



# SMEs Participation in Green Public Procurement: An Academic Literature Review

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**Abstract.** Responsibility for the environment began by large companies and the following by SMEs to jointly reduce the negative impacts caused by economic activities. However, the involvement of SMEs in green public procurement is still a relatively new process, especially for developing countries compared to developed countries. The preparation of this article aims to find out the extent of SME participation in green public procurement. This article was compiled using a systematic literature review approach by searching for articles discussing SMEs participation in green public procurement in international journals indexed by Scopus and Google Scholars. The stages in the SLR are carried out using keywords and evaluating in more detail about SMEs participation in GPP. The use of the keyword “SMEs participation in Green Public Procurement is carried out by the compiler to filter the required articles. The results of the literature review were successfully compiled by selecting and reviewing as many as 28 indexed international journals that were in accordance with the research objectives. This research still has limitations in terms of the number of articles reviewed. Therefore, further research is needed to add to the strengthening of theories and the formulation of appropriate policies, especially the participation of SMEs in maintaining environmental sustainability.

**Keywords:** SMEs · Participation · Green Public Procurement

## 1 Introduction

The green economy movement aims to maintain the survival of ecosystems so that humans can live sustainably [1]. Responsibility for the environment began by large companies and the following by SMEs to jointly reduce the negative impacts caused by economic activities [2]. However, the involvement of SMEs in green public procurement is still a relatively new process, especially for developing countries compared to developed countries. The opinions of the researchers are divided into two perspectives.

The first group believed that the involvement of SMEs in green public procurement has no significant effect on business performance. Meanwhile, the second group said that the involvement of SMEs has a very significant effect in reducing the impact of business activities on the environment and business performance. In addition, the differences in

the process of SMEs involvement are also influenced by the system and procedures of a country. Business sector and scale, include the role of SMEs in the supply chain [3, 4].

SMEs' participation in public procurement activities in developed and developing countries has something in common. The participation of SMEs in public procurement activities has received support from the government so that it can encourage economic development. However, the participation of SMEs in the application of the green concept is still debated for their capabilities due to limited resource capacity and other factors.

The preparation of this article aims to identify the extent of previous research on the application of green public procurement. A number of articles have been collected and then the authors identify several things, including: methods and research results that have been obtained.

## **2 Literature Review**

### **2.1 Participation of SMEs in Green Public Procurement (GPP) in Developed Countries**

The involvement of SMEs in public procurement activities in developed countries has been several steps ahead because it is supported by the government, for example in the EU [5]. The contribution value of EU SMEs reaches approximately 30 percent of public procurement contracts [6].

Public procurement activities in developed countries allow SMEs to cross borders in the tender process. Therefore, SMEs must have the ability to build networks as a condition for successfully engaging in public procurement [7, 8]. However, the findings of this study will contrast with SMEs in emerging countries.

The results of the following study are much different from previous studies although the study also occurred in developed countries. The large number of tenders offered by governments in developed countries, for example Germany, does not have a significant effect on the success rate of SMEs [9]. SME participation in developed countries also faces several problems related to procurement procedures, the number of participating SMEs and the total tender volume [10].

### **2.2 Participation of SMEs in Green Public Procurement in Emerging Countries**

The limitations of SMEs have contributed to the participation process in the procurement process in developing countries. Limitations in knowledge, application of technology and infrastructure can affect the acceleration of SME involvement. Governments in developing countries must be pro-active in helping SMEs from drafting regulations, socialization, training to standardization [11].

The existence of SMEs has proven to play a very important role in stabilizing a country's economy. When there is an economic crisis, SMEs have proven to be able to survive and get through the economic crisis [12]. The ability of SMEs is influenced by several things, namely: motivation, local content of raw materials used, and the scale of production that is not large.

Based on the results of the scientific review, it shows that the topic of SMEs involvement in green public procurement is still under-researched [13]. This article aims to

critically identify the problem of the involvement of these SMEs to find out what things have not been studied. The results of this article search can be used by researchers in the future to examine more deeply the problem of SME involvement in the procurement of public goods and services [14, 15].

### **3 Method**

The method used in this article is to unify conventional library review with structured library review. Traditional literature review is an approach taken by researchers for the purpose of obtaining certain knowledge by revealing reasons for the problems being observed [16]. While the structured literature review (SLR) is a compilation of various scientific literature with the aim of developing insights, critical reflections, future research paths and questions for research [17]. Structured literature review (SLR) includes ten steps which in the last two steps will be combined both methods, namely conventional literature review and structured literature review [18]. The authors identified only 26 articles that were in line with the focus of the purpose of this article.

### **4 Results and Discussion**

The results of the article search were obtained by a number of journals that actively published topics regarding the participation of SMEs in Green Public Procurement. The list of journals can be seen in Table 1. Several journals that actively publish on the topic of SME participation in Green Public Procurement include: Journal of Cleaner Production, Journal of Public Procurement, and Sustainable Production and Consumption. While other journals are also active but not as many as the journals previously mentioned.

#### **4.1 The Number of Articles on the Topics in Journals**

The results of the article search found that researchers who discussed the problem of SMEs participation in green public procurement were more published in the journal of cleaner production. In Table 1 shows that the results of other studies on SMEs participation in green public procurement are published in several journals with a minimal number of articles. This shows that studies on the extent of SMEs' participation in green public procurement has been less of discussed by researchers.

#### **4.2 The Frequency of Articles Included**

Figure 1 shows that the publication discussing the participation of SMEs in green public procurement occurred in 2021. In the previous period, articles that directly discussed the relationship between SMEs in green public procurement were under 5 articles per year.

#### **4.3 The Number of Citations**

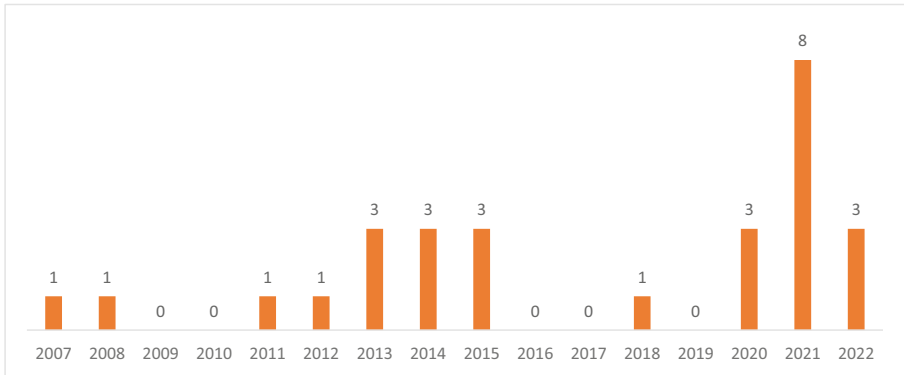
Table 2 shows that there are several researchers who have made the biggest impact on the study of SMEs participation in green public procurement. Authors nominated as authors who have a great impact can be seen in the Table 2 [19–28].

**Table 1.** The Top Journals and Number of Articles

<b>Journals</b>	<b>Number of articles</b>
Journal of Cleaner Production	7
Journal of Public Procurement	2
Sustainable Production and Consumption	2
Critical Perspective on International Business	1
Entrepreneurship & Regional Development	1
International Journal of Procurement Management	1
International Journal of Production Economics	1
Journal of Business Research	1
Journal of Purchasing and Supply Chain Management	1
Public Procurement Law Review	1
Public Money & Management	1
Research Policy	1
Small Business Economics	1
Social Responsibility and Environmental Management	1
Supply Chain Management	1
Sustainability	1
Technovation	1
The International Journal of Life Cycle Assessment	1
The Social Science Journal	1

#### 4.4 Articles Analysis

Based on the data shown in Table 3. Article searches are carried out by looking at the background of the author, research methods, types of data and topics analyzed [29–43]. The results of articles related to the participation of SMEs in the green public procurement collected show that the author's overall background is academic with the author's country of origin in the dominance of the European continent and the UK. The author discusses the participation of SMEs in GPP in the Asian region is still very minimal. This proves that the participation of SMEs in GPP has not been the focus of



**Fig. 1.** The frequency of articles

**Table 2.** Number of Citations

<b>Authors</b>	<b>Number of Citation</b>
Elvira Uyarra, Jakob Edler, Javier Garcia-Esteves, Luke Georghiou, Jullian Yeow	418
Helen Walker, Stephen Brammer	321
Cecilia Bratt, Sophie Hallstedt, K.H. Robert, Goran Broman, Jonas Oldmark	224
Joyce Thomson, Tim Jackson	210
Brigitte Hoogendoorn, Daniela Guerra, Peter Van der Zwan	208
Markus Amann, Jens K. Roehrich, Michael Ebig, Christine Harland	157
Lutz Preuss	129
Matteo Mura, Mariolina Longo, Sara Zanni	106
Mieko Igarashi, Luitzen de Boer, Ottar Michelsen	94
Mats Zackrisson, Cristina Rocha, Kim Christiansen, Anna Jarnehammar	85

**Table 3.** Results of analysis of articles

Item	Count	Item	Count
<b>Authors</b>		<b>Quantitative</b>	
Academics	28	Survey/questionnaire	6
Practitioners and/or Consultants	-	Other/not specified	2
<b>Authors' country</b>		<b>Mix Method</b>	3
UK	8	<b>Data Sources</b>	
Europe	15	Corporate information	11
Asia	4	Intergovernmental organisation	10
Africa	1	Corporate website or internal data	2
<b>Origin of Research</b>		Mixed data sources	3
UK	8	Other	2
Europe	15	<b>Analysed Topic</b>	
Asia	4	Inhibitor of SMEs participation in GPP	4
Africa	1	Effects of SMEs Participation in GPP	8
<b>Research Method</b>		Catalyst of SMEs Participation in GPP	9
Theoretical	3	Policy	7
Literature review	3		
<b>Qualitative</b>			
Case study/field study	5		
Content analysis/historical analysis	2		
Interview	4		

an interesting research area. Subsequent research could go on to research this topic in context in developing countries.

Qualitative approach is a research method commonly used by authors. Then followed by a quantitative approach and a theoretical approach and literature review. Meanwhile, the mix method approach has also been carried out by researchers although there are still a few articles that apply this approach.

The data used in some of the articles searched for are related to the purpose of this article, it is obtained that corporate and intergovernmental data are the data that is predominantly used by researchers. Some articles also use the type of data obtained from the website and other data.

In the analysis section, catalyst of SMEs participation in green public procurement is the most popular topic for authors. The topic of effects and policies is also a topic that is widely discussed. Meanwhile, the topic of inhibitor-related is still not discussed by some of the articles reviewed. The results of this analysis can be a reference for subsequent researchers to discuss the participation of SMEs in Green Public Procurement (GPP). The future research approaches could fill the gap in this research area.

## 5 Conclusion

The discussion of researchers on green public procurement in recent years has become an interesting research topic. Degradation of environmental quality characterized by deteriorating climate change demands the role of each party in maintaining the continuity of life on the planet. Green public procurement as a procurement policy oriented towards environmental conservation can be one of the strategies for the sustainability of life on

earth. The involvement of SMEs can undeniably be a catalyst in improving environmental quality. Therefore, the government should implement this GPP policy as one of the strategies that can support sustainability. Current research still lacks in linking between the participation of SMEs in green public procurement. Therefore, further research is needed to add to the strengthening of theories and the formulation of appropriate policies, especially the participation of SMEs in maintaining environmental sustainability.

**Acknowledgments.** We would like to express our special gratitude to KEMENDIKBUD RISTEK to support this research under skim PENELITIAN DASAR UNGGULAN PERGURUAN TINGGI (PDUPT) 2022.

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