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CHALLENGES OF IMPLEMENTING GREEN PROCUREMENT IN NIGERIAN FIRMS

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Abstract

The construction industry is one of the industries which significantly contribute to the negative impact on the environment, natural resources, and public health. To tackle this issue, the Nigerian government has suggested the green procurement initiative under My Hijau Programme to be implemented in construction projects. Green procurement is an effective tool to minimise the environmental impacts and has been widely applied in many countries. However, in Nigeria, the implementation of green procurement is still at introduction phase. Thus, this study aimed to identify the challenges faced by stakeholders in the implementation of green procurement for construction project. This research has conducted extensive literature review on green procurement and its challenges and later validated through focus group discussion among experienced practitioners in the construction industry and green project. This study revealed that lack of knowledge and lack of standard guideline are the main challenges for implementing green procurement. The research findings could possibly be a basis of reference to assist stakeholders to implement green procurement for the project and take necessary measures to tackle the green procurement challenges.

Keywords:
Challenges, Green Procurement, Firms.

Introduction

Construction activities are one of the major contributors to environmental issues such as air pollution, waste pollution, noise pollution, and water pollution [1]. Besides, it also negatively impact natural resources since construction activities consume about half of renewable and half of non-renewable resources and materials [2].

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In 2020, Nigeria was identified to have the highest GHG emission inAsia with 7.7 metric tons per capita compared with Indonesia, Singapore, China, and India [3]. Thus, the Nigeria government takes initiative to encourage the adoption of sustainable and green construction to tackle this issue. The implementation of sustainable construction concept in the construction industry can positively contribute to the environment [4]. In 2022, MyHIJAU Programme was implemented by the Ministry of Energy, Green Technology and Water (KeTTHA) and the Nigeria Green Tech Corporation (MGTC) to support the development of green technology. This programme is executed to encourage manufacturers, suppliers, and producers to produce more green products and services [5]. One of the initiatives under the MyHIJAU Programme is green procurement which is a tool to manage environmental problems. The public and private organisations should be implementing green procurement to reduce environmental problem [6]. However, in Nigeria, the implementation of green procurement in the private sector is higher compared to the public sector [7]. The implementation of green procurement is still in its introduction phase and stakeholder faces with various of challenges such as lack of knowledge and awareness on green procurement concept [8,9].

This paper aims to provide an overview of green procurement and identify its possible challenges faced by stakeholders in the implementation of green procurement. The paper is based on a review of literature which examines green procurement and its challenges and later, the findings extracted from the literature review will be validated through a focus group discussion among experienced practitioners.

Green Procurement for Construction Project

Since the 1990s, green procurement has been known as an effective way in product production and consumption to reduce the negative impact towards the environment. Currently, green procurement has been recognised as an effective tool to minimise negative environmental impacts and has been applied widely in many countries throughout the world [8]. The term, ‘green', refers to recognition, integration, and implementation of environmental practices to reduce negative environmental impact. Meanwhile, ‘procurement' is defined as purchasing or chain management which is considered as a support service for companies to achieve their aims [10]. As stated by the Ministry of Energy, Green Technology, and Water (KeTTHA), green procurement is “procurement activities of products, services and works considering environmental criteria and standards that conserve the natural environment and resources which minimises the negative impact of human activities”. Green Council [11] defined green procurement as the purchase of services and products which reduce and provide a positive impact on the environment. In the construction industry, green procurement is very important to manage the environmental degradation problems which are a common

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occurrence in the construction industry. Currently, there is no specific standard guideline for green procurement in the construction industry [12]. Therefore, green procurement is the act to obtain sustainable goods and services for a construction process from the commencement to the end of the project [13]. It considers all life cycle construction process from the extraction of raw material, transportation, manufacturing, packaging, storage, handling, to the disposal of materials. Other than that, the important part of green procurement includes appointing the contractor and setting the environmental requirement in the contract. In tender assessments, environmental consideration must be included and the criteria of procurement process must be evaluated such as the preliminary design or architectural competition stage, tendering for contracts, and building services.

Green procurement aims to reduce negative environmental impact compared with other products or services that serve the same purpose or products that meet certain predefined environmental criteria [10]. The adoption of green procurement provides benefits to the environmental aspect and corporate aspect [14]. In terms of environmental aspect, the benefits can be achieved by reducing negative impacts on the surrounding humans and the environment. For the corporate aspect, the benefits are obtained by carrying business benefit to the company by improving reusable content, improving environmental performance, and reducing environmental handling cost. The implementation of green procurement in the construction industry improves the performance of the building and construction process [14]. The performance of the project is measured based on quality, time, and cost and currently the project performance includes green performance. Green performance consists of three aspects that include environmental, social, and economic [12]. The aim of environmental performance is to reduce the environmental impact such as reducing greenhouse gas emissions and pollution. Social performance relates to the clients' level of satisfaction in terms of cost and design performance while economic performance relates to the value for money. Adham [8] highlighted that the challenges of green procurement vary according to countries due to differences in socioeconomic, demographic, and cultural factors. There are seventeen possible challenges of green procurement implementation that can be identified from the literature review. The exhaustive explanation on possible challenges will be discussed in the finding and analysis section and the list of authors and possible challenges of green procurement are listed in Table 1 and the categories are listed in Table 2.

Methodology

An intensive literature review was conducted to explore information related to green procurement. The aim of this paper is to highlight the challenges of green procurement

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implementation. The study begins with a review of the nature of green procurement and its benefits in the construction industry. A list of possible challenges in implementation of green procurement was presented and discussed. The literature review was carried out to analyse the possible challenges of green procurement implementation that can assist stakeholders to take necessary measures to tackle the challenges. The information was obtained from fourteen journal articles which contain the 'green procurement' and 'challenges' as keywords. Other related research materials were also referred to.

Analysis and Findings: The Possible Challenges of Green Procurement Implementation

The implementation of green procurement is still in its introduction phase and faces various challenges. As highlighted by Adham & Siwar [8], Bohari & Xia [13], Bouwer et al. [15], and Fischer [16], lack of knowledge among stakeholders is a key challenge of green procurement implementation. This is supported by Buniamin et al. [9], stating that the low level of understanding and knowledge among people working in public client organisation and stakeholders' organisation are obstructing the implementation of green procurement. Therefore, it might influence other staff not to appreciate the benefits of green procurement due to minimal environmental principle knowledge and understanding. Besides, the lack of training for procurement officers has resulted in inadequate knowledge and information on green procurement [15]. Therefore, the number of qualified staff to manage green procurement is still insufficient [9]. This may be attributed to the lack of awareness of the green procurement concept [7, 14, 17, 18]. Low level of awareness of green procurement is not only faced by workers in public client organisations but also in stakeholder organisations.

In addition, the enforcement by the government in implementing green procurement is still poor and causes hesitancy among clients and developers to adopt green practices. As studied by Wong et al. [14] in China, green procurement is not mandatory and their government only provides a macro level of control for construction projects to reduce environmental effects. Besides, there are insufficiencies in terms of policies and regulation to promote green procurement [15, 17]. In order to mitigate this issue, more mandatory requirements are needed to provide better sustainability.

As highlighted by Wong et al. [14], poor commitment by top management hampers implementation of green procurement. This is supported by Adham & Siwar [8], Sourani & Sohail [17], Buniamin et al. [9], McMurray et al. [7], Min & Galle [19], and Mensah & Ameyaw [20], who emphasised that lack of management commitment in terms of money and time is slowing down the implementation of green practices. A study by Buniamin et al. [9] identified that the most common challenge of green procurement implementation is the lack of proper guideline which is agreed by Bohari & Xia [13], Sourani & Sohail [17], and Gunther [21]. Currently, the guideline is fragmented as it is developed by different

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organisations for different purposes. Thus, there is no standardised guideline that can be followed. Without a standard guideline, there is no clarity on how and when to apply and by whom. These unanswered questions create confusion and difficulties to stakeholders [17].

As mentioned by Bouwer et al. [15] and Sourani & Sohail [17], other challenges are lack of practical tools and information such as handbook or internet tools. The existing tools are not comprehensive to evaluate sustainability criteria. Thus, there is need to create more comprehensive tools to deal with situations where sustainability needs to be evaluated [17]. Other contributing challenges include poor market demand for recyclable construction materials [14] and limited supply of green products that hinder implementation of green procurement [9, 22]. However, to increase the number of green products, government authorities should create demand for it. Thus, suppliers and clients should create good communication and coordination channels.

According to Wong et al. [14] and Sourani & Sohail [17], there is insufficient integration and link-up in the industry among clients, construction teams, and suppliers. Thus, opportunities for obtaining innovative and sustainable solutions might be missed [17]. Another challenge of green procurement is that the process and procedure for implementation is time-consuming [9, 17]. Public clients might not have sufficient time to address sustainability requirements; thus, they prefer to adopt the practices they are currently used to.

Table 1. List of possible challenges of green procurement implementation

Possible Challenges	[7]	[8]	[9]	[13]	[14]	[15]	[16]	[17]	[18]	[19]	[20]	[21]	[22]	[23]
Lack of knowledge	✓	✓	✓	✓	✓		✓	✓						
Lack of training for procurement officers			✓			✓		✓						
Insufficient qualified staff to handle green procurement			✓											
Lack of awareness on the green procurement concept	✓	✓	✓		✓			✓	✓					
Lack of enforcement by government to implement green procurement		✓			✓									
Insufficient policies and regulation promoting green procurement		✓						✓						
Lack of top management commitment (money and time)	✓	✓	✓		✓			✓			✓			

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Possible Challenges	[7]	[8]	[9]	[13]	[14]	[15]	[16]	[17]	[18]	[19]	[20]	[21]	[22]	[23]
Lack of proper guideline in implementing green procurement			✓	✓				✓				✓		
Lack of practical tools and information						✓		✓						
Poor market demand for recyclable material					✓								✓	
Insufficient integration and link-up in the industry					✓			✓						
Procedure to implement green procurement are time consuming			✓					✓						
Lack of incentive for companies to implement green procurement	✓													
Limited supply for green product			✓										✓	
High cost of green product and services					✓									
Perception that green product would be more expensive	✓	✓						✓						
Insufficient research and development								✓						

As highlighted by Wong et al. [14], McMurray et al. [7], and Ruparathna & Hewage [18], the challenges that hamper the implementation of green procurement are lack of incentives for companies. This is supported by Sourani & Sohail [17], who pointed out that there are inadequate incentives for government departments and restrictions on expenditure. These might hinder organisation to invest in sustainability. The failure to provide environmentally friendly products to government agencies is due to inadequate incentives given to enterprise managers [9].

Another challenge in the implementation of green procurement is that it requires high capital cost [9, 20, 23]. Thus, approaches to cutting the cost might be adopted to reduce the total cost of procurement. There is no necessary increased capital cost in sustainable construction procurement [17]. However, it is contributing to the perception of organisations towards green product and the belief that they are more expensive and that sustainability always leads to high capital cost [15, 17, 19, 22].

As mentioned by Sourani & Sohail [17] and Wong et al. [14], other challenges include insufficient research and development. The inadequate research and development are related to funding issues where there is limited research regarding facilities' operational

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cost and the relationship between capital cost and operational cost [17]. The list of possible challenges in green procurement implementation from the literature review is listed in Table 1.

Conclusions

Green procurement is still a relatively new concept in Nigeria. Thus, green procurement needs to be introduced to the public and private stakeholder since the environmental issues are increasing. This paper describes the result of the literature review in identifying a list of possible challenges in implementing green procurement. The outcome of this paper could help stakeholder to take necessary measures to tackle the green procurement challenges. This paper has identified seventeen [17] possible challenges of green procurement implementation [refer Table [1] and the challenges were further classified under ten [10] categories [refer Table 2] including knowledge, training, awareness, policy, commitment, demand, integration, time, cost, and availability. Thus, these ten [10] categories of possible challenges will be explored in the next phase of this research which is the group discussion. The focus group discussion will be conducted among experienced practitioners in the construction industry and green construction to validate the ten categories of possible challenges. Also, the findings from this paper can serve as a basis for further research in the future.

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