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ENVIRONMENT**

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FACTORS AFFECTING GREEN OFFICE BUILDING VALUE IN KUALA LUMPUR

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ABSTRACT

In Malaysia, there is currently a noticeable increase in the number of green structures, particularly green offices. This trend is driven by the perception that green buildings are more valuable than conventional buildings, with higher rental rates being seen in Kuala Lumpur in particular. However, there is a significant research gap regarding the specific factors that have a significant influence on the value of green office buildings. Therefore, this study aims to close this gap by investigating the factors that impact the value of green office buildings in Kuala Lumpur. A semi-structured face-to-face interview was conducted with three participants who are valuers from Ian Scott International (M) Sdn Bhd, IM Global Property Consultants Sdn Bhd, and Intra Harta Consultants Sdn Bhd. The data collected were analyzed using content analysis. The research findings revealed five factors which are demographic location, cost, indoor environmental quality, social and environmental that influence the value of green office buildings. The research has successfully identified and examined the factors that significantly impact the value of these green office buildings. Developers and investors should prioritize strategic locations that are in high demand and close to public transportation and amenities to maximize property value. Moreover, policymakers and stakeholders should continue to support and promote green building initiatives through incentives and regulations to encourage more sustainable developments in the city.

Keywords: *Factors Affecting, Value, Green office building*

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INTRODUCTION

In Malaysia, one of the main sectors is development; however, it also contributes to pollution, including water and air pollution (Dwaikat & Ali, 2018). Consequently, environmentally friendly concepts, such as sustainable development, have gained momentum to mitigate the negative effects on the environment, society, and economy of developing areas (Dwaikat & Ali, 2018). This has led to an increased focus on green buildings, reflecting a commitment to environmental stewardship and offering substantial economic benefits to investors and stakeholders in the real estate sector. Kuala Lumpur, the dynamic capital city of Malaysia, has emerged as a prominent player in the green building movement, witnessing a surge in the construction of green office buildings. Fauzi et al. (2021) found that corporations embarking on green office buildings aim to achieve economic objectives, including maximizing their image, productivity, property value and rental value.

Remarkably, the demand for green office buildings in Kuala Lumpur appears to be notably higher compared to other states in the country. Most investors are already aware the benefit of green building before they invest (Mazli & Fauzi, 2022). The interview with the property investment advisor from KWAP (Kumpulan Wang Persaraan) on year 2019, Malaysia's largest pension fund, has provided valuable insights into the demand for green office buildings in Kuala Lumpur. According to the advisor, the demand for such buildings in Kuala Lumpur notably surpasses other states. Strikingly, property owners don't need to actively seek tenants; instead, they are pursued by large companies, particularly foreign ones. Notably, the market value of green office buildings in Kuala Lumpur appears to exceed that of similar structures in other states across the country. This research aims to investigate the factors influencing green office building value in Kuala Lumpur, as existing studies in Malaysia generally discuss factors influencing green building value only on a general level, as done by Jamil et al. (2020) and Chin et al. (2020). Scarcely any research in Malaysia thoroughly examines factors influencing green office building value specifically in Kuala Lumpur. By conducting a comprehensive analysis of these factors, we aim to illuminate the distinctive dynamics causing this market disparity and its implications for sustainable development and real estate investments.

FACTORS AFFECTING GREEN BUILDINGS VALUE

Previous research has revealed several factors that influence the value of green buildings. These factors include demographic location, green building certification, cost, social benefits, environmental benefits, and indoor environment quality.

Demographic Location

Location has long been recognized as a primary determinant of property value, and green buildings are no exception to this phenomenon (Weerasinghe & Ramachandra, 2018). The demand for properties in a specific area is inherently influenced by its

proximity to essential amenities, such as train stations and popular attractions. Such close proximity directly contributes to enhancing the value of properties within that area. Moreover, when a building is strategically positioned in a favorable location and also holds a green certification, signaling its environmental sustainability, it has the potential to achieve and sustain high occupancy rates and command premium prices in the market (Wen Ken et al., 2020).

Green Building Certification

According to past research conducted by Wen Ken et al. (2020), green building certification holds the highest level of influence compared to other factors, significantly enhancing the overall value of the green building itself. The availability of numerous organizations offering such certifications has turned them into symbols of prestige and a testament to the building's high-quality environmental standards (Wen Ken et al., 2020). The attribute with the highest frequency is 'certification,' indicating that the presence of the 'green building' label could be the primary factor responsible for the increased rental premium for certified buildings (Cajias & Piazzolo, 2013). Agreed by Fuerst and McAllister (2011) that mentioned eco-certified buildings have both a rental and sale price premium.

Cost

Past research conducted by Wen Ken et al. (2020) has shed light on the significant relationship between cost and value, particularly with respect to material cost. In their study, Wen Ken et al. (2020) emphasized that developers may need to adjust the pricing of green buildings to maintain their profit margins, especially when construction costs exceed those of conventional buildings. The incorporation of green components in the construction process can lead to higher expenses, ultimately contributing to the enhanced property value of the green building. Furthermore, Li et al. (2016) found a positive correlation between the green building star-level and the incremental cost incurred during the evaluation process under various green building rating standards. Consequently, variations in the incremental cost can be observed, with higher star-level green buildings experiencing higher costs compared to lower-rated ones. These findings are further supported by Fisher (2010), who highlighted that the initial costs of green buildings are higher compared to conventional buildings.

Social Benefits

According to Cilliers and Timmermans (2013), one aspect that affects the value of a property is the social benefits provided by green office buildings. This finding is consistent with the research by Fauzi et al. (2021), which reveals that investing in green office buildings also aims to deliver social benefits to all occupants. The presence of a high level of social benefits within green office buildings contributes to higher employee productivity and fosters a strong sense of loyalty among employees (Fauzi et al., 2021).

Environmental Benefits

Another crucial factor that impacts the value of green office buildings is the level of environmental concern embedded throughout the building. This notion is supported by the findings of Fauzi et al. (2021), who discovered that the primary motive of

businesses investing in green office buildings is to achieve their environmental concern objectives. Green buildings not only contribute to mitigating the effects of climate change but also lead to cost and energy savings (Aliagha et al., 2013).

Indoor Environmental Quality

Another crucial factor is indoor environmental quality. Green buildings are designed to offer improved indoor air quality, promoting the health and productivity of occupants (Isa et al., 2013). According to Wen Ken et al. (2020), these factors are consistently associated with higher employee productivity. Consequently, an increasing number of businesses are choosing to invest in green office buildings. The enhanced indoor environmental quality of these environmentally friendly buildings entices owners or tenants to pay higher prices for their purchase or rental, ultimately leading to increased rental fees.

METHODOLOGY

A comprehensive literature review was undertaken to gather relevant secondary data in support of this research. For this study, a qualitative research approach was employed, utilizing semi-structured questions to collect data. The interview method was chosen, involving open-ended questions posed to participants to engage in conversation and gather research data. The interview protocol consisted of two questions, addressing factors influencing the value of green office buildings and the significance of these factors. Three participants were involved in this research, specifically private valuers located in Kuala Lumpur. While initially more valuers were identified as potential respondents, only these three were willing and available for the interview sessions. The obtained data was transcribed and analyzed using content analysis, a method that systematically evaluates qualitative data to identify specific words, themes, or concepts (Forman & Damschroder, 2007). Content analysis was employed to quantify and analyze the meanings, presence, and relationships of these identified words, themes, or concepts.

FINDINGS AND DISCUSSION

The participants in this research held positions as registered valuers and assistant valuers in private valuation firms and possessed significant experience in managing and valuing green buildings. The participants were selected from various valuation companies, comprising both male and female participants. The valuer is selected due to their responsible to the real estate industry to ensure that a valuation reflects the element of green (Abdullah et al., 2018). The Participants met the required criteria for this study, with each having more than 8 years of experience in the field of valuation.

Table 1: Personal Information of Participants

Profession of Participant 1:	Registered Valuer	Years of Working Experience:	25 years
Profession of Participant 2:	Registered Valuer	Years of Working Experience:	15 years
Profession of Participant 3:	Assistant Valuer	Years of Working Experience:	8 years

The Factors Affecting Green Office Building Value

There are four (4) factors that influence the green office building value that were obtained from the interview session with the valuers in the real estate industry. The three (3) participants emphasize the factors that impact the value of green office building in Kuala Lumpur are demographic location, indoor environmental quality (IEQ), social and environmental benefits, and cost savings.

Demographic Location

Table 2: Demographic

Participants	Quotation	Explanation
Participant 1	<i>“Of course, the location does affect the value of green building. Especially if the location of the office building in a strategic location as such in Golden Triangle area.”</i>	From the statement, Participant 1 stated that demographic location does play a vital role because people tend to be more environmentally aware and prioritize sustainable living. For example, the Golden Triangle area, it can be seen that the area could attract eco-conscious tenants that value sustainability and are willing to pay more for such premises. In addition, the value of green office buildings can be considerably impacted by market demand and tenant preferences. This statement clearly describes that demographic location also can be one of the factors that affect the value of green office building in Kuala Lumpur.
	<i>“Location can be one of the main factors that affect the value of green office building due to people usually demand for places that nearby to public transportation.”</i>	From the statement, Participant 1 emphasize the location of green office building does matter. The value of a location can be increased by its close proximity to amenities, public transportation, and other green initiatives within the community. Additionally, having a location in a region where sustainable practices are

		highly desired might attract tenants and investors.
Participant 2	<i>“A green office building is likely to be more valued and in demand if it is located in a community where people are very eco-conscious.”</i>	According to Participant 2, the location of a green office building in Kuala Lumpur can affect its value. In addition, Participant 2 stated that the tenants and investors are more attract to the office building that closest to the public facilities and amenities.
	<i>“A green office building is likely to be more valued and in demand if it is located in a community where people are very eco-conscious.”</i>	According to Participant 2, he agrees that location also give significant impact to the value of green office building. Especially, the Golden Triangle area in Kuala Lumpur city center can be seen as the symbol for stable economic growth, and their strategic location in the city is the focus of investors and potential tenants in investing their finances in green office spaces (Che-Ani et al., 2022).
Participant 3	<i>“The strategic location of green office buildings has always been the main factor that affect property value”</i>	From the statement, Participant 3 agree that the demographic location been the main factor affecting green office building in Kuala Lumpur. The demand for space or properties in such a location will always be influenced by proximity to local facilities, such as train stations and crowd attraction, which directly increase the value of the property.

Source: Research (2023)

The findings emphasize the significant influence of the location on the value of green office buildings. A strategic location, especially in areas like the Golden Triangle, positively impacts the value of the buildings. Proximity to public transportation is a key consideration for potential occupants, as it enhances accessibility and convenience. Moreover, being situated in a community with environmentally conscious individuals also adds value to green office buildings, as eco-consciousness is associated with a higher demand for sustainable spaces. Overall, the strategic location of green office buildings emerges as a primary factor affecting their property value, attracting both environmentally conscious individuals and those seeking convenient access to transportation and amenities. Agreed by Abdullah et al. (2016) that found location and neighbourhood as one of the attributes that affect the value of the property.

Cost Saving

Table 3: Cost saving

Participants	Quotation	Explanation
Participant 1	<i>“Operational cost savings usually refer to the reduced expenses with maintenance of the building”</i>	According to the statement, Participant 1 claimed that green office buildings are designed with durable materials and systems that require less frequent maintenance and replacements. For example, energy-efficient windows and insulation can reduce the strain on HVAC systems, resulting in decreased maintenance needs. Additionally, green buildings often prioritize the use of long-lasting and sustainable materials, reducing lifecycle costs associated with replacements and repairs.
Participant 2	<i>“In terms of cost savings, for me, the element of green office building itself is a energy efficiency which can reduce costs of the maintenance and so on...”</i>	From the statement, Participant 2 claimed that energy-efficient systems that have been adopted in green office buildings can minimize the energy consumption as well as can reduce the energy usage in the office building.
	<i>“Typically green office building can save more operational costs as it have energy efficiency systems that can reduced the maintenance costs...”</i>	According to Participant 3, he agree that operational costs is one of the major factors that affect the green office building value. Furthermore, he also points out that green office buildings offer significant cost savings through reduced energy consumption, lower water usage, and efficient natural lighting can be more attractive to investors and tenants.

Source: Research (2023)

The findings highlight the significant cost-saving benefits of green office buildings, particularly in terms of operational expenses and maintenance. Green office buildings are known for their energy-efficient systems, which lead to reduced operational costs over time. The implementation of sustainable features, such as energy-efficient lighting and HVAC systems, contributes to lower maintenance costs. Operational cost savings arise from reduced building maintenance expenses, while energy-efficient features contribute to overall cost reduction. Abdullah et al. (2017) agree that sustainable building costs may be initially higher than conventional buildings, but in the long term, green buildings prove to be cost-effective. This aligns with the findings of Wen Ken et al. (2020), who also emphasized the significant relationship between cost and value in green buildings. The overall cost savings associated with green buildings, including reduced operational and maintenance expenses, can positively

impact the property's value. Lower operational costs make the property more attractive to potential buyers or tenants (Aliagha et al., 2013).

Social and Environmental Benefit

Table 4: Social and Environmental Benefit

Participants	Quotation	Explanation
Participant 1	<i>"Aaa..in terms of social and environmental benefits usually green buildings are designed with energy-efficient features such as renewable energy source which allow to minimize the negative impact toward the environment and building itself."</i>	According to the statement by Participant 1, through social and environmental benefits, the people that use the green building can get the benefit from the use of the technology provided whereas the use of green technology can improve people's daily lives, it can improve the quality of life as well as mitigating environmental pollution, improving the quality of air and water, and minimizing pollution while ensuring enhanced air quality for individuals.
Participant 2	<i>"For me, the implementation of green office building can give a benefit to the social and the environment especially to the owner and tenants of the office space."</i>	From the statement, Participant 2 agree that social and environmental benefits do give impact towards the value of green office building in Kuala Lumpur. The main benefit of green buildings from an environmental standpoint is the decrease in pollution. This is due to the elements of sustainable buildings with proper designs and the environmentally friendly building materials utilised in construction.

Source: Research (2023)

The findings highlight the positive social and environmental benefits of green office buildings, emphasizing their energy-efficient design with the incorporation of renewable energy sources to minimize environmental impact. Implementing green office buildings is seen as advantageous for both owners and tenants, as it fosters a sustainable and eco-friendly working environment. Green office buildings that offer social benefits, such as enhanced indoor air quality and improved occupant health and comfort, can increase the value of the property. Businesses and tenants are willing to pay a premium for spaces that promote well-being and productivity (Fauzi et al., 2021). The environmental benefits of green buildings, such as reduced energy consumption and lower carbon footprint, contribute to their increased value. With growing environmental consciousness, green buildings are more sought after, leading to higher property value (Aliagha et al., 2013).

Indoor Environmental Quality

Table 5: Indoor Environmental Quality

Participants	Quotation	Explanation
Participant 1	<i>“Since people spend a lot of time indoors, the environment inside must be of high quality.”</i>	According to the statement by Participant 1, good ventilation and a comfortable environment in green office buildings can improve health, productivity, and social behaviour. Furthermore, good air quality, natural lighting, and a comfortable temperature can all increase occupant productivity and well-being, thus increasing the office building value.
Participant 3	<i>“Good quality of lighting can affect the value of green office building as it can attract the potential tenants.”</i>	According to Participant 3, when a green office building has a good lighting, it could attract the potential tenants and also investors to rent the office space as it provides sufficient natural daylight into the common space.

Source: Research (2023)

The findings suggest that the indoor environment quality of green office buildings is a crucial factor influencing their value. Since people spend a significant amount of time indoors, a high-quality indoor environment is essential for occupant well-being and productivity. Furthermore, the presence of good quality lighting in green office buildings can attract potential tenants, contributing to their overall value. Overall, these findings highlight the importance of considering the indoor environment quality, and lighting in assessing the value of green office buildings. A comfortable and healthy indoor environment attracts more potential occupants, thus enhancing the property's value (Isa et al., 2013).

Summary of the Results

Table 6: Factors influence green office building value

Factors influence green office building value	P1	P2	P3	FREQUENCY
Location	X	X	X	3
Cost Saving	X	X		2
Social & Environmental Benefit	X	X		2
Indoor Environmental Quality	X		X	2

Source: Research (2023)

Location factors exhibit a higher frequency, indicating that location factors are the primary influences on the value of green office buildings in Kuala Lumpur when compared to other factors.

CONCLUSION

The research investigated the factors influencing the value of green office buildings in Kuala Lumpur, Malaysia. From the previous research, the study identified several key factors, including the demographic location, green building certification, cost, social benefits, environmental benefits, and indoor environment quality. However, from the interview with three valuers in Kuala Lumpur, five key factors affecting the value of green office building in Kuala Lumpur that includes of demographic location, cost, social benefits, environmental benefits, and indoor environment quality.

The strategic location of green office buildings, especially in high-demand areas like the Golden Triangle, positively affects their value. Additionally, green office buildings offer cost-saving benefits through energy-efficient systems and reduced maintenance expenses. The study also highlighted the social and environmental advantages of green office buildings, which attract eco-conscious individuals and foster higher employee productivity and satisfaction.

Developers and investors should prioritize strategic locations that are in high demand and close to public transportation and amenities to maximize property value. Moreover, policymakers and stakeholders should continue to support and promote green building initiatives through incentives and regulations to encourage more sustainable developments in the city.

Due to the involvement of a small number of participants in this research, it is recommended that this study be further extended in the future with a larger number of participants to obtain a more substantial pool of responses.

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REFERENCES

- Abdullah, L., Mohd, T., & Sabu, R. (2016). *A Conceptual Framework of Green Certification Impact on Property Price*. In MATEC Web of Conferences (Vol. 66, p. 00033). EDP Sciences.
- Abdullah, L., Mohd, T., Nawawi, A. H., & Ismail, N. H. (2017). *Exploring the Effect of Green Element on Condominium Price in Penang*. *Environment-Behaviour Proceedings Journal*, 2(5), 299-305.
- Abdullah, L., Rasid, W. N. A. W. A., & Mohd, T. (2018). *The Role of Valuer in Sustainable Valuation: A Review*. *Int. J. Acad. Res. Bus. Soc. Sci*, 8(2), 740-749.
- Aliagha, G. U., Hashim, M., Sanni, A. O., & Ali, K. N. (2013). *Review of Green Building Demand Factors for Malaysia*. *Journal of Energy Technologies and Policy*, 3(11), 471–478. [http://pakacademicsearch.com/pdf-files/eng/509/471-478%20Vol%203,%20No%2011%20\(2013\).pdf](http://pakacademicsearch.com/pdf-files/eng/509/471-478%20Vol%203,%20No%2011%20(2013).pdf)
- Cajias, M., & Piazzolo, D. (2013). *Green performs better: energy efficiency and financial return on buildings*. *Journal of Corporate Real Estate*, 15(1), 53–72. <https://doi.org/10.1108/jcre-12-2012-0031>
- Che-Ani, A. I., Tawil, N. M., Mohammad, N., & Mahmood, N. A. (2022). *Has the advent of green office buildings influenced the rental depreciation of conventional office buildings? A case study in the Kuala Lumpur Golden Triangle*. *Journal of Building Pathology and Rehabilitation* 7(1), 7(1). <https://doi.org/10.1007/s41024-022-00174-1>
- Cilliers, E. J., & Timmermans, W. (2013). *Approaching value added planning in the green environment*. *Journal of Place Management and Development*, 6(2), 144–154. <https://doi.org/10.1108/jpmd-04-2012-0011a>
- Dwaikat, L. N., & Ali, K. N. (2018). *The economic benefits of a green building – Evidence from Malaysia*. *Journal of Building Engineering*, 18, 448–453. <https://doi.org/10.1016/j.jobe.2018.04.017>
- Fauzi, N. S., Johari, N., Zainuddin, A., & Chuweni, N. N. (2021). *The importance of sustainability implementation for business corporations*. *PLANNING MALAYSIA*, 19.
- Fauzi, N. S., Johari, N., Chuweni, N. N., Ali, S. N. M., & Arshad, H. (2021). *The crossfire of corporate real estate sustainable management with corporate sustainable objectives in Malaysia*. *PLANNING MALAYSIA*, 19.
- Fauzi, N. S., Zainuddin, A., Chuweni, N. N., Johari, N., & Nawawi, A. H. (2021). *The crossfire of corporate real estate sustainable management (CRESM) with corporate triple bottom line objectives for office building*. In *Virtual Go-Green: Conference and Publication (V-GoGreen 2020)* (pp. 284-291).

- Fischer, E. A. (2010). *Issues in green building and the federal response: An introduction*. DIANE Publishing. Green Building Index. (2019). GBI Assessment Criteria. (March), 0–57
- Fuerst, F., & McAllister, P. (2011). *Green noise or green value? Measuring the effects of environmental certification on office values*. Real estate economics, 39(1), 45-69. Geng, Y., Ji, W., Wang, Z., Lin, B., & Zhu, Y. (2019). A review of operating performance in green buildings: Energy use, indoor environmental quality and occupant satisfaction. Energy and Buildings, 183, 500–514. <https://doi.org/10.1016/j.enbuild.2018.11.017>
- Isa, M., Rahman, M. M. G. M. A., Sipan, I., & Hwa, T. K. (2013). *Factors Affecting Green Office Building Investment in Malaysia*. Procedia - Social and Behavioral Sciences, 105, 138–148. <https://doi.org/10.1016/j.sbspro.2013.11.015>
- Li, H. L., Liu, S. H., Li, M. Y., & H. Zhu. (2016). No Title. 5th International Conference on Civil, Architectural and Hydraulic Engineering, 922–925. Atlantis Press.
- Mazli, M. F., & Fauzi, N. S. (2022). *Investigating the awareness among potential homebuyers towards elements of green residential building*. Journal of the Malaysian Institute of Planners, 20. <https://doi.org/10.21837/pm.v20i21.1112>
- Weerasinghe, A. S., & Ramachandra, T. (2018). *Economic sustainability of green buildings: a comparative analysis of green vs non-green*. Built Environment Project and Asset Management, 8(5), 528–543. <https://doi.org/10.1108/bepam-10-2017-0105>
- Wen Ken, C. W. K., Hong Ling, W. H. L., Arifah Zainudin, N. A. Z., Aishah Masrom, S. A. M., & Shahril Abdul Rahman, M. S. A. R. (2020). *Factors Affecting Green Buildings Value: A Review*. INTERNATIONAL JOURNAL OF SCIENTIFIC & TECHNOLOGY RESEARCH VOLUME 9, ISSUE 03, MARCH 2020, Volume 9. <https://www.ijstr.org/final-print/mar2020/Factors-Affecting-Green-Buildings-Value-A-Review.pdf>

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Tarikh : 20 Januari 2023

Prof. Madya Dr. Nur Hisham Ibrahim
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Cawangan Perak



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