UNIVERSITI TEKNOLOGI MARA

DEVELOPING GREEN PROCUREMENT (GP) CRITERIA FOR BEST PRACTICE TOWARDS ACHIEVING GREEN CONSTRUCTION

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MSc

July 2022

ABSTRACT

Construction industry is one key driver in stimulating Malaysia's economic growth. However, one of the main issues are there has been lack of research in this area. Green procurement is known as procurement 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. The Malaysian government has published a standard guideline of green procurement known as the Government Green Procurement (GGP) guideline; however, it is not merely used for construction development. Among the benefits are ensuring quality, safety and other basic requirements, scientific management and technological progress, which should be used in engineering construction to maximize the conservation of resources. Malaysia has already implemented some policies and frameworks such as the National Green Technology Policy, Construction 4.0 Strategic plan and also the Government Green Procurement Guideline. Even though the GGP guideline has already been made, it does not specifically include the construction industry; it is more focused on products and services. Also carbon reduction has also been one of the many efforts established by the government to address the climate change. Hence, the research is aimed to develop a green procurement criteria best practice for achieving green construction. The objectives of this research are i. to identify the criteria needed for best practice in Green Procurement (GP) for construction works, ii. to analyse the significant levels of the criteria for GP construction works and iii. to establish the best practice framework in the GP for construction works in achieving green construction. A mixed method approach was applied during the data collection phase. A semi-structured interview in the form of a Focus Group Discussion (FGD) was conducted with experts from the GGP core team of Malaysia to identify the criteria needed and followed by a questionnaire survey to rank the criteria on their importance in the industry. The FGD was participated by 17 experts from the GGP core team. The survey was conducted via an online survey on consultants in the Kuala Lumpur and Selangor area. The survey was blasted to 350 respondents, and 331 responded. The content analysis method was then used to achieve the final objective, and the best practice was established. The best practice divided the criteria into phases of construction works: inception, design, tender, construction and operation phases, respectively. The highest ranked criteria by importance were placed at the top of each phase. It was found that the most important criteria for each phase are the client must include a green rating tool during inception, a feasibility study for green design cost be done during the design phase, tender notice must specify a requirement during the tender phase, execution of environmental monitoring during construction and lastly, to carry out energy monitoring and building performance evaluation during the operation phase. It can be concluded that by following this best practice, green construction can be achieved as it addresses the environmental impact from the start.

ACKNOWLEDGEMENT

Firstly, I wish to thank God Almighty for giving me the opportunity to pursue my Master's degree and for completing this long and arduous journey successfully. My gratitude and thanks go to my supervisors Sr Dr. Natasha Khalil and Sr Dr. Asmah Alia Mohamad Bohari. Even when there were problems pertaining to my dissertation or my health, they were always there when I needed them. Always encouraging me and guiding me throughout the process. My thankfulness to them cannot be expressed sufficiently with mere words, so I hope that God will compensate them for what I lack.

My appreciation also goes to all the respondents that gave their feedback during the data collection phase. Special thanks to my colleagues and friends for helping me with this project.

Finally, this dissertation is dedicated to the two greatest loves of my life, my mother and father. Without them and their proper upbringing of me, taking care of me since I was born, I would not be where I am today. This piece of victory is dedicated to both of you. Alhamdulillah.

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CHAPTER ONE
INTRODUCTION

1.1 Background of Research

The construction industry is one of the key drivers in stimulating Malaysia's economic growth, striving for a high-income, developed nation, inclusiveness and sustainability. Over the last 30 years, it has formed a significant component of the national Gross Domestic Product (GDP). It is expected to grow at 10.3% per annum with a contribution of RM327 billion (5.5%) to GDP for the next two years (EPU, 2015). The industry also provides about 1.2 million employment opportunities representing 9.5% of Malaysia's total workforce (CIDB, 2015). However, due to the outbreak of the COVID19 pandemic that hit the globe in early 2020, there is a slight decrease in the construction work done value. In the recent statistics of construction growth, as shown in Figure 1.1, the Department of Statistics Malaysia (DOSM, 2021) showed that the value of construction work done contracted by a decrease of 12.2 per cent from the previous quarter. However, the contribution from the private sectors in construction has continued to impel the construction activity with 55.2 per cent share or RM13.7 billion of the total value of construction work done, as compared to the public sector with 44.8 per cent share (RM11.1 billion). This shows that despite the pandemic outbreak that hits the global in the early 2020, the construction industry is still remarkable as an economic contributor to the nation.