

**6th UNDERGRADUATE  
SEMINAR ON BUILT  
ENVIRONMENT  
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(USBET) 2023**

**SUSTAINABLE BUILT  
ENVIRONMENT**

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# e-Proceeding

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# CHALLENGES IN MAINTAINING GREEN BUILDING INDEX (GBI) FOR OFFICE BUILDINGS

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## ABSTRACT

*The Green Building Index (GBI) is a nationally and internationally recognised green rating system for buildings in Malaysia with the mission of promoting sustainability in the built environment and raising public awareness of environmental issues and our responsibility to future generations. The government's support of ecologically friendly, sustainable construction has boosted sustainable development in Malaysia. However, there are still not enough green offices. Many business owners are sceptical about the concept of a green office. It is widely acknowledged that green buildings are more environmentally friendly when compared to non-green buildings. Furthermore, the objective of this research is to determine the challenge of maintaining the Green Building Index (GBI) certification for office building. In this study, an online questionnaire was employed to collect data from the respondents using a qualitative method. A survey is being administered online to 40 respondents, including SP Setia Berhad and Nucleus Tower employees who work in facilities management. Statistical Packages for Social Science (SPSS) version 26 was used to tabulate and analyse the data. It's critical to emphasise the positive impacts that green workplaces have on society, the environment, and the economy in order to raise awareness of their importance. A clear directive should also be provided to entice building owners to incorporate green offices. The usage of green building rating systems in construction and the challenges of fulfilling Green Building Index (GBI) requirements will be better understood by developers.*

**Keywords:** *challenges in GBI, green building index, office buildings*

## INTRODUCTION

The Green Building Index (GBI) rating tool offers developers and building owners the opportunity to design and construct environmentally friendly, sustainable structures that can reduce their impact on the environment, save money on energy and water, improve indoor air quality, have better access to public transportation, and incorporate recycling and landscaping into their projects. Green structures are rated using the Green Building Index (GBI), Malaysia's first thorough grading system for evaluating the environmental design and performance of buildings, communities, and enterprises. (Green Building Index,2021)

The "Green Building Index" is a technique developed by the Malaysian government to assess the ecological performance and architecture of Malaysian structures. The GBI rating system was developed by the Association of Consulting Engineers Malaysia (ACEM) in collaboration with the Malaysian Institute of Architects. This inventory aims to coordinate understanding of the fundamentals of economic growth among all development sector players. This framework has created a number of requirements that are thought to be environmentally benign while the construction is being built (Kamar, 2012).

### **Challenges in Maintaining Green Building Index (GBI) for Office Building**

Since there are many ways in which green buildings can benefit society, developing countries like Malaysia face several barriers to their expansion.

- Knowledge and Awareness

Although the need for sustainability is acknowledged to be "always there," the execution is very insufficient as a result of client, consultant, and contractor ignorance (OFORI, 2000). Landman claims that a barrier to the implementation of green building is a lack of public awareness. Sustainable development is receiving more attention, yet there isn't enough training being given to implement it. It is to be expected that these ideas will encounter criticism frequently because the majority of partners typically undervalue the significance of connecting green concepts to development. Interest in sustainable improvement won't increase without the right instruction (Landman, 1999). Another barrier to achieving sustainable development is a lack of knowledge and expertise (Dair, 2007).

- Cost

The higher upfront and investment costs are the biggest barrier stopping Malaysia from embracing green buildings. Green buildings cost more up front than conventional structures due to new design, technology, and construction methods. The increased starting costs are a result of importing eco-friendly

materials and technologies (Yoong H. Chan, 2014). The price to construct a green building may increase by up to 25% in comparison to conventional structures. Because they believe that their tenants or customers will benefit from operational savings rather than them, developers are still unwilling to invest in green buildings. This is true even when larger initial expenses might later be recovered through building operations (Tagaza, 2015).

- Skills

Lack of expertise in the sustainable sector is another barrier (Grahl, 2019). Sustainable development requires more education in this area for architects and engineers. The bulk of specialists, however, are only familiar with conventional construction. Employers frequently have trouble finding someone trained to do green project work. Companies in the construction sector find it challenging to keep up with new technologies because both sustainable practises and technology are always changing (Ong Yee Sin N. Y., 2021).

- Management

The management team's opinion that the adoption of a green strategy had decreased employee absenteeism owing to the enhanced internal environment it had established is one of the problems. Riley (2006) found that, in contrast to the six days documented for residents in green buildings, employees in identical roles in conventional buildings earned an average of 9–12 days in sick leave each year. (Izatul FarritaMohd Kamar, 2015)

## **METHODOLOGY**

The purpose and objective of the research will be accomplished through a number of processes in the research approach. This study, dubbed "Green Building Index for Office Building," was conducted in the following stages:

- Stage 1: Identification of Issue in Problem Statements

The problem statements are the ones that should be leading and incorporated in the methodology at this stage of the investigation. This is due to the fact that the problem statements raised a number of issues that necessitated additional readings in order to meet the objectives of the study.

- Stage 2: Literature Review

Performing literature reviews on the subjects of the academic project research study was stage two. This is a necessary first step to collecting and developing a thorough awareness of the broad themes required to identify the issues' real

issue. Journals, publications, conference papers, previous research, and the internet with a data browser were among the reading materials.

- Stage 3: Collecting Data

The data collection approach is by questionnaires that will determine the challenge of maintaining the Green Building Index (GBI) certification for SP Setia Berhad and Nucleus Tower. The research data is collected based on the review on worker who is work in the green building. The questionnaire was distributed to 40 individuals who possess relevant experience and are affiliated with different companies involved in green building projects. The questionnaire comprised 24 structured questions categorized into four sections. The subsequent discussion presents the information gathered from the questionnaire, addressing each section's findings.

- Stage 4: Results and Analysis

Stage 4 of the study will present the research findings after the data collected through the distribution of questionnaires has been analysed. To establish a link between the analytical outcomes and the objectives of the study, the collected data will be analysed. The results of the data analysis on the research study will be displayed using bar charts, tables, and pie charts.

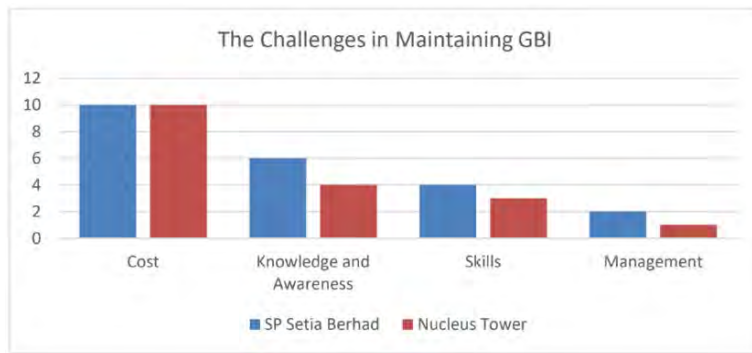
- Stage 5: Conclusions

This step includes a conclusion and a recommendation. The conclusion must cover everything from the beginning of the research to its end. After that, recommendations for additional research will be made based on the findings. The knowledge gained from preceding chapters will be summarised along with the results of the technique data and the conclusions.

## **DISCUSSION AND ANALYSIS**

Finding out how difficult it is to keep an office building certified by the Green Building Index (GBI) is the goal of this study. This goal was accomplished. Overall, a literature analysis and questionnaire helped to address the issue of retaining the Green Building Index (GBI) certification for office buildings.





**Figure 1: Challenges in maintaining the Green Building Index (GBI)**

Costing is one of the biggest obstacles to retaining the Green Building Index (GBI) accreditation, as indicated in figure 1. Both companies' respondents concur that costs play a key role in retaining the Green Building Index (GBI) designation. According to Saboo (2023), one of the primary challenges that are becoming a barrier to the adoption of green building practises is the increased expenses and costlier sustainable construction supplies. Consumers and developers are both apprehensive about raising their budgets. Many developers are hesitant to incorporate green components in their structures because of the costly equipment required to make green buildings. Adopting eco-friendly building practises and materials is a good objective. The second place for knowledge and awareness is given to the difficulties in keeping the Green Building Index (GBI) certification. The client's and other stakeholders' frequent distaste for innovative construction techniques poses a substantial barrier to the success of sustainable construction (Joshua Ayarkwa, 2022).

The third ranking is skills, which are represented in figure 1 by responses from SP Setia Berhad and Nucleus Tower. Finding a specialist to handle a green project is a regular difficulty for businesses, according to Ong Yee Sin N. Y. (2021). The management ranks fourth for difficulties in keeping the Green Building Index (GBI) certified. The Green Building Index (GBI) (2019), which states that a building's GBI accreditation is only valid for three years before expiring, supports this. The management of construction projects determines how well green building practises are implemented. Lower-level organisation staff have little power and impact when upper management does not care about environmental issues. The level of public knowledge of green building will directly affect how widely used it is in the construction industry. As a result of high costs, a lack of qualified labour, a lack of knowledge, and maintainability difficulties that value many aspects of green construction, maintaining green buildings can be difficult. To ensure that green buildings continue to run effectively and sustainably, building owners, managers, and experts must work together to overcome these obstacles.

## CONCLUSION

Finding out how difficult it is to keep an office building certified by the Green Building Index (GBI) is the second goal. With the help of a literature study and survey, this goal has been accomplished. According to Green Building Index (GBI) (2019), a building's GBI accreditation is only good for three years before it expires. As a result, while green buildings have many positive social effects, there are many obstacles preventing their expansion in developing countries like Malaysia. Cost, knowledge and awareness, skills, and management are the challenges that arise.

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*Setuju.*

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