2015 | Year 2016 | Year 2017 | Year 2018 | Year 2019 | Year 2020 | Year 2021 | Year 2022 |
|---|---|---|---|---|---|---|---|---|---|
| 1 | Yearly Target | 150 | 250 | 800 | 1,000 | 1,250 | 1,550 | 2,000 | 3,000 |
| 2 | Yearly Actual | 181 | 215 | 934 | 1,812 | 2,041 | 2,315 | 2,149 | 966 |
| 3 | Cumulative Target | 150 | 400 | 1,200 | 2,200 | 3,450 | 5,000 | 7,000 | 10,000 |
| 4 | Cumulative Actual | 181 | 396 | 1,330 | 3,142 | 5,183 | 7,498 | 9,647 | 10,613 |

| No. | Number of Companies | Year 2015 | Year 2016 | Year 2017 | Year 2018 | Year 2019 | Year 2020 | Year 2021 | Year 2022 |
|---|---|---|---|---|---|---|---|---|---|
| 1 | Yearly | 51 | 69 | 106 | 64 | 97 | 83 | 82 | 28 |
| 2 | Cumulative | 51 | 120 | 226 | 290 | 387 | 470 | 552 | 580 |

This rise indicates a significant improvement in the competitiveness of the green local industry, supporting KeTTHA's (2014) assertion that GGP enhances local competitiveness. Furthermore, the Korea Environmental Industry and Technology Institute (KEITI) (2017) emphasized that the expansion of green

suppliers facilitates the growth of green products and services, aligning with global trade opportunities. This increase in participation not only strengthens the local green industry but also prepares companies to compete on a global scale by meeting international environmental standards. GGP thus acts as a catalyst for fostering innovation and sustainability within local industries while driving the demand for environmentally conscious products.

The benefit of 'company able to generate savings from GGP participation' ranked lowest (M=3.33, SD=0.99), likely due to the upfront costs SMEs incur in complying with GGP requirements. These may include expenses for eco-friendly materials, research and development, and certification processes. While short-term financial gains might be limited, long-term savings can emerge as sustainable products often have lower disposal costs due to their recyclability and reusability. Ghazilla et al. (2015) also highlighted that SMEs may be more focused on gaining public recognition for their environmental efforts, though this visibility remains lower compared to larger corporations due to limited media exposure.

### *5.3 Differences Between Small and Medium-sized Groups on the Important Benefits of GGP Involvement*

The second objective of this study was to explore differences in the perceived importance of GGP benefits between small and medium-sized respondents. Generally, medium-sized companies consistently rated the benefits higher than their smaller counterparts, suggesting they place greater emphasis on these advantages. Despite this, the top five ranked benefits were similar for both groups. However, eight specific benefits, including "improved transparency" and "increased productivity," were ranked differently, indicating varied priorities between the two groups. For example, small companies ranked "increased productivity" ninth, while medium-sized companies ranked it 14th, revealing distinctive differences in perceived value.

To further investigate the differences in perceptions between the small and medium-sized enterprises regarding the ranking of the 15 GGP participation benefits, an independent t-test analysis was conducted. The results are presented in Table 4.

**Table 4. Summary of Independent T-Test Results for the Benefits of GGP Participation to SME Suppliers**

| No | Benefit of GGP | Levene's Test for Equality of Variances | | t-test for Equality of Means | | |
|---|---|---|---|---|---|---|
| | | F | Sig. | t | df | Sig. (2-tailed) |
| 1 | Engaging with GGP has improved the efficiency of procurement procedures. | 2.391 | .125 | -.721 | 124.00 | .473 |
| 2 | Engaging with GGP has improved the transparency of procurement procedures. | 1.295 | .257 | -.508 | 124.00 | .613 |
| 3 | Engaging with GGP has improved the compliance of company towards government environmental protection regulations. | 1.316 | .253 | -1.055 | 124.00 | .294 |
| 4 | Company able to generate saving from GGP participation. | .203 | .653 | .204 | 124.00 | .838 |
| 5 | Green procurement has improved healthy workplace behaviours within the company. | 2.034 | .156 | -.407 | 124.00 | .685 |
| 6 | Green procurement has increased company's productivity. | .721 | .398 | .953 | 124.00 | .343 |
| 7 | Participation in GGP has reduced company usage on natural resources. | 2.261 | .135 | -.771 | 124.00 | .442 |
| 8 | Engaging with GGP has enabled the company to assist the disadvantaged groups in the society. | .286 | .594 | -.569 | 124.00 | .570 |
| 9 | Engaging with GGP has enabled the company to provide community services. | .208 | .649 | .214 | 124.00 | .831 |
| 10 | Engaging with GGP has enabled the company to contribute to the competitiveness of local industry. | 7.987 | .005 | -.702 | 80.969 | .484 |

| No | Benefit of GGP | Levene's Test for Equality of Variances | | t-test for Equality of Means | | |
|---|---|---|---|---|---|---|
| | | F | Sig. | t | df | Sig. (2-tailed) |
| 12 | Engaging with GGP has generated employment opportunities. | .055 | .815 | -.016 | 124.00 | .987 |
| 13 | Engaging with GGP helps in alleviating environmental problems such as global warming and ozone depletion. | .002 | .969 | -.414 | 124.00 | .680 |
| 14 | Engaging with GGP has improved the image of the company. | .260 | .611 | -.245 | 124.00 | .807 |
| 15 | Engaging with GGP has enabled the company to meet the environmental protection goals and targets. | 1.347 | .248 | -.646 | 124 | .519 |

As shown in Table 4, the results showed no statistically significant differences in how the two groups perceived these benefits, with Sig. (2-tailed) values greater than .05. This indicates that the variances between the small and medium enterprises are equal, leading to the conclusion that both groups viewed the benefits of GGP participation similarly. Despite differing business sizes, their shared recognition of GGP's importance reflects a broad alignment in understanding the potential value these benefits can bring to their operations. This result implies that the structural differences between small and medium businesses do not substantially alter their appreciation of the advantages offered by green procurement participation. In other words, the benefits of GGP hold general importance across the SME sector.

### *5.3.1 Potential Factors Behind Similar Perceptions of Benefits*

While there were minor ranking differences in certain benefits, the overall similarity in perceptions between small and medium-sized enterprises may be explained by a range of cultural, economic, and policy-related factors that shape SME behaviour and attitudes toward GGP.

In Malaysia, there has been a growing awareness and cultural shift towards sustainable practices across the business sector. The national emphasis on environmental responsibility, as outlined in initiatives like the MyHIJAU program, promotes a shared value system that transcends company size. This cultural shift likely influences SMEs of all sizes to recognize and prioritise the environmental benefits associated with GGP, fostering a collective perception that green procurement advantages are important for both operational and societal impact.

In addition, both small and medium enterprises face economic pressures that drive their interest in GGP as a pathway to competitive advantage. By participating in GGP, SMEs can access government contracts that may otherwise be reserved for environmentally compliant businesses. This access to additional revenue streams is critical for small businesses looking to grow and for medium businesses aiming to maintain their market position. The alignment in perceived benefits may stem from this economic imperative, as both groups view GGP involvement as an opportunity for growth and increased stability in a competitive market.

Equally important, government policies in Malaysia have been instrumental in promoting green procurement across industries, offering incentives that appeal to SMEs of all sizes. Policies that reduce barriers to green certification or provide tax relief for environmentally compliant businesses create a level playing field, making GGP accessible to both small and medium enterprises. These forms of policy support can equalise the perceived benefits of GGP participation across SME sizes, as they are universally accessible and encourage adoption regardless of business scale.

Another possible factor is that small and medium enterprises often share similar operational challenges, such as limited access to resources, which shapes their view on productivity and transparency benefits in GGP. While medium-sized companies might have slightly more resources, both groups typically operate with lean structures that prioritise efficiency and accountability. Consequently, benefits such as "improved transparency" and "increased productivity" are valued across the board, as these aspects directly impact both groups' ability to optimize limited resources effectively.

Finally, increasing global and national regulatory pressure to adopt sustainable practices affects SMEs of all sizes. Regulatory frameworks push both small and medium enterprises to adopt environmentally friendly practices, often compelling them to perceive compliance-related benefits similarly. In Malaysia, where the

government emphasizes environmental compliance for procurement eligibility, both groups might recognize the reputational and operational advantages of aligning with GGP standards, reinforcing similar perceptions.

In sum, the absence of significant statistical differences highlights that these factors may create a common ground, making GGP benefits broadly appealing across different SME sizes. This insight suggests that, while policy and support measures may continue targeting SMEs generally, tailored approaches for specific benefits could help further optimize the impact of GGP initiatives on SMEs of varying scales.

## 6. Implications, Limitations, Suggestions for Future Research, And Conclusion

The present research focuses on the perceptions of SMEs suppliers, as they play a prominent role in the country's business landscape, on the important benefits of GGP involvement. Based on the results, the most highly regarded benefit among SMEs is the 'mitigation of environmental issues, including global warming and ozone layer depletion.' This benefit holds the top rank and garners substantial agreement from SMEs. Concerning variations in perceptions between medium and small enterprises, no significant differences have been identified with regard to all the benefits.

Despite the advantages, realistically, GGP participation presents several challenges for SMEs, particularly high initial costs and compliance complexities. Engaging in GGP often requires SMEs to invest in eco-friendly materials, green certifications, and research and development, which can be financially burdensome, especially for smaller firms with limited capital (Ghazilla et al., 2015). These costs can deter participation or limit the extent to which SMEs can adopt GGP practices, thereby hindering their ability to compete effectively with larger companies that possess greater financial resources. Moreover, compliance with GGP standards can be challenging due to the technical expertise and administrative capacity required, adding further strain on SMEs that may lack specialised knowledge in sustainable practices.

The study's results are crucial in advancing the government's initiative to enhance GGP involvement and practices, particularly among SMEs, by directly integrating their perspectives into GGP development. There are several key implications of the present study. To support SMEs in overcoming barriers to GGP participation, several practical strategies can be implemented to enhance their

capabilities and reduce entry costs. Government agencies and industry bodies like the Malaysian Green Technology and Climate Change Centre (MGTC) could offer targeted training sessions that familiarise SMEs with sustainable practices, certifications, and regulatory compliance. These programs could focus on building SMEs' understanding of green procurement standards, as well as guiding them through eco-friendly material sourcing and environmental management systems. Capacity-building initiatives could be further enriched by partnering with universities or research institutions to offer accessible certification programs tailored for SMEs. For example, short courses or workshops on sustainable procurement and environmental compliance would help SMEs gain the knowledge and skills necessary for effective GGP participation.

Furthermore, encouraging partnerships between SMEs and larger corporations could also promote SME participation in GGP. Through such collaborations, SMEs could benefit from the experience, resources, and infrastructure of larger firms that already have established GGP-compliant practices. For instance, larger corporations could mentor SMEs on sustainable practices, share technologies, or even integrate SMEs into their green supply chains. This partnership model not only boosts SMEs' operational capacity but also strengthens the overall green procurement ecosystem by ensuring that sustainable practices are consistently applied across the supply chain.

As high initial costs remain a major deterrent for SMEs considering GGP participation, the government could introduce targeted subsidies or tax incentives for SMEs committed to green procurement. These financial incentives could offset costs associated with green certifications, eco-friendly materials, and sustainable technology adoption, making it financially feasible for smaller businesses to invest in GGP. Additionally, creating dedicated green financing options through financial institutions, such as low-interest loans or grants for green innovation, would empower SMEs to adopt sustainable practices without bearing the full financial burden upfront.

Government platforms could serve as centralised resources for GGP information, allowing SMEs to easily access up-to-date guidance on green procurement standards, application procedures, and compliance tools. For example, a dedicated GGP portal on government websites could house tools, templates, and case studies that walk SMEs through the GGP process, thereby simplifying compliance. This platform could also offer self-assessment tools that

enable SMEs to evaluate their readiness for GGP and identify areas where they might require support.

These strategies not only make GGP more accessible to SMEs but also signal a commitment from both government and industry to support sustainable business practices. By providing SMEs with the necessary resources, guidance, and incentives, the government can help foster a more inclusive and resilient green economy.

In terms of policy, the findings of this study highlight the importance of tailoring GGP policies to be inclusive of SME needs. Regulatory bodies like MGTC could consider implementing tiered requirements that allow SMEs to progressively adopt GGP practices, reducing compliance pressures while encouraging gradual participation. This flexibility would make it easier for SMEs to meet green standards over time, promoting a more diverse supplier base that includes small and medium enterprises alike. Additionally, incorporating user-friendly communication materials such as posters, digital guides, and informational webinars could simplify the process for SMEs, encouraging broader adoption and easing the compliance process.

The finding of equal importance in the perceived benefits between small and medium-sized enterprises, suggests that government policies and initiatives aimed at promoting GGP can be designed with a unified approach for both small and medium enterprises, as their recognition of the benefits is aligned. Therefore, policymakers and regulatory bodies can streamline GGP communication and support efforts, ensuring that they cater to the entire SME sector without needing to differentiate based on size, thereby simplifying the promotion and adoption of green procurement practices.

In addition to implications to practice, the study also contributes to the existing body of knowledge on GGP and sustainability practices, particularly in the context of SMEs. This research enhances the understanding of how SMEs perceive the opportunities for engaging with GGP initiatives. More importantly, the insight that both small and medium-sized enterprises perceive the benefits of GGP equally, which challenges the traditional notion that firm size dictates the level of engagement with sustainable practices. This finding adds to the literature by suggesting that the size of an enterprise may not be as significant a determinant of GGP adoption as previously thought, thus shifting the focus toward other influencing factors, such as access to information, support mechanisms, and perceived ease of compliance. This research calls

for further investigation into how other contextual factors, such as industry type or regional economic conditions, might also influence SME participation in GGP, opening avenues for future academic inquiry.

Despite the significant implications of this study for various stakeholders, like many other research endeavours, it has encountered certain limitations that warrant attention. Firstly, constrained by data collection and time constraints, the researcher was unable to gather a larger sample, which could have offered a more comprehensive representation of the total population. The samples were limited to recipients of the MyHIJAU mark, leaving out a significant portion of SMEs participating in GGP activities. Therefore, future research efforts can enhance the findings by expanding the sample to encompass all SMEs engaged in GGP, including those who are not recipients of the MyHIJAU mark.

Secondly, only a quantitative approach was utilised in this present study, which constrained the respondents from expressing their opinions more comprehensively. Despite offering both online and in-person meeting options to the respondents, most were hesitant to engage in direct discussions with the researcher, citing their heavy workloads as a deterrent. Consequently, it is advisable to consider incorporating a qualitative method, such as interviews, to facilitate more meaningful interactions and communication with the respondents. A qualitative approach could provide the researcher with a deeper understanding of the respondents' perspectives, which may have been somewhat limited in the current survey. Adopting green practices holds the potential to foster a more positive relationship between humanity and the environment, and this study serves as an initial step in delving into this subject. It can serve as a foundational exploration of the current state of GGP activities in the country, laying the groundwork for more extensive research in the future.

In conclusion, GGP involvement benefits the SME suppliers not only in terms of the economy but also the environment and future generations. Therefore, effective promotion and implementation of green markets, particularly in the context of GGP, ensure right direction towards sustainability development goals of the government.

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