



PLANNING MALAYSIA:

Journal of the Malaysian Institute of Planners

VOLUME 19 ISSUE 3 (2021), Page 237 – 248

THE IMPORTANCE OF SUSTAINABILITY IMPLEMENTATION FOR BUSINESS CORPORATIONS

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Abstract

Sustainability is the current trend adopted by major business corporations in Malaysia. Abundant evidence reveals corporations are now recognizing that aligning business operation with sustainable ways adds more value. Previous literature shows sustainability has become a strategic imperative for all businesses. Apart from that, having a sustainable building in their asset portfolio contributes towards achieving the management strategic corporate goals. Therefore, this research aims to discuss what are the corporate goals or corporate expectations from going green. In conjunction with that, secondary data collection was thoroughly reviewed from previous studies. Then, primary data consolidates via questionnaire distribution on 117 persons directly involved in green management. The data then analyzed via relative importance index (RII) to identify the importance level for expected corporate goals. Derivation of deeper conceptual findings uses the sustainable triple bottom line theory as a guide. The result indicates four major goals of corporations including the environment, maximization of economic value, and minimization of economic and social costs. This research provides ample evidence for further research in green management.

Keywords: Corporate Goals; Corporate Sustainability; Triple Bottom Line

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INTRODUCTION

The corporate movement towards sustainable buildings in efforts to implement sustainable practice successfully, also simultaneously contribute to the success of business operations. Sustainable involvement is considered as a new strategic planning approach which is employed worldwide (Rasoolimanesh et al., 2011). Abundant evidence reveals corporations are now recognizing that aligning business operations with sustainable ways adds more value. Corporations believe that owning sustainable buildings in the asset portfolio contributes to achieving the management strategic corporate goals. This research aims to discuss on the corporate goals or corporate expectations from sustainable adoption.

LITERATURE REVIEW

The main key for sustainable practice is to minimize environmental impact and costs while maximizing occupant comfort and satisfaction. The need for enhancing corporate and organizational image are also motivators for management to go green (Fauzi et al., 2021; Rock et al., 2019). Hopkins et al. (2017) acknowledge and divide the various benefits of sustainability into three perspectives. These categories are to improve environmental performance, social performance, and economic performance through revenue increase and cost reduction. These are in line with the corporate sustainability concept that integrates the environment, the economic, and the social aspects of triple-bottom line to meet the needs of a firm's direct and indirect stakeholders (Isaksson, 2019; Masalskyte, Andelin, Sarasoja, & Ventovuori, 2014; Olawumi & Chan, 2019). The following explains many more expectations from going sustainable according to three major perspectives of sustainability namely environmental, economic and social.

Environment Perspective

A sustainable environment seeks to improve human welfare by protecting the sources of raw materials used for human needs and mitigating harm to humans (Ajayi, Oyedele, & Jamiu, 2019; Ilhan & Banu Yobas, 2019; Razali, 2018; Zaid & Zainon, 2019). The environment perspective or also known as the ecological dimension is mostly illustrated as global warming prevention. Støre-Valen & Buser (2019) concurrently find that the environment perspective aims to focus on environmental sustainability particularly on lowering energy consumption and reducing the carbon footprint. The findings echo Shurrab et al. (2019) where environmental sustainability is beneficial in terms of improved air quality, higher water quality, and reductions in energy and water consumption. Consistent with Ohueri, Enegbuma, & Kenley (2018); and Shaikh et al. (2019), among the shared benefits include minimizing adverse environmental effects, obliteration of the risks of environmental disasters, contribution towards the development of natural resources, reduction in the use of non-renewable materials, water, emissions,

wastes, and pollutants. Conclusively, all the benefits discerned from previous research relate to sustainable performance as per Lu & Taylor (2018) on the environmental concerns normally related to the aims to achieve sustainability performance.

Economic Perspective

In purely economic view, economics is defined as a target concept covering performance targets, financial targets, and success targets (Glatte, 2012). These parallels findings by Masalskyte, Andelin, Sarasoja, & Ventovuori (2014) that corporations' aims in green buildings include financial benefits, added value for the customers, brand value, transparency, and trust. Hopkins et al. (2017; and Robert (2010) reiterate that sustainability is able to increase revenue and reduce cost. Cass (2018); Lamprinidi & Ringland (2006); Mansfield (2009) also find that competent sustainable practices reduce cost. When relating to sustainable or green CRE, corporations will experience significant economic impact towards the market such as higher rent and lower vacancy rates. Subsequently, they enjoy higher market price reflecting good long-term business opportunities (Rogerson, 2014). The veritable conclusion is that demand is increasing (Chang & Devine, 2019; Collins, Junghans, & Haugen, 2018; Hui, Yu, & Tse, 2016; Shurrab et al., 2019). This is the scenario in Malaysia where the average green office rental value is higher compared to non-green office buildings (Muniandy & Kasim, 2019). Razali (2018) adds that the sustainable building provides positive incentives to the firms in the form of attractive rentals and high-profile tenants. Ganda (2018) discovers that sustainable buildings generate increased financial gains of up to 3.15 per cent and enjoying 0.76/m² higher rent compared to common buildings. Oyewole & Markson Opeyemi (2018) agree and further discover increasing demand for sustainable offices in the market day by day. Rameezdeen et al., (2019) concur that private buildings with green certification have positive impact on investor decisions due to market demand and the opportunity for branding. Not only that, Reichardt, Fuerst, Rottke, & Zietz (2012) postulate that sustainable real estate contributes to positive economic performance. They also exhibit higher returns on assets than their fewer green counterparts that far outweigh the costs.

In addition, Bangwal & Tiwari (2018; Newsham et al. (2018) report that sustainable buildings tend to have higher resale values and better market values. Further, portfolio greenness was found to be positively related to operating performance by Reichardt et al. (2012). Additionally, sustainable CRE delivers value for marketing and branding purposes, innovations and creativity improvements (Jylhä, Remøy, & Arkesteijn, 2019). This is a good sign for the corporation. Prior research suggests that sustainable buildings improve productivity (Christensen, Baldwin, & Ellis (2012); Cass (2018); Dwaikat & Ali, 2018; Jylhä et al. (2019). Meanwhile Hui et al. (2016) mention the benefits of

efficient building includes improving business image. Ledashcheva (2019); Reichardt et al. (2012); Zaid & Zainon (2019) agree that the business gains and improves its reputation and image through sustainable building. In concurrence, Eichholtz et al. (2018) state that green commitment improves corporate reputation and reflects more attractive employers than otherwise comparable firms. If leasing green office space leads to a superior corporate reputation, this may enable firms to attract investors more easily and at better market rates (Eichholtz et al., 2018). Rameezdeen et al. (2019) discover tenants realize that some sustainability features of the buildings are more cogent to their productivity and hence are willing to pay more for these attributes. The overall life cycle of the economic performance reflects optimization (Ohueri et al., 2018) like increases in share prices (Ganda, 2018), and many more.

Recently, Fauzi et al. (2021) find several benefits of sustainable practices associated with economics. These are minimizing costs, which include reduced management, operational, renovation, and replacement costs. Cost minimization is conceptually similar to cost effectiveness. Cost effectiveness generally represents reasonable value for the money paid. In conjunction with that, Lu & Taylor (2018) post that sustainable buildings establish cost effectiveness for investment, construction, and operation costs. Oyewole & Markson Opeyemi (2018) concur that the growing interest in green buildings is due to its potential benefits in operating cost reduction, energy use reduction, and savings in waste management costs. Meanwhile, Dwaikat & Ali (2018); Ohueri et al. (2018); Shurrab et al. (2019); Zaid & Zainon (2019) address that being sustainable reduces operation and maintenance costs.

Social Perspective

The next concern are social benefits. These are more concerned on the social performance (Hopkins et al., 2017) and impacts on the organization including labour practices, human rights and society (Ghazali, 2015). Masalskyte, Andelin, Sarasoja, & Ventovuori (2014) recount that the social dimension of a sustainable building includes a healthy and comfortable working environment, employee engagement to sustainability-related activities, promotion of employee satisfaction, and working efficiency. Other than that, most research reveals that sustainable buildings manifest social benefits through improved safety and health (Lu & Taylor, 2018) that directly enhance the quality of life (Ajayi et al., 2019) and promotes a healthy life (Zhang, Kang, & Jin, 2018). Eichholtz & Kok (2018) and Rogerson (2014) experience reduced number of employee sick leave days and reduced staff turnover. Tenants report that employee skill intensity relates positively to corporate use of green office space. Eichholtz et al. (2018) also record one of the common social benefit aims by corporations is occupants' healthy living. It has also been established that green buildings help in providing important benefits to human health (Oyewole & Markson Opeyemi, 2018). These

findings echo Zaid & Zainon (2019) results that sustainable buildings contribute to occupant absenteeism minimization. Gou & Ma (2019) and Shurrab et al. (2019) share the same thing that is community benefits that encompass health enhancement, quality of life and wellbeing improvements, and occupant comfort. Taylor (2013) also indicates occupant comfort and health are benefits of sustainability.

Collins et al. (2019) view the benefit of sustainability in a different way that is it promotes a sense of sustainable community. This is actually the root for successful implementation of sustainable concern in the community. According to Shaikh et al. (2019), sustainability contributes to increased awareness for harmonization and also human health. Not only that, the role of sustainable buildings is crucial to encourage technological innovation in society (Lu & Taylor, 2018). In relation to the community, generally corporations embed corporate social responsibility initiatives to ensure the community is able to gain benefits from corporate sustainability. Ajayi et al. (2019) recap that sustainable initiatives aim to support communities.

METHODOLOGY

The analysis of data uses the descriptive analysis method in order to compare the level of agreement and the level of importance of each element from the most important to the least important. The descriptive analysis method used is relative important index analysis (RII). RII analysis allows identifying most of the important criteria based on the participants' replies. It is an appropriate tool to prioritize indicators rated on Likert-type scales (Mohd Adnan, Aman, Razali, & Daud, 2017; Rooshdia, Majid, Sahamir, & Ismail, 2018). This research adopted five (5) point likert scales for the questionnaire instruments that start from strongly disagree, disagree, neutral, agree and strongly agree. According to Akadiri (2011) in (Rooshdia et al., 2018), five important levels are transformed from importance values. They commence with high (H) ($0.8 \leq RI \leq 1$), high medium (H-M) ($0.6 \leq RI \leq 0.8$), medium (M) ($0.4 \leq RI \leq 0.6$), medium-low (M-L) ($0.2 \leq RI \leq 0.4$) and low (L) ($0 \leq RI \leq 0.2$). The highest ranking refers to the highest RI value. Waidyasekara & Silva (2016) also mention a low RII indicates that the factor is less applicable and less relevant, whereas a high index indicates higher applicability, agreement and relevance. The distribution of feedback involves 117 respondents that directly involved in the sustainable management of corporate companies certified with green building index certification in Peninsular Malaysia. There are 39 building chosen whereby three respondents are selected from each of the buildings. Then, 100 responses are accepted for the final analysis. The total 100 data used in the study meets the required sample suggestion by Raosoft (90 sample) and G Power (98 sample).

RESULTS AND DISCUSSION

There are four main elements of the results. These are 1) environment, 2) social 3) economic (maximizing value) and 4) economic (minimizing cost).

Table 1: Corporations' Sustainability Goals

Sustainability Goal	RII	Rank	Importance Level
Environment	0.881	1	High
Economic (Maximizing Value)	0.876	2	High
Social	0.815	3	High
Economic (Minimizing Cost)	0.808	4	High

Table 1 explains an overall ranking and important levels of sustainability goals. In line with the results, environmental sustainability goal ranks first (RII=0.881), economic sustainability goal (maximizing value) ranks second (RII=0.876), social sustainability goal ranks third (RII = 0.815), and economic sustainability goal (minimizing cost) was ranked the last (RII = 0.808). This revealed that the main objective of the corporations involved in sustainability is to preserve the environment as found in Rameezdeen et al. (2019), while at the same time improving their economic sustainability and contributing to social sustainability.

Table 2: Environmental Sustainability Goals

Environment	Mean	RII	Rank	Importance Level
ENV_HAZARDOUS	4.49	0.898	1	High
ENV_NATURAL_SOURCE	4.39	0.878	2	High
ENV_SUSTAINABILITY	4.38	0.876	3	High
ENV_INNOVATION	4.35	0.870	4	High

Table 2 shows that reducing hazardous gas emissions and pollution ranks first (RII=0.898) while protecting, preserving, minimizing, and effective use of natural resources ranks second (RII=0.878). These precede promoting sustainability in the environment and attitude which ranks third (RII = 0.876). The least sustainability goal ranking fourth is encouraging innovation to preserve and promote the sustainable environment (RII = 0.870). It is evident that the corporations' main goal in environmental sustainability is to reduce pollution that contributes to the environmental problems leading to environmental deterioration. This is line with aim of most companies involved in sustainability as to reduce the co2 emission (Razali & Hamid, 2018) and adverse impact on the environment (Shaikh et al., 2019). Further the the aim of sustainability involvement includes of contributing to the development of the natural resources (Shaikh et al., 2019). Then, Follows by environment accountability demand (Rameezdeen et al., 2019).

Table 3: Social Sustainability Goals

Social	Mean	RII	Rank	Importance Level
SOC_HEALTH	4.320	0.864	1	High
SOC_SATISFACTION	4.240	0.848	2	High
SOC_LIFE_QUALITY	4.120	0.824	3	High
SOC_SKILL	4.050	0.810	4	High
SOC_SAFETY	4.010	0.802	5	High
SOC_TURNOVER	3.720	0.744	6	High-Med

Table 3 illustrates the ranking of the elements involved in social sustainability goals of corporations. It is apparent from the results that improved health condition of the occupants (RII = 0.864), fulfil the satisfaction of employees, occupants and customer (RII = 0.848), and improved life quality of the employees, occupants, clients and the community (RII = 0.824), are the three top rated elements. The three least rated elements by the persons directly managing the green buildings are promote employees' and occupants' professional development and skills (RII = 0.810), increased safety in the building towards occupants, employees and customers (RII = 0.802), and reduced staff turnover among the employees (RII = 0.744). It is clear that health, satisfaction and improved life quality are the main aims for social sustainability by corporations. This is in line with the current trend of employers and employees that paying more attention to the quality of life. Employers also invest in workplace health and employee satisfaction at the workplace to reduce stress. Most research has revealed that sustainable buildings provide a social benefit towards health and safety (Lu & Taylor, 2018), which directly enhances quality of life (Ajayi et al., 2019). Further, satisfaction also the main concern involving with sustainable building concept (Ghazali, 2015; Hopkins et al., 2017; Lamprinidi & Ringland, 2006).

Table 4: Economic Sustainability Goals (Maximizing Value)

Economic Maximizing Value	Mean	RII	Rank	Importance Level
ECO_IMAGE	4.720	0.944	1	High
ECO_MARKETING	4.520	0.904	2	High
ECO_RENTAL	4.490	0.898	3	High
ECO_VALUE	4.440	0.888	4	High
ECO_OCCUPANCY	4.280	0.856	6	High
ECO_SERVICE	4.280	0.856	6	High
ECO_PRODUCTIVITY	4.190	0.838	7	High
ECO_PROFIT	4.160	0.832	8	High

ECO_GOOD_GOVERNANCE	3.950	0.790	9	High-Med
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Table 4 displays two elements that record RII values of more than 0.9. These are the element increased image and reputation (RII=0.944), and the element marketing strategies (RII=0.904). Six elements record RII exceeding 0.8 and rank from 3 to 8 respectively. These elements comprise increased rental value and attract tenants to rent (RII=0.898), increased value of the business operations and increased building value (RII=0.888), enhanced occupancy rate (RII=0.856), and improved service quality provided (RII=0.856). The ranking descends further with the elements increased productivity of the whole business operation (RII=0.838), and enriched profits of the business (RII=0.832). Good governance is ranks last (RII=0.790) where the importance level is high-medium. Consistent with what mentioned by Eichholtz and Kok (2018) the commitment with sustainability able to improved corporate reputation and business image (Ledashcheva, 2019; Reichardt et al., 2012; Zaid & Zainon, 2019). Further, sustainability also cause the companies to become more attractive to employees than other compareble companies (Zaid & Zainon, 2019). Rogerson (2014) mentioned corporation will experience significant economic impacts towards the overall market. Moreover, Chang & Devine (2019); Collins et al. (2018); Lu & Taylor (2018); Newsham et al. (2018); Shurrab et al. (2019) the sustainability contribute to higher sale price, higher rental, increased asset value and higher market value.

Table 5: Economic Sustainability Goals (Minimizing Value)

Economic Minimizing Value	Mean	RII	Rank	Importance Level
ECO_OPERATIONAL_COST	4.28	0.856	1	H
ECO_MANAGEMENT_COST	4.11	0.822	2	H
ECO_REPLACEMENT	3.98	0.796	3	H-M
ECO_RENOVATION	3.78	0.756	4	H-M

Table 5 shows reduced operational and maintenance costs at first ranking (RII=0.856), reduced management and disposal costs rank second (RII=0.822), reduced replacement cost ranks third (RII = 0.876), and reduced construction and renovation costs at the last ranking (RII = 0.870). This paper discovers that in terms of economic sustainability goals, corporations are mainly motivated by maximizing values as compared to reducing costs. This is because Malaysia is still at a very early stage of green building concept development. As such, developers and owners import various products, materials, fittings and equipment involving substantial initial capitals. Subsequently, the factor of minimizing cost in terms of payback period could not be realized in the short term period. In contrast, corporations are most concerned about minimizing operational cost and

management cost. In line with Tjenggoro & Khusnul Prasetyo (2018) that mentioned lower operating costs is one of the top reasons some countries triggering future green building activities.

CONCLUSION

There are many benefits of implementing sustainability in business corporations. They include environmental benefits; economic benefits that are manifest in two perspectives of maximizing value and minimizing cost, and the last are social benefits. From these four benefits, environmental benefits are the most influential concern for corporations to go green. This indicates benchmark for the country to focus more on green initiatives. However, the economic concern still strongly relates to the corporation as the economic maximizing value ranks as the next important benefit followed by social concerns and economic minimizing cost. Corporations perceive sustainability as significant in economic development particularly in maximizing the value and optimizing the utilization of limited resources. The maximization of value helps the management to provide and deliver the management objectives without comprising on the social and environmental aspects. By addressing the importance of sustainability implementation, this study establishes the need for the stakeholders and policy makers to promote environmental practices while contributing to the economic and social development cores of business operations.

REFERENCES

- Ajayi, S. O., Oyedele, L. O., & Jamiu A. Dauda. (2019). Dynamic relationship between embodied and operational impacts of buildings: an evaluation of sustainable design appraisal tools. *World Journal of Science , Technology and Sustainable Development Article Information*. <https://doi.org/10.1108/WJSTSD-05-2018-0048>
- Bangwal, D., & Tiwari, P. (2018). Environmental design and awareness impact on organization image. *Engineering, Construction and Architectural Management*. <https://doi.org/10.1108/ECAM-02-2017-0029>
- Cass, N. (2018). Energy-related standards and UK speculative office development. *Building Research & Information*, 46(6), 615–635. <https://doi.org/10.1080/09613218.2017.1333351>
- Chang, Q., & Devine, A. (2019). Environmentally-certified space and retail revenues : A study of US. *Journal of Cleaner Production*, 211, 1586–1599. <https://doi.org/10.1016/j.jclepro.2018.11.266>
- Christensen, P., Baldwin, E., & Ellis, C. (2012). Key strategies of sustainable real estate decision-making in the United States: A Delphi study of the stakeholders. *ProQuest Dissertations and Theses*, (December), 277. Retrieved from <http://search.proquest.com/docview/1287056962?accountid=41453>
- Collins, D., Haugen, T., Lindkvist, C., & Aamodt, C. (2019). Bridging the gap between sustainable FM and sustainable buildings an exploratory study of six public buildings in Norway. *Facilities*. <https://doi.org/10.1108/F-01-2018-0007>

- Collins, D., Junghans, A., & Haugen, T. (2018). Green leasing in commercial real estate: the drivers and barriers for owners and tenants of sustainable office buildings. *Journal of Corporate Real Estate*, 20(4), 244–259. <https://doi.org/10.1108/JCRE-01-2017-0003>
- Dwaikat, L. N., & Ali, K. N. (2018). The economic benefits of a green building : evidence from Malaysia. *Journal of Building Engineering*, 18(May), 448–453. <https://doi.org/10.1016/j.jobe.2018.04.017>
- Eichholtz, P. M. A., Kok, N., & Quigley, J. M. (2018). Ecological responsiveness and corporate real estate. *Business and Society*, 1–31(March 2015). <https://doi.org/10.1177/0007650315575118>
- Fauzi, N. S., Johari, N., Chuweni, N. N., Ali, S. N. M., Arshad, H., & Nurulani Ahmad@Mohamed. (2021). The crossfire of corporate real estate sustainable management with corporate sustainable objectives in Malaysia. *Journal of the Malaysian Institute of Planners*, 19(2), 186–198.
- Ganda, F. (2018). The effect of carbon performance on corporate financial performance in a growing economy. *Social Responsibility Journal*. <https://doi.org/10.1108/SRJ-12-2016-0212>
- Ghazali, zahid zulkipli. (2015). Corporate sustainability practices among Malaysian REITs and property listed companies. *World Journal of Science , Technology and Sustainable Development Article Information*, 12(2), 100–118.
- Glatte, T. (2012). *The Importance of Corporate Real Estate Management in Overall Corporate Strategies*.
- Gou, Z., & Ma, N. (2019). Human Factors in Green Building. *Building, Special Is*(January 2019). <https://doi.org/10.3390/books978-3-03897-567-0>
- Hopkins, E. A., Read, D. C., & Goss, R. C. (2017). Promoting sustainability in the United States multifamily property management industry. *Journal of Housing and the Built Environment*, 32(2), 361–376. <https://doi.org/10.1007/s10901-016-9516-3>
- Hui, E. C. M., Yu, K., & Tse, C. (2016). The impact of environmental management awards and certifications in property management on property price. *Facilities*, 34(5/6), 314–338. <https://doi.org/http://dx.doi.org/10.1108/F-04-2013-0029>
Downloaded
- Ilhan, B., & Banu Yobas. (2019). Measuring construction for social , economic and environmental assessment. *Engineering, Construction and Architectural Management*. <https://doi.org/10.1108/ECAM-03-2018-0112>
- Isaksson, R. (2019). Revisiting the triple bottom line. In *WIT Transactions on Ecology and the Environment*. <https://doi.org/10.2495/SDP180381>
- Jylhä, T., Remøy, H., & Arkesteijn, M. (2019). Identification of changed paradigms in CRE research – a systematic literature review. *Journal of Corporate Real Estate*, 21(1), 2–18. <https://doi.org/10.1108/JCRE-07-2017-0020>
- Lamprinidi, S., & Ringland, L. (2006). *A Snapshot of Sustainability Reporting in the Construction and Real Estate Sector. GRI Research and Development Series Publication* (Vol. Third Gene).
- Ledashcheva, T. (2019). Prospects of implementation of the practice of “green office” or “sustainable office” in Russia. In *Green Design and Sustainable Architecture*. <https://doi.org/10.5593/sgem2018V/6.4/S10.091>
- Lu, L. W., & Taylor, M. E. (2018). A study of the relationships among environmental

- performance, environmental disclosure, and financial performance. *Asian Review of Accounting*, 26(1), 107–130. <https://doi.org/10.1108/ARA-01-2016-0010>
- Mansfield, J. R. (2009). The valuation of sustainable freehold property: a CRE perspective. *Journal of Corporate Real Estate*, 11(2), 91–105. <https://doi.org/10.1108/14630010910963133>
- Masalskyte, Rasita, Andelin, M., Sarasoja, A.-L., & Ventovuori, T. (2014). Modelling sustainability maturity in corporate real estate management. *Journal of Corporate Real Estate*, 16(2), 126–139. <https://doi.org/10.1108/JCRE-09-2013-0023>
- Mohd Adnan, Y., Aman, N. U., Razali, M. N., & Daud, M. N. (2017). The implementation of green lease practices for office buildings in Kuala Lumpur, Malaysia. *Property Management*, 35(3). <https://doi.org/10.1108/PM-12-2015-0067>
- Muniandy, Y., & Kasim, R. (2019). *Key green attributes affecting rental value of green office buildings in klang valley, malaysia*.
- Newsham, G. R., Veitch, J. A., & Hu, Y. V. (2018). Effect of green building certification on organizational productivity metrics. *Building Research & Information*, 46(7), 755–766. <https://doi.org/10.1080/09613218.2017.1358032>
- Ohueri, C. C., Enegbuma, W. I., & Kenley, R. (2018). Energy efficiency practices for Malaysian green office building occupants. *Built Environment Project and Asset Management*, 8(2), 134–146. <https://doi.org/10.1108/BEPAM-10-2017-0091>
- Olawumi, T. O., & Chan, D. W. M. (2019). An empirical survey of the perceived benefits of executing BIM and sustainability practices in the built environment. *Construction Innovation*, 10(May).
- Oyewole, M. O., & Markson Opeyemi, K. (2018). Users' preference for green features in office properties. *Property Management*. <https://doi.org/10.1108/PM-03-2017-0016>
- Rameezdeen, R., Zuo, J., Paniagua, J. O., Wood, A., & Do, P. (2019). Ensuring environmental performance in green leases: the role of facilities managers. *Facilities*.
- Rasoolimanesh, S. M., Badruzaman, N., & Jaafar, M. (2011). City development strategies (CDS) contribution toward sustainable urban development in developing countries. *Journal of the Malaysian Institute of Planners*, IX, 1–18.
- Razali, M. N. (2018). Assessing green property management implementation among commercial buildings in Malaysia. In *WIT Transactions on Ecology and the Environment*. <https://doi.org/10.2495/SDP170721>
- Reichardt, A., Fuerst, F., Rottke, N. B., & Zietz, J. (2012). Sustainable building certification and the rent premium: a panel data approach. *Journal of Real Estate Research*, 34(1), 99–126.
- Robert T. Osgood, J. (2010). The Strategy Alignment Model: Defining Real Estate Strategies in the Context of Organizational Outcomes. *Site Selection Magazine*, (January 2002).
- Rock, S., Hosseini, M. R., Nikmehr, B., Martek, I., Abrishami, S., & Durdyev, S. (2019). Barriers to “green operation” of commercial office buildings perspectives of Australian facilities managers. *Facilities*. <https://doi.org/10.1108/F-08-2018-0101>
- Rogerson, J. M. (2014). Green commercial property development in urban South Africa: emerging trends, emerging geographies. *Bulletin of GeoGraphy. Socio-Economic*

SerieS, 26(26), 233–246.

- Rooshdia, R. R. R. M., Majid, M. Z. A., Sahamir, S. R., & Ismail, N. A. A. (2018). Relative importance index of sustainable design and construction activities criteria for green highway. *Chemical Engineering Transaction*, 63(2007), 151–156. <https://doi.org/10.3303/CET1863026>
- Shaikh, P. H., Shaikh, M. S., Kumar, M., Shaikh, F., Uqaili, M. A., & Bhatti, I. (2019). Environmental assessment of green buildings, 1–6. <https://doi.org/10.1016/B978-0-12-803581-8.10402-3>
- Shurrab, A., Hussain, M., & Mehmood Khan. (2019). Green and sustainable practices in the construction industry : a confirmatory factor analysis approach. *Engineering, Construction and Architectural Management*. <https://doi.org/10.1108/ECAM-02-2018-0056>
- Støre-Valen, M., & Buser, M. (2019). Implementing sustainable facility management challenges and barriers encountered by Scandinavian FM practitioners. *Facilities*. <https://doi.org/10.1108/F-01-2018-0013>
- Taylor, B. M. (2013). Sustainability and Performance Measurement: Corporate Real Estate Perspectives. *Performance Improvement*, 52(6), 36–45. <https://doi.org/10.1002/pfi.21356>
- Tjenggoro, F. N., & Khusnul Prasetyo. (2018). The usage of green building concept to reduce operating costs (study case of PT. Prodia Widyahusada). *Journal of Accounting Reearch*, 3(1), 72–81. <https://doi.org/10.1108/AJAR-06-2018-0005>
- Waidyasekara, K. G. A. S., & Silva, L. De. (2016). Water use efficiency and conservation during construction : drivers , barriers and practices, 6(5), 553–566. <https://doi.org/10.1108/BEPAM-09-2015-0052>
- Zaid, S., & Zainon, N. (2019). Are green offices better than conventional? Measuring operational energy consumption and carbon impact of green office in Malaysia. *Facilities*, (January). <https://doi.org/10.1108/F-06-2016-0063>
- Zhang, Y., Kang, J., & Jin, H. (2018). A review of green building development in China from the perspective of energy saving. *Energies*. <https://doi.org/10.3390/en11020334>

Received: 12th July 2021. Accepted: 23rd Sept 2021