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The implementation of green lease practices for office buildings in Kuala Lumpur, Malaysia

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Abstract

Purpose – With the impending development of green buildings in Kuala Lumpur, the capital city of Malaysia, managing the criteria within the requirements of the rating tool's certification shall be the responsibility of the respective parties when these buildings are in operations. In tenanted buildings, a lease agreement spells out the responsibilities of the owner/landlord and the tenants. The paper aims to discuss these issues.

Design/methodology/approach – The main aim of this study is to gauge the implementation of green lease among office buildings in Kuala Lumpur. This is made through an initial review of the adoption of green building criteria as well as the determination of the drivers and barriers perceived by office building managers in implementing green lease.

Findings – A survey amongst the managers of top grade office buildings in Kuala Lumpur revealed that the majority practiced some of the green criteria outlined in the Green Building Index. It also revealed that the most significant green lease terms commonly acknowledged by the respondents were energy and water-saving consumption as well as recycled material usage.

Originality/value – Through the identification of the barriers to implement green lease, the most significant barriers identified were related to cost and financing. Having identified these obstacles, appropriate action can be taken to bring forward green lease awareness amongst the various stakeholders in the office building sector in ensuring the successful operation of green buildings.

Keywords Malaysia, Practices, Office, Green lease

Paper type Research paper

Introduction

The issue of sustainability across many disciplines has been rising in recent years. This is due to damage to the environment from unsustainable activities. The extent of damage to the environment from unsustainable living today has influenced building users and operators to adopt a more environmental practice towards being more sustainable and environmentally friendly. Sustainable measures through building construction and maintenance have been suggested to the industry as a solution for building decay caused by unsustainable buildings. Therefore, the concept of green building has been introduced to establish the concept of sustainable building practices from the beginning of the construction process to maintenance. Green buildings adopt a holistic view of the environmental impact due to the various activities of building users and the need to balance human need with ecological concerns.



Green building concept is relatively new in Malaysia although it has been widely discussed in other countries. The rise of the sustainability discourse during the 1990s and 2000s has had a profound impact on the sustainability services market, especially in countries where the public administration took initiative early on (Yudelson, 2008). This includes Malaysia which formed a special ministry to regulate sustainability initiatives, known as the Ministry of Energy, Green Technology and Water (KeTTHA). As a result, the government introduced a specific green building assessment tool in 2009, known as the Green Building Index (GBI), which follows similar methodological approach tools such as Building Research Establishment Environmental Assessment Leadership in Energy and Environmental Design. On top of that, in 2009 Malaysia also launched a National Green Technology Policy (NGTP) to prove the sincerity of the Malaysian Government's desire to implement green initiatives in the country. The NGTP offered several incentives, such as green technology research and innovation towards commercialisation, the promotion and public awareness of green technology, the application of renewable energy and energy efficiency programs and the application of the GBI. Furthermore, the 2009 National Policy on Climate Change also strengthened sustainable development in Malaysia through the promotion of green buildings in the commercial sector. According to Sood *et al.* (2011), this was achieved through the:

- (1) application of low or zero energy concepts in the design and construction of new buildings;
- (2) retrofitting of efficient ventilation, cooling and lighting systems;
- (3) practice of energy conservation in buildings;
- (4) retrofitting of existing buildings to include energy efficiency and renewable energy fittings; and
- (5) development of a GBI.

The Malaysian Government has offered a number of financial benefits for GBI-certified buildings as listed below (amended from CB Richard Ellis 2010):

- (1) tax allowance: owners of GBI-certified buildings are entitled to a tax exemption equivalent to 100 per cent of the additional capital expenditure incurred to obtain the building;
- (2) stamp duty allowance: buyers of GBI-certified buildings and residential properties are eligible for a stamp duty exemption on transfer of ownership instruments for the certified buildings; and
- (3) other benefits: including significant energy savings of up to 50 per cent (note: energy costs can comprise up to 25 per cent of a building's operating costs).

The latest incentive introduced by the government to promote sustainability practices in Malaysia is the introduction of "housing green rating tools" by The Real Estate and Housing Developers' Association of Malaysia, commonly known as GreenRE. This initiative encourages housing developers in Malaysia to "go green" by incorporating renewable energy technology into buildings, opting for passive designs and improving the shading and positioning of the building to reduce cooling costs. There are plans to extend this initiative to commercial buildings in the near future.

As a result, Malaysia has seen several buildings incorporate the sustainable building or green concept. These buildings are therefore eligible for certification by one of various foreign rating systems or Malaysia's GBI system, "GBI Malaysia". With the GBI formation in 2009 in Malaysia, there is the industry's initiative towards a recognised green rating tool for buildings. GBI is developed specifically for the Malaysian-tropical climate,

environmental and developmental context, cultural and social needs and is voluntary and not a statutory requirement. It currently certifies new buildings as it carries out assessments at the design stage and also upon completion of the building. GBI has also developed a rating tool for existing buildings seeking renovation or refurbishment (www.greenbuildingindex.org).

In the future, Malaysia may follow in Australia's footsteps by using rating and labelling measures to educate Malaysian society on sustainable building, potentially increasing the market value of sustainable building and its practice (Othman *et al.*, 2007). However, the GBI in Malaysia is only applicable to new buildings. Shafii and Othman (2005) highlighted that one of the major barriers holding back the development of sustainable building in Southeast Asian countries is the lack of awareness of sustainability, and how it relates to the building industry. Shaari *et al.* (2003) also found that the Malaysian building industry players have little knowledge of sustainable building assessments, ratings and labelling systems. Therefore, all stakeholders need to actively participate to ensure the agenda of GBI. Building stakeholders such as owners, asset managers, property management teams, brokers and tenants contribute to the success of sustainability in commercial buildings. These parties must work together to define expectations, balancing the need to cope with difficult leasing and capital markets.

The move towards green building through green leasing largely depends on the role of the building owner that must first understand the concept, have ideas to implement and be able to determine green elements in the leasing document. Property managers could also play an important role in the green leasing process for buildings. However, now property managers are becoming more conscious of the possible outcome of the working environment towards building occupants (Shiers, 2000). Although the awareness of sustainability is growing, many property managers feel that they are still lacking in knowledge, skills and experience in the management of green building facilities (Moller and McCartney, 2007). Based on the survey conducted by the Business in the Community organisation, senior managers and board level of executives do not believe that they have the skills and knowledge to manage a green building (Kane, 2010). Therefore, it is important to measure the instruments in the GBI in order to assess the effectiveness of the system in green building implementation, especially for commercial buildings in Kuala Lumpur.

Literature review

Real estate leasing

Real estate leasing is a contractual arrangement between an owner and a user of a property, which specifies the periodic rent, the term and numerous provisional clauses including a provision for operating management and maintenance services. Tenants, short- or long-term, want more options and flexibility. No matter how the space is configured, and who pays for improvements, leases should be as flexible as possible. Tenants are cautious about making long-term leasing decisions, especially during unstable economic conditions (Blake, 2003). The changing business practices and attitudes to space require more flexibility in terms of the physical characteristics of buildings as well as the leasing arrangements. Moreover, it is highly regulated and parties involved in the contract are free to decide the terms in their lease. For commercial leases, it contains provisions defining and affecting the key aspects of the occupation of premises (Crosby *et al.*, 2006). The lease is aimed for business growth and expansion, which attracts investment and high occupancy. Leases are commonly subjected to confidentiality clauses because of their potentially sensitive commercial conditions (Robinson, 1999). With a majority of commercial buildings occupied by tenants, it is important to design leases that can translate the relationship between landlords and tenants.

Real estate leasing involves several processes which are identified as essential in leasing terms. Among activities in real estate leasing are lease lengths, options to renew or break leases, rent review provisions, the liability for property responsibilities and expenses and leasing incentives (Adnan and Tay, 2008). Leases generally have provisions affecting all aspects of the occupation including the price paid, the liabilities for repair and insurance, the ability to assign (sell) and sublet the premises to other tenants or to break (terminate) the lease before the expiry date (Crosby *et al.*, 2006). Furthermore, leasing also has clauses covering the timing and basis of any rent revisions during the lease (Crosby *et al.*, 2006). In normal practice real estate leasing involves the up-front sale and long-term occupancy. Normally the structure of lease can be divided into five characteristics which are as follows:

- (1) Lease term – depends on the agreement between landlords and tenants.
- (2) Level of predetermined rental uplift – depends on the type of proposal and reflecting perception of inflation over the lease term by the parties involved.
- (3) Frequency of rental increases – normally annually. Even though the same ultimate rent is achieved as with annual increase, the stepped nature of the uplift provides a lower return and hence a lower value, making this less attractive to investors.
- (4) Reflection of reasonable market rental value in determining the commencing rent – it is important the process starts with realistic levels in matching expected property income (amended from Murdoch, 1994).

What is “green lease?”

The green lease is the process of managing properties or buildings in a sustainable way. In attaining this green status, the property manager needs to include all of the green elements in the management operation. As more and more building owners, managers and tenants begin incorporating environmental stewardship and sustainability into their real estate operations, the concept of “green leasing” continues to move into the mainstream. Green leasing is a natural extension of the green building movement, which seeks to provide healthy, resource-friendly buildings that are operated efficiently with regards to energy and water use as well as waste disposal.

The ideal green leasing approach is ambitious enough to satisfy the sustainability vision of landlords and tenants without being so aggressive that it becomes a barrier to leasing space. A green lease should be a framework for achieving the goals landlords and tenants share on these issues, rather than an overly strict document that could become a barrier to tenant attraction and retention. As sustainability increases in importance in markets across the country, it is expected to see landlords and tenants alike opting for broader and deeper manifestations of green in the spaces that they own or occupy. Some landlords take a comprehensive view – the full complement of energy- and water-sensitive design and operating practices; environmentally preferred products and services; high standards for ventilation, air quality, natural light and noise mitigation; integrated waste management practices and more. It may make sense to target a subset of these initiatives, focussing on the ones that are the most practical or cost-effective to implement in the building (Demeo and Cremer, 2009).

The concept of green lease will encourage cooperation between the landlord and tenant in achieving energy efficient practices with respect to the construction, operation and maintenance of the building (Adamson, 2011). It is aimed to achieve sustainable objectives and eventually to control damage that has been done by the development activities. Therefore, a green lease requires a building owner and its tenants to conserve energy, reduce waste, increase recycling and use environmentally friendly products and materials. A green lease can be as simple as a lease to which some agreed-upon sustainability concepts have been added, or as complex as a lease that implements the tenant’s specific sustainability goals for the space, provide

mechanisms for measuring performance to assure such goals are achieved (both initially and throughout the lease term), provide for appropriate allocation of costs of achieving agreed-upon sustainability standards, and provide the tenant with appropriate remedies in the event the landlord fails to perform its sustainability obligations.

There are financial implications in performance levels of the building – in terms of cost savings or even appraised value. If a consensus is not reached regarding the sustainability efforts of the property and one or more parties do not fully embrace the initiative, this could potentially damage other parties' financial expectations or reputations when performance levels are not met. Thus, it is particularly important to obtain consensus regarding which of the building's green policies, requirements and attributes will be made public and what should happen if the building's green performance falls short of expectations (Real Property Association of Canada (REALpac), 2010). Furthermore, each current tenant should be surveyed regarding its interest in specific sustainability initiatives, and provisions added to each existing lease with that tenant's input and consent. In both existing and new buildings, each lease's green clauses should be evaluated in the context of all other leases in the building. Any lease that imposes the requirements on building spaces or activities that take place outside that tenant's own space should be evaluated carefully prior to signing. In some situations, one tenant's lease may contradict or prohibit the sustainability goals of another tenant. Identifying and actively managing these conflicts – and striving for consistency in lease language wherever possible – can help prevent friction or disappointments among the building's occupants (REALpac, 2010).

The increase of awareness of sustainable issues has impacted on property players to embed this concept in their projects. Global awareness has also increased, which means the government also has to take a major role in implementing the green concept. As a result, many countries try to establish the concept of green buildings with many incentives to encourage property players as well as the public to be actively involved. The existing green lease practice has been established in a few countries which include Australia, the UK and Canada. However, there is little evidence found in the Asian region on the status of green lease practices. In Malaysia particularly, most studies are focussed on green building initiatives but no study has been conducted to explore the relationship of green building and green lease. However, there was a study conducted by Yong (2011) on the perspective of landlords and tenants towards green lease in commercial buildings in Kuala Lumpur. As there is still a lack of study in green lease in Malaysia, this study attempts to identify some of the drivers and barriers towards green lease implementation which therefore can act as a basis to further initiate the appropriate provisions of Malaysia's implementation of green lease.

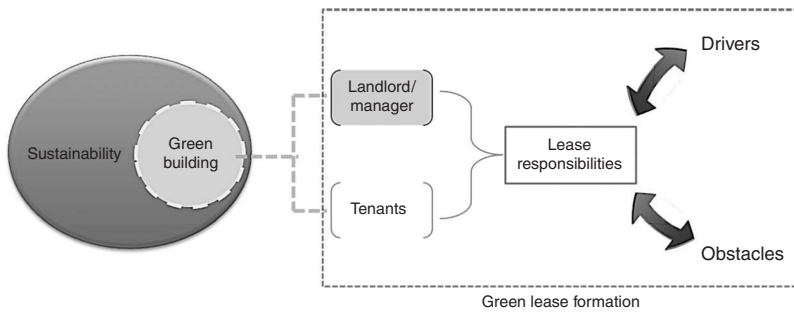
For the purpose of this study, a general framework of green lease based on the previous study on green concept whether in theoretical or practical aspect, has been embedded to assess the current implementation of the green lease concept for office buildings in Malaysia. Figure 1 presents the green lease framework for office buildings in Malaysia.

Principles of green building measurement

The green lease provisions and advantages of green lease

As in a standard tenancy/lease agreement, both the landlord and tenant would be aware of the responsibilities during the tenure of the occupancy. The several main elements which can be made available for green lease as suggested by Brooks (2008) are as follows:

- (1) Targets and benchmarks – to include targets whether in percentage form or real targets for the environmental building performance and this includes energy and water reduction and water recycling.



- (2) Sustainable development principles – may include products recycling, quality of indoor air and the use of material governance.
- (3) Standard performance – may include procedures and specifications to measure environmental performance.
- (4) Mechanism of dispute resolution – may be applied when disagreements arise between landlord and tenant in regards to the unachieved prescribed objectives. For example, the mechanisms can be outlined on the actions that should be taken when the tenant fails to comply with the energy use target and sustainable development principles set in the lease.
- (5) Environmental Management Plan (EMP) and Green Lease Schedule (GLS) – EMP is usually featured in GLS. This has been commonly found in developed green leases in Australia.
- (6) Specific details on the required elements that support the pursuant of green practice – this may include measures of water and energy conservation, comprehensive procurement guidelines, environmentally friendly products, ventilation, fresh air and lighting requirements, efficient appliances and life cycle costing.

In addition to that an effective green lease document must embrace the specific sustainability goals of the tenant instead of the landlord's goals alone. Next, the mechanisms to measure performance to ensure the achievement of goals must be outlined in the initial stage and throughout the tenancy. Then, appropriate costs must be allocated to achieve the sustainability standards that have been agreed upon when signing the green lease document. The lease document may also suggest landlords give appropriate remedies to tenants in the event of the sustainability obligations failing to be performed.

Adamson (2011) also reiterated some of the said elements to include the following:

- (1) operating expenses – pass-through status of green building cost and if there is any limit;
- (2) water efficiency – the permit to install supported items such low-flow fixtures;
- (3) utilities – the status of meter management, energy resources, control and allowance;
- (4) building operations and maintenance – the status of regular commissioning of building systems, green cleaning specifications and performance standards;
- (5) tenant improvement – the authorisation of certain material usage, construction waste programs and debris and dust abatement measures;
- (6) third-party certification – the requirement to obtain or maintain building certification and the consequences if it is not maintained or obtained;

- (7) default and remedies – address the default and remedies associated to green requirements;
- (8) parking – the relevance of parking restrictions to promote public transport or preferred parking for those who carpool and use alternative energy vehicles;
- (9) rooftop installations – the installation and management of rooftop systems; and
- (10) rules and regulations – provisions related to the above.

Research methodology

The survey for this study was made between February 2014 and September 2015. A survey amongst the landlords and building managers was carried out to determine the sustainability practices through the adoption of GBI features in office buildings. The survey also intended to uncover the awareness level of green lease terms as well as the barriers for implementation amongst landlords or building managers. The population of office buildings is drawn from top grade office buildings from an earlier office building's classification exercise in Malaysia (Mohd *et al.*, 2010). In total, 61 office buildings were identified within the commercial area of Kuala Lumpur city regardless of the type of office, comprising of green and non-green office buildings. Data collection can be divided into primary and secondary data. Secondary data were gathered through the literature review to provide further understanding on green building and green lease concept and practices in general. The data were retrieved from publications in the form of journals, thesis, book, published documents and conference proceedings as well as from formal website. Whilst primary data were collected through questionnaire survey which was conducted within seven months and aim to determine the sustainability practices through GBI features adoption in office building and also the acceptance level of green lease terms and its barriers among landlords or building managers.

Questionnaire survey is implemented to fulfil the subsequent research objectives. The questionnaire sets were self-distributed to the building managers of the existing top grade office buildings within Kuala Lumpur city centre. The survey questionnaires were designed based on the literature review conducted earlier. In attempting to gather the responses with regards to the terms/clauses of a green lease on behalf of the landlord, the building managers were selected as they are the intermediaries that administer the operational matters in a building. They act on behalf of the landlord to ensure that the responsibilities in the lease are executed for the smooth operation of the building management. Whenever the buildings are owner occupied, the roles of the managers are directly under the purview of the landlord. In any angle of the leasing and building operations processes, building managers will also have to bear the impact whether financially, socially or environmentally.

A stratified sampling method has been used in this research, however not all office buildings in Kuala Lumpur participated in this study. As such the entire office buildings in Kuala Lumpur need to be in a group or strata. Only top grade office buildings have been selected, as these buildings are believed to be able to show commitment to the implement of green leasing practice. The stratified process only involved the grade of the buildings as this research is aimed to assess the implementation of green lease which is relatively new in Malaysia.

For the purpose of survey on green leasing amongst office buildings in Kuala Lumpur, sets of questionnaires have been disseminated amongst property managers or persons in charge of the buildings or leasing contracts. Participants were asked to rate a five-point Likert scale ranging from "not significant" to "significant" for questions under the category of green lease practices. On top of that, respondents also were asked for their weightage of

the factors of implementation of green building practices in the building. Descriptive and important index analyses were conducted to determine the awareness and barriers for the implementation of green lease among the landlords/building managers. To tabulate the findings, a frequency analysis is presented in the form of a pie chart as well as a bar graph to provide clear findings for certain weightage points of green leasing practices. To interpret the findings, a relative index (RI) analysis was used to explain the highlight of the findings in order to understand the implementation of green leasing. RI analysis is an analysis to calculate the strength of each variable to extract the weightage from all variables. The output of the analysis will provide the overall measurement to identify the general trend. In this case, the aim to use RI analysis is to identify how far the implementation of green leasing in Malaysia can go, particularly among office buildings. To evaluate the ranking of the acceptance on green lease term and barriers to green lease implementation, the rating made against the five-point scale described previously were combined and converted into relative significance indices for each factor, adopting the RI ranking technique (Kometa *et al.*, 1995). This is determined by the relative ranking of the different factor by comparing the individual value of the relative significance indices for each factor. The highest ranking referred to the highest RI value. The individual numerical rating of each of the identified attributes (from the Likert scale) was transformed to relative factors, by using the following formula:

$$RI = \frac{n1(1) + n2(2) + n3(3) + n4(4) + n5(5)}{5N}$$

where $n1$ = number of respondents for “not significant”; $n2$ = number of respondents for “less significant”; $n3$ = number of respondents for “neutral”; $n4$ = number of respondents for “significant”; $n5$ = number of respondents for “most significant”; and N = total number of respondents.

All the analysed factors of drivers and obstacles will be arranged in descending order based on the analysis results. Thus, the most accepted and significant factors can then be determined in a way to guide green leases initiation.

Findings

Though attempts have been made to responses from all the managers, only 39 managers participated in the survey giving a response rate of 64 per cent. The profiles of the buildings in which the data were gathered are shown in Figures 2-5. From the responses given, 87 per cent of the buildings were not certified as green building whilst only 13 per cent have been certified. It can be observed that the buildings included in the responses are not newly built buildings, whereas the green building movement in Malaysia has only been active since 2009. Half of the buildings surveyed fall between 11 and 20 years of age and only 5 per cent are between five and ten years of age. Another 16 and 18 per cent were office buildings aged between 21 and 30 years old and more than 30 years old, respectively. The summaries of the results are presents in Figures 2 and 3.

Figures 4 and 5 depict major occupants and lease renewal of the case study buildings in this research. In terms of occupancy, 84 per cent of the buildings are mainly tenants occupied while another 11 per cent have less than 50 per cent occupied by tenants. 5 per cent are owner occupied. The most practiced lease renewal is a three-year renewal represented by 62 per cent of the respondents, followed by an annual renewal with 21 per cent.

Sustainable/green building practices

The managers were asked to identify the green building elements as outlined by GBI for their buildings. Five main elements have been classified and the results are shown in

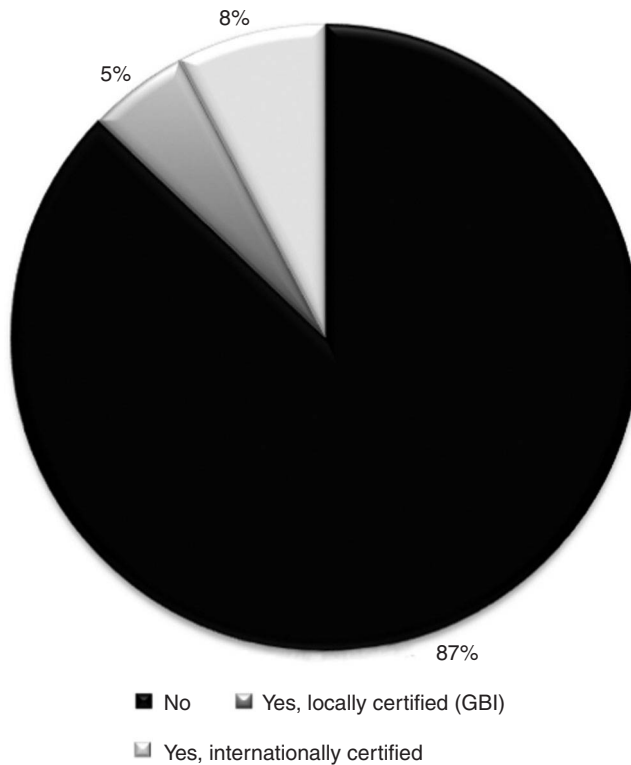


Figure 2.
Green building status

Figures 6-10. Electrical sub-metering has been widely practiced compared to other elements under energy efficiency. It noted that 92 per cent of the buildings practiced the following: lighting zoning, energy management systems and sustainable maintenance practices; however, only 5 per cent have engaged with renewable energy in their building. For the indoor environmental quality element, a smoking-free environment is the one that is widely practiced amongst the managers (82 per cent). Monitoring carbon dioxide is the least practiced, represented by nine buildings (9 per cent). The second highest adopted element is day-lighting level and glare prevention, represented by 70 per cent buildings managers. Approximately 50 per cent adopt the elements of internal noise level control, occupancy comfort survey and contaminants of mechanical equipment monitoring. Many of the respondents were likely to have the parking managed, where 78 per cent of the respondents control the parking provision, followed by non-pollutant chemical usage in which 26 of them practiced this. The least practiced is the environmentally sensitive management use with 19 respondents adopting this. In regards to the aspect of materials and resources, only 30 per cent of buildings provide the facilities for recycling and waste reduction in which 36 per cent use the materials and products reuse approach. In total, 33 per cent practiced waste minimisation and recycling. A newly certified green building in Kuala Lumpur city centre was the only building that practiced rainwater harvesting. In total, 28 practiced water consumption monitoring and only ten practiced water recycling or water treatment. Water consumption monitoring is the most practiced as it is the easiest and cheapest method to apply, for instance through metering.

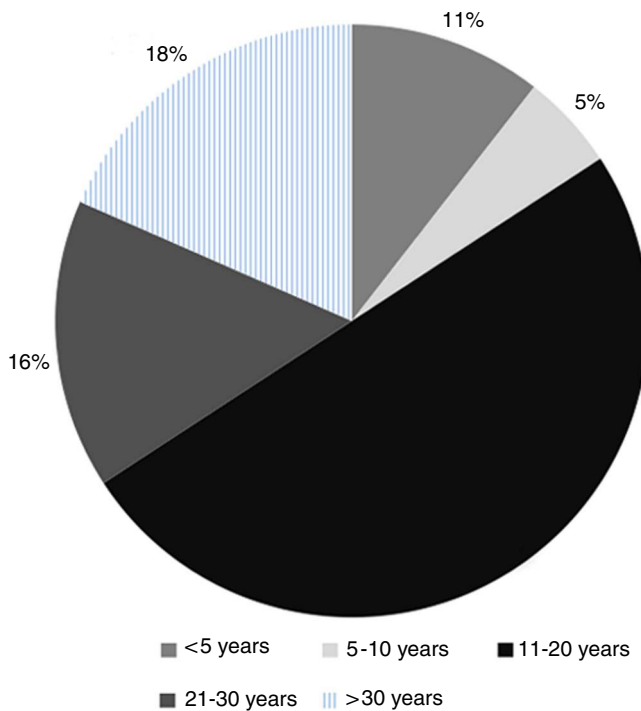


Figure 3.
Age of building

Identification of the green lease feature in office buildings – drivers and obstacles

Another survey was conducted to identify the drivers and obstacles of implementing green lease from building management. Due to a lack of understanding of the green lease concepts introduced in the survey, only 24 out of the 39 building managers (39 per cent of the total identified building managers) who had provided the earlier responses gave their responses to the second part of the survey. In this survey, the factors summarised from the green lease provisions as stated in the literature were then examined through an ordinal scale to determine whether the identified factors were significant enough to be included as green lease provisions for office buildings in Kuala Lumpur and act as a driver to encourage the practice. This will eventually highlight the most preferred practices among building managers when a green lease is practiced.

Findings

As shown in Table I, energy consumption, water consumption and recycle materials have been selected as the top three most significant factors to be inserted in the green lease term and can be the strongest drivers for building managers to implement green lease as 50 per cent and above opted for these three factors with a RI score of at least 0.69.

Factor 1 – reduce direct and indirect energy consumption

This factor is ranked the highest with RI of 0.75. In total, 63 per cent of building managers have identified this factor to be the most significant factor to be included in the green lease. This has been identified to be the strongest driver in encouraging building managers to start off with green lease implementation. Given that the nature of energy is getting scarce and commercial buildings are the main consumers of energy as elaborated earlier, it has

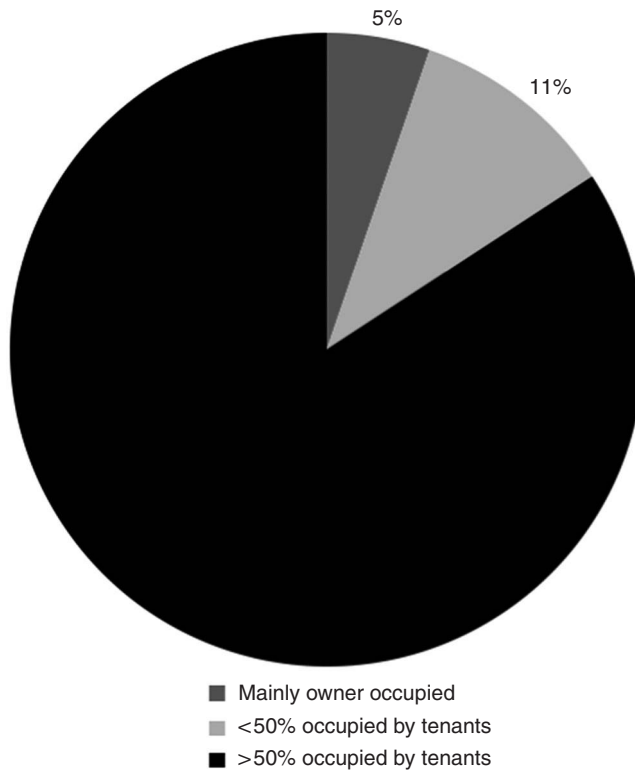


Figure 4.
Major occupants

been given the most attention by those building managers, which is also a criterion of GBI. Most of the buildings are currently comfortable in using electrical sub-metering and lighting zoning. These are the easiest ways building managers can practice as the other methods are yet to be nurtured.

Factor 2 – reduce water consumption

The second highest ranked factor is water consumption reduction with the score of 0.70 in RI. In total, 21 per cent of the respondents felt it was not significant but 50 per cent believed it is a significant term to be incorporated and also a driver of green lease. It can be seen that some of the buildings are implementing water consumption monitoring in order to achieve water efficiency so that the activity of water consumption reduction is not indifferent among building managers. Therefore, it is seen as a strong driver to green lease practice as water has become an increasingly important resource in the development process of all countries. Biswas (1983) identified four major water problems facing the world are: the provision of safe drinking water; water requirements for further agricultural, hydroelectric and industrial developments; sustainability of water development projects; and development of water resources shared by two or more states.

Factor 3 – recycled material usage and waste diversion

This factor is ranked third with RI of 0.69 with 50 per cent of the respondents believe that recycled material usage and waste diversion is one of the important green lease terms to act

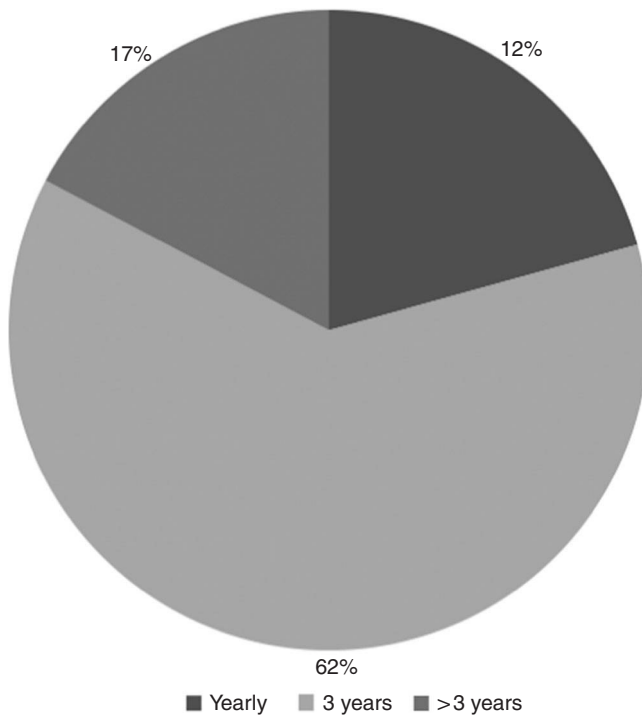


Figure 5.
Lease renewal

as a driver in the green lease industry. Waste diversion, according to US EPA, is the prevention and reduction of generated waste through source reduction, recycling, reuse or composting. Hence in Malaysia, recycling is becoming commonplace in the community and it involves collecting, sorting and processing waste material and remanufacturing them into new products.

Factor 4 – use green certified product

This factor has an RI score of 0.64 and is ranked fourth. Having green certified product in the lease term seems not too significant for only 38 per cent of the respondents. Only 25 per cent of the respondents selected this factor to be significant. This is due to the unpopularity of using green certified product in Malaysia, and therefore looks like having a long journey before this practice is embraced. However, it is a little known fact that Scientific and Research Institute of Malaysia (SIRIM) has its own Eco-Labeling scheme intended to assist green business practitioners to alternate for green certified products, ultimately an environmentally friendly product. The SIRIM Eco-Labeling Scheme has been recognised as the National Eco-Labeling Programme of Malaysia.

Factor 5 – set the green building target for green certification

Lastly, the factor of green building target is selected as the least significant term and driver towards green lease implementation with an RI score of 0.56. Additionally, 46 per cent of the respondents feel it is not significant to drive building managers for green lease implementation and only 38 per cent opt for its significance. This is due to the nature of green lease that can be practiced either for green building or non-green building which

Figure 6.
Energy efficiency

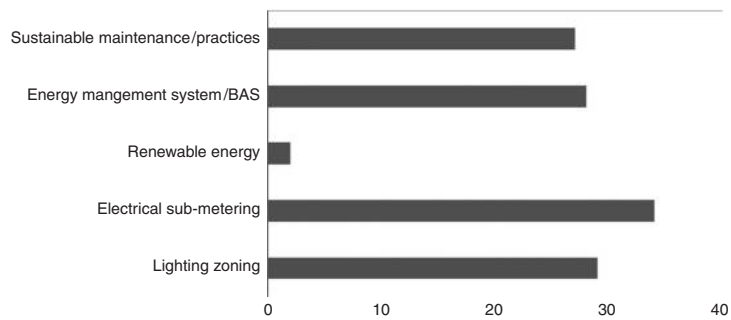


Figure 7.
Indoor environmental quality

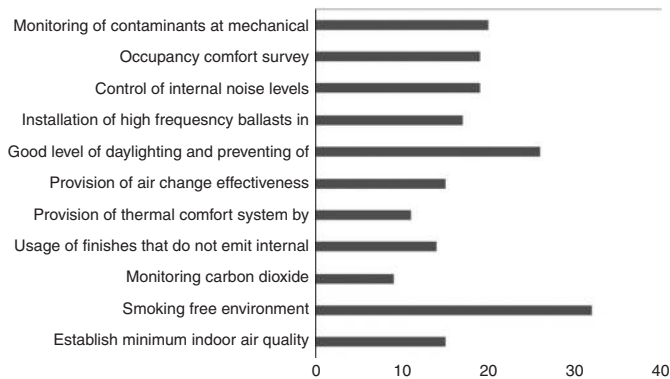
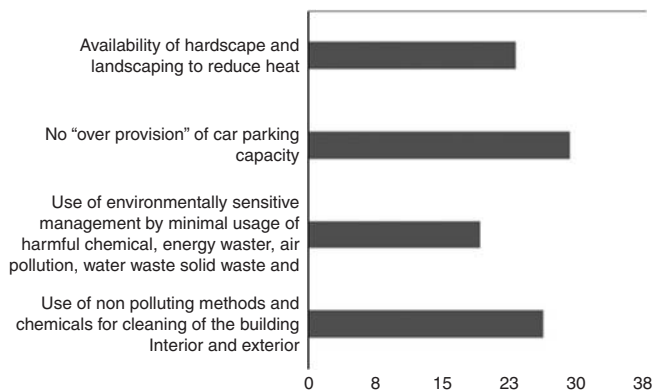


Figure 8.
Sustainable site management



therefore makes it flexible for any type of building. However, each building might face different difficulties, especially the non-green building, because the current conventional lease covenant may be a hindrance. Nevertheless, to reach a full consensus of tenants in the building to cooperate in the green movement is not an easy task.

In the determination of the barriers for the green lease implementation, ten factors were identified from the literature. These factors have been examined through the ordinal scale on the significance ranking of barriers that may impede the green lease practices among

building managers of office buildings in Kuala Lumpur. This will finally highlight the most significant factors being the hindrances towards green lease.

Table II shows that the financial aspect is the most significant factor that hinders the practice of green lease, to be exact in terms of payback, incentives, capital conversion and capital cost during construction. Overall, the first two factors score 50 and 58 per cent on significance selection and in terms of RI; all factors score more than 0.60.

Factor 1 – long payback periods

Being the highest score in RI (0.77), long payback period is the most significant barrier to practice green lease in office buildings in Kuala Lumpur. More than half respondents indicate that this factor is a significant barrier. It is not an easy consideration since most landlords are looking to have a fast payback from the construction cost.

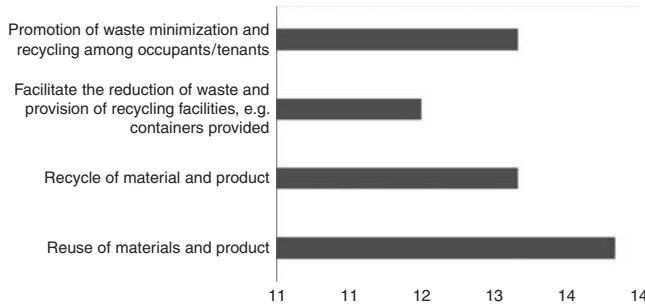


Figure 9.
Materials and
resources

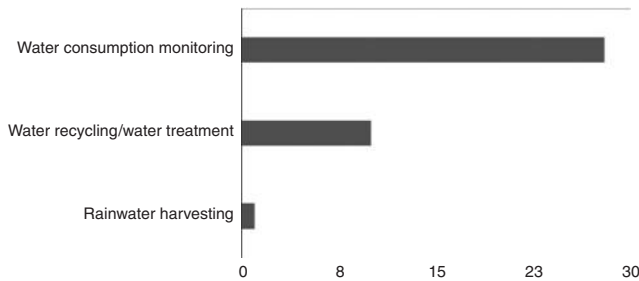


Figure 10.
Water efficiency

Factors	Likert scale					Frequency analysis		Relative index	Rank
	1	2	3	4	5	< 3 (%)	> 3 (%)		
Reduce direct and indirect energy consumption	3	0	6	6	9	13	63	0.75	1
Reduce water consumption	3	2	7	4	8	21	50	0.70	2
Recycled materials usage and waste diversion	4	1	7	4	8	21	50	0.69	3
Use green certified product	4	2	9	3	6	25	38	0.64	4
Set the green building target for green certification	7	4	5	3	5	46	33	0.56	5

Notes: Scale used: 1-not significant; 2-less significant; 3-neutral; 4-significant; 5-most significant

Table I.
Frequency analysis
and relative index for
drivers for green lease
practices

Table II.
Frequency analysis
and relative index
for barriers to green
lease practice

Factors	Likert scale				Frequency analysis		Relative index	Rank	
	1	2	3	4	5	< 3 (%)			> 3 (%)
Long payback periods	1	1	8	5	9	8	58	0.77	1
No incentives given to retrofit or build new to meet sustainable rating	1	2	9	3	9	13	50	0.74	2
Lack of capital for conversion to sustainable operation and practice	3	0	10	3	8	13	46	0.71	3
Capital cost heavily used during construction	1	3	11	4	5	17	38	0.68	4
Restriction in the lease agreement that impedes business operations/building operations	2	3	10	4	5	21	38	0.66	5
Low realisation and understanding of initial capital outlay may generate energy savings	3	2	10	6	3	21	38	0.63	6
Investment in energy saving technology not a priority	3	3	10	5	3	25	33	0.62	7
Lack of knowledge/awareness of green lease	4	2	10	4	4	25	33	0.62	8
Increasing corporate image through corporate social responsibility (CSR) not a priority	4	3	10	2	5	29	29	0.61	9
Conserving energy not a priority	4	3	10	2	5	29	29	0.61	10

Note: Scale used: 1-Not significant; 2-Less significant; 3-Neutral; 4-Significant; 5-Most significant

Factor 2 – no incentives given to retrofit or build new to meet sustainable rating

Second, 50 per cent of respondents see incentives as an important factor to promote green lease. However, the absence of incentives to retrofit buildings in meeting the set green criteria has reduced the possibility of green lease implementation. Standing at second place in rank, the RI score is 0.74.

Factor 3 – lack of capital for conversion to sustainable operation and practice

Third, this factor which also falls under financial factor has been voted by 46 per cent of respondents as a significant factor with an RI of 0.71. To be green, there will be some additional incurred costs and this forms a drawback to some building managers to convert current building operations and practices to sustainability practices. Some rearrangement may take place especially in terms of technicality which demands funding.

Factor 4 – capital cost heavily used during construction

It is noted that to construct green, additional cost may be required at approximately 3-5 per cent extra. As such, this factor has been ranked at number four with an RI of 0.68 to be the factor that impedes the execution of green lease. In total, 38 per cent of the respondents rank this as a significant factor while another 17 per cent rank this as less significant.

Factor 5 – restriction in the lease agreement that impedes business operations/building operations

This factor has been ranked to be the fifth significant factor with an RI of 0.66. The respondents realise that current lease covenants will restrict some of the activities and operations that is prone to green mechanism. Given the current condition of conventional leases, the provisions are all non-environmentally friendly. Since current leases have been agreed upon between landlords and tenants in the earlier stage, it would need to wait to another term of the lease renewal if the green lease terms can be included. However, it is noted that the tenancy terms between each tenant is different and each tenant has different types of business operations which might need different requirements or approach towards

green practices and operations. Thus, to move from conventional to green lease would be difficult for building managers to handle especially when the building is mainly tenant occupied.

Factor 6 – low realisation and understanding of initial capital outlay may generate energy savings

The RI for this factor is 0.63 and ranked sixth. It can be observed that more building managers feel that most of the people in the industry still lack understanding of the realisation of cost. The extra initial capital cost invested earlier for the construction of a green building will eventually be repaid through energy saving of the building. Since commercial buildings are the highest energy consumers among other types of buildings, this factor is actually deemed important to be comprehended so that more managers can consider providing more capital outlay for a better return in the long term.

Factor 7 – investment in energy saving technology not a priority

This factor stands at seventh rank with an RI of 0.62 where 33 per cent chose this factor as a significant factor and another 25 per cent opted for less significant. Since this factor is not considered as the most critical factor that hinders the execution of green lease, it is expected that most building managers are aware of the priority to invest in energy savings.

Factor 8 – lack of knowledge/awareness of green lease

Since knowledge and awareness can be learned and enhanced, it falls into eighth place with an RI of 0.62. Most of the respondents believe this factor is not really significant to impede green lease practice for office buildings in Kuala Lumpur. The awareness can be inculcated continuously and it moves coherently with knowledge. The more knowledge people have on green lease, the more awareness can be developed.

Factor 9 – increasing corporate image through CSR not a priority

The factor of CSR also is not a significant factor to deter green lease implementation. With an RI score of 0.61, the importance of being seen green through CSR can be nurtured. However, it is worth noting that CSR can be done through many ways and green is not the only avenue. In lieu of the commitment to green movement, some corporate companies may choose other options to fulfil the CSR obligation. This is the drawback where green for CSR is not a big thing and yet, it would not impact the green lease practice as much as the financial factor.

Factor 10 – conserving energy not a priority

Lastly, this factor is believed to be not significant in hampering the implementation of green lease. With an RI of 0.61, this factor is seen as a minor factor which can be remedied throughout time. The importance of energy savings is not felt by everyone because it seldom has a direct impact on the practitioners, unless it is practiced in the long-term. This is happening due to the fact that energy is part of the environment so the benefit goes to the environment and not to humans directly.

In a nutshell, the findings help to identify the current practice of GBI elements in office buildings in Kuala Lumpur and also clarify the status of significance and level of acceptance by building managers towards the green lease term or the driver of green lease implementation, as well as the barriers that may hamper the green lease practice.

Conclusion and recommendation

It has been observed that the green building criteria as shown by the GBI rating tool which are practiced in selected office buildings such as energy efficiency, indoor environment quality, sustainable site planning and management, materials and resources and water efficiency are practiced by office building managers. Based on the findings of the study, all respondents practiced some of the factors listed for GBI rating. Some green practice efforts have been made and the most practiced factors are achieving energy efficiency, indoor environmental quality and sustainable site management.

In the determination of the extent of green lease acceptance and implementation among office buildings in Kuala Lumpur, many managers have indicated that they do not fully understand the concept of green lease. When asked on the drivers of the implementation of green lease, the reduction of energy consumption, reduction of water consumption and the use of recycled materials have been marked as top three factors or drivers in implementing green lease. This reflects the awareness of more stakeholders in Malaysia towards green practices which are related to energy and water savings as well as recycling.

Whilst examining the barriers that may impede the green lease implementation, it is found that cost or financial aspects are the main barriers as compared to other barriers. This includes long payback periods, no incentives given to retrofit or build new to meet sustainable ratings, lack of capital for conversion to sustainable operation and practice as well as capital cost heavily used during construction.

On the other hand, the results from the above findings show positive movement of green within the office buildings in Kuala Lumpur. Surprisingly, most of the respondents are non-green building managers and yet, the green building criteria in GBI are being implemented selectively, so as to align with the condition of the office building and also to suit financial budgets for such factor implementation. This may also be an added value to the building in order to attract potential tenants or impose certain additional charges to tenants.

Through this study, the level of significance of drivers and obstacles are identified. The level of significance may vary according to geographical factors but in Kuala Lumpur particularly, the energy and water savings are the most significant drivers as these are the most popular amongst all when it comes to green perception and practice. Thus, more initiatives may be needed to nurture the perception that has been understood among those who have embraced the green movement and to spread this movement among other Malaysian stakeholders. The third top driver is recycled material usage where this is a reflection of how Malaysia is actively promoting 3R: reduce, reuse and recycle.

The most significant obstacle in the green lease implementation is related to the financial aspect where cost is the factor of concern. Besides long payback, the initial incurred cost is perceived to be higher when compared to conventional practice. Considering the infancy of the green building movement in Malaysia, the results shown in the study reflect this stage of the movement. However, along with the green building introduction, there are government incentives which have been announced in the Malaysian Budget 2014. They include the investment tax allowance for the purchase of green technology equipment and also income tax exemption on the use of green technology services and systems, subject to further discretion of the Malaysian Government. However, the concern is of the absence of incentives for those buildings that would like to be upgraded and retrofitted to green building in order to ease the implementation of green lease.

Nevertheless, the awareness of the obstacles seems to be not too significant to building managers. This is due to the level of awareness that can be nurtured and given the situation in Malaysia now, the green building awareness campaign is continuous. Even though there has been a former trend for office buildings trying to achieve green certification as well as Multimedia Super Corridor status. Other countries such as Australia, the UK and the USA have already established their own guidelines and handbooks to govern green lease.

Australia is known with her Green Lease Schedule, UK is famous with her Green Lease Toolkit while USA with her Green Office Guide: Energy Efficiency Lease Guidance. Some can just be attachments and some can be the incorporated legal terms binding in the lease covenant. In conjunction with that, Malaysia can later produce its own guidelines, similar to how the GBI was introduced to the public.

As such, this study helps to identify what drives and hinders building managers to implement green lease. The ranks of drivers and barriers have been identified. With regards to the green lease provision, there are a few terms that have been incorporated in fit-out guidelines for some of the green office buildings in Kuala Lumpur. Through the knowledge of what drives and hinders the green lease movement and implementation, the stakeholders can have proper planning to boost the drivers further and to seek solutions to those factors that have been identified as barriers, so as to develop a guideline towards the potential green lease documentation in Malaysia.

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