

Green Office Concept: Study Among Employees in Government Organizations

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Received: 25 July 2022

Revised from: 20 August 2022

Accepted: 27 September 2022

Published: 31 October 2022

Abstract

The green office can serve as an effective showcase of sustainability initiatives by the organization. Considering the increase in environmental issues in Malaysia, therefore this study examined the employees' perceptions of the green office concept. This study focuses on four dimensions of the "green office" concept which are sustainable transportation, recycling, resource conservation, and eco-labelling. The data comprised responses from 97 employees from the government office indicated the highest level of agreement of all green office dimensions. The study outcomes may serve as a reference for fostering the green office to achieve the environmental sustainability of the organization.

Keywords: Green Office, Environmental Sustainability, Green Behaviour, Employee, Government Office

1. Introduction

Recognizing that environmental problems are mainly caused by the organizations directly or indirectly, as such, environmentally friendly behaviour should be implemented among employees as it is an important aspect to reach sustainability for the organization (Suganthi, 2019). Therefore, the concept of Green Office should be implemented to enhance environmental awareness and attitude among employees. It is believed that to address the issue of climate change, society as a whole must make changes, with each employee acting as a change agent. Since employees work almost eight hours per day in the office, fostering the green office concept might encourage the employees to take greater responsibility in addressing environmental problems. Furthermore, the ideas of green behaviour at the workplace likewise fit the current government policies on pursuing sustainable development goals (SDG) mainly objective 11 (Sustainable Cities and Communities) and 13 (Climate action) which has become the main agenda of ASEAN Vision 2025. This study selected an employee from a government office because green growth will be the primary focus in the 12th Malaysia Plan 2021-2025, particularly environmental sustainability.

By consistently spreading information, awareness, and practices of green offices among employees and organizations in Malaysia, workplaces will be able to reduce their burden on the environment, better work-life balance, healthier living style, achieve savings and help slow down climate change (Zen et al., 2016). The previous scholars

highlighted that the concept of a green workplace is currently being adopted in green banking (Ma lsha et al., 2020), green hotel operations (Choi et al., 2015), and green supply chains. Due to numerous benefits offered through green office practices and proven in most of the studies conducted in western countries, the researchers intend to examine employee-level perceptions of green office concepts among government organizations in Malaysia. The main objective of this paper is to identify the level of employee agreement toward the dimensions of the green office concept which are resource conservation, recycling, sustainable transportation, and eco-label.

2. Literature Review

Green office refers to the environmentally responsible office practices and resource-efficient that help to reduce the environmental impact of office activities and contribute to sustainable development (Yee Sin et al., 2021). The goal is to create a healthy environment, conserve energy and reduce pollution. Coşkun & Akar (2019) stated that there are three main criteria for green office: first, reducing consumption of natural resources (electricity, water, paper, etc.), second, improving sustainable activities (waste management, building maintenance), and third, enhancing employees' awareness. The Green Office concept brings multiple benefits to the environmental, economic, and social (Aroonsrimorakot et al., 2019) and indirectly influences employee job satisfaction and well-being (Norton et al., 2021). Nowadays, most business requires travelling and causes carbon emission. Thus, the sustainable transportation initiative helps reduce the environmental impact (Aroonsrimorakot, 2018). Additionally, with advancements in technology, and the increasing trend in hybrid transportation for example hybrid car is one of the alternatives in combating the issue (Nordlund et al., 2016). However, a study by Nasrudin, N. et al. (2018) revealed that most employees are not ready to consider cycling or walking as alternatives to using a car. On the other hand, one of the most common behaviours toward environmental sustainability at the office is recycling. This may be due to the fact that many people are aware and practising at home (Nindyati & Paramadina, 2015). The "go green" campaign was conducted in many residential areas and was able to educate and create awareness about recycling activities (Hosseinpou et al., 2015). Implementing the green office concept by participating in resource conservation would be possible. According to Abd Rahman et al. (2019), government policies, initiatives, and programs for energy efficiency and energy conservation have seen some improvement over the last ten years. The part of the concept of eco-sufficiency that in turn promotes environmental quality, national security, personal financial security, and higher savings is energy conservation which lessens the need for energy services (Xie et al., 2021). Moreover, green offices would also be linked to eco-labelling. Rashid (2009) suggested that a person concerned for the environment would have a stronger preference for purchasing a green product. The green office dimensions perception for this study are summarized in Table 1.

Table 1: Green Office Concept Dimension

Dimensions	Definitions	Sources
Sustainability Transportation	Sustainable transport would entail soliciting modes of transport that would not implicate human or environmental safety.	Zhou, J., 2012
Recycle	Recycling can be defined as the recovery of waste from products through their reuse, either for their original purpose or for other purposes.	Zain, S.M. et.al., 2012
Conserving Resources	Environmental resources conservation is a process of rational use and proficient management and conservancy of the natural environment with all its resources.	Wang, F. et al., 2019
Eco Labeling	Provide consumers with product-specific environmental information at the point of purchase to assist consumers in making environmentally informed purchase decisions.	Thøgersen et al., 2010
Green Office	Refers to sustainable office practices that help reduce our office activities' environmental impact and contribute to sustainable development.	Brazdauskas, M and Žirnelė, L., 2020

2.1 Research Questions

The research questions of the study are as follows:

1. What is the agreement level of employees on sustainability transportation practices at the organization?
2. What is the agreement level of employees on recycling practices at the organization?
3. What is the agreement level of employees on conserving resources practices at the organization?
4. What is the agreement level of employees on their eco-labelling awareness?
5. What is the agreement level of employees on green office concepts that an organization should practice?

3. Methodology

In this study, a quantitative method was used to achieve the objectives. The questionnaires were distributed randomly to approximately 97 employees in the government sector via an online survey. The questionnaires were adapted from Siron, R., Saad, N. A. M., & Tasripan, M. A. (2019) and Armitage, L., Murugan, A., & Kato, H. (2011). The questionnaire consisted of six parts: 1) Demographic 2) Sustainable transport 3) Recycling 4) Conserving resources 5) Eco Labelling and 6) Green Behaviour. The responses were given on a scale ranging from 1 ('Disagree') to 5 ('Strongly Agree').

4. Findings

The presentation of the research findings is based on the percentage of respondents' overall agreement. The Likert Scale of the study was based on five Likert Scales 1 – Strongly Disagree, 2 – Disagree, 3 – Moderately Agree, 4 – Agree, and 5 – Strongly Agree. Table 2 shows the demographic characteristics of this study.

Table 2: Demographic Profile

No.	Demographic Variable	Majority	Percentage (%)
1.	Gender	Female	50.5
2.	Age	35-40	39.2
3.	Working Experience	11-15 years	44.3
4.	Education Level	Degree	34.0

4.1 Research Question 1

What is the agreement level of employees on sustainability transportation practices at the organization?

Table 3: Sustainability Transportation

No.	Item Statements	% Agreement
	The organization that I worked for...	
1.	encourages employees to walk or cycling at the workplace.	82.5
2.	provides car-free zone.	81.2
3.	enhances less commuting and traveling by using telecommunicating.	75.0
4.	encourages carpool to work.	81.4
5.	encourages energy saver transport like hybrid transport.	85.6

Table 3 indicates most respondents agreed that their organization does support sustainable transportation with the highest percentage (85.6%) for items “*encourages energy saver transport like hybrid transport.*” This shows that the organization does spread a awareness of sustainability transportation to their employees.

4.2 Research Question 2

What is the agreement level of employees on recycling practices at the organization?

Table 4: Recycling

No.	Item Statements The organization that I worked for...	% Agreement
1.	encourages double-sided printing	95.9
2.	reuse office paper (e.g., for notes or printing drafts).	96.9
3.	encourages staff to bring their own water bottle to work	94.9
4.	gives little information about recycling at the workplace.	91.7

Results show that most respondents reused office paper for example for note taking or printing a draft (96.9%), however, results indicated that the organization give little information about recycling at the workplace (91.7%). This shows employees volunteer and has their own initiative in participating in such activities.

4.3 Research Question 3

What is the agreement level of employees on conserving resources practices at the organization?

Table 5: Resources Conservation

No.	Item Statements The organization that I worked for...	% Agreement
1.	encourages staff to turn off all lights before leaving the office or when they are not needed.	100.0
2.	encourages not to waste electricity in doing office activities.	98.9
3.	try to reduce energy use in the office	99.0
4.	encourages staff to switch off computers/notebooks when leaving the office	97.9
5.	do not let the water tap run unnecessarily.	99.0

Table 5 shows that most respondents agreed with the item “encourage staff to turn off all lights before leaving the office or when they are not needed” (100%) while the item “encourages staff to switch off computer/notebook when leave the office” get the lowest a greement (97.9%). Generally, the result indicates most employees highly practiced resource conservation in their respective offices.

4.4 Research Question 4

What is the agreement level of employees on eco-labelling a wareness?

Table 6: Eco-Labelling

No.	Item Statements In support of the environment in my daily life, I....	% Agreement
1.	realized that the Malaysian government supports Eco-label.	100.0
2.	know that Eco-label acts as an informative policy instrument with the purpose of guiding consumers about sustainable consumption.	100.0
3.	always pay attention to the protection of the environment.	100.0
4.	will buy eco-labeling products even though I have to pay a higher price/tax.	96.9
5.	can easily find information about Eco-label from different media (TV, Newspaper, and the Internet).	95.9

Table 6 shows that most respondents were a ware and had a piece of knowledge on eco-labelling. 100% of respondents a greed that they realized the *Malaysian government support eco-label, knowing that eco-labels act as an informative policy instrument with the purpose of guiding consumers about sustainable consumption and always pay attention on*

the protection of the environment. However, few of the respondents are not willing to pay higher for eco-labelling products and could not easily find information about eco-label from the media.

4.5 Research Question 5

What is the agreement level of employees on green office practices at the organization?

Table 7: Green Office

No.	Item Statements	% Agreement
	In my opinion, the organization should....	
1.	use teleconferencing/video conferencing for meetings.	100.0
2.	participate in an environmental/green awareness program.	100.0
3.	install eco-friendly products in the pantry/break area (e.g., reusable cutlery, eco-friendly dishwashing solution, etc.)	100.0
4.	start a green committee.	98.9
5.	change the office layout to maximize natural light.	97.9
6.	use indoor plants as natural air filters.	95.8
7.	participate in earth day activities (e.g., take public transport or walk to work, tree planting, etc.)	95.8

The green office dimension results above show that most respondents agreed that their organization needs to participate or be involved more in green office activities. 100% of respondents agreed on three items in the green office dimension which are that the *organization should use teleconferencing/video conferencing for meetings; participate in environmental/green awareness programs and install eco-friendly products in the pantry/break area.* The Covid-19 circumstance is likely to have an impact on this result. Online activities have increased significantly as a result of COVID-19, for example, telework, teleconferencing for meetings, online learning, telemedicine, and virtual encounters with friends/family all increased during COVID-19 (Mouratidis, K. et al. 2022).

5. Conclusion

This study has highlighted on how green office practices should continuously be promoted and the benefits the organization's environmental sustainability objective. It can be concluded that in this study, the level of agreement and awareness of green office concepts among government employees is high. Employee behavioural changes towards environmental sustainability can be achieved through sustainable transportation, recycling, conserving resources and eco-labels. Therefore, the green office concept might encourage environmentally conscious behaviour among employees. Furthermore, researchers recommend that future study to fill the gap between the awareness and implementation of green offices in government organizations, which highlighted the other variables in green office dimensions.

6. Acknowledgement

The author is grateful to the friends for their helpful and encouraging comments. The encouragement received along the way from several people has kept me motivated to complete this article.

7. About the author

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References

- Ababneh, O. M. A. (2021). How Do Green HRM Practices Affect Employees' Green Behaviors? The Role of Employee Engagement and Personality Attributes. *Journal of Environmental Planning and Management*, 64(7), 1204-1226.
- Abd Ghani, Z., Shah, M. Z., & Mokhtar, S. (2022). A Review on Sustainable Transport Policy in Malaysia. *Journal of Tourism Hospitality and Environment Management*, 7 (27), 259-271.
- Abd Rahman, N. A., Kamaruzzaman, S. N., & Akashah, F. W. (2019). Scenario and Strategy towards Energy Efficiency in Malaysia: A Review. In *MATEC Web of Conferences* (Vol. 266, p. 02012). EDP Sciences.
- Abd Rashid, M. A., Othman, M. N. A., Rashid, S. S., & Ali, M. B. (2015). Exploring Reduce, Recycle and Reuse (3Rs) Awareness, Practice among Oil and Gas Workers and Its Influence on Their Productivity. *International Journal of Economics and Financial Issues*, 5(1S), 281-285.
- Alamsyah, D., Aryanto, R., Utama, I., Marita, L & Othman, N. (2020). The Antecedent Model of Green Awareness Customer. *Management Science Letters*, 10(11), 2431-2436.
- Armitage, L., Murugan, A., & Kato, H. (2011). Green Offices in Australia: A User Perception Survey. *Journal of Corporate Real Estate*, 13(3), 169-180.
- Aroonsrimorakot, S. (2018). Green Office Management Standard in Mahidol University, Thailand. *Pertanika Journal of Social Sciences and Humanities*, 26(4), 2505-2521.
- Aroonsrimorakot, S., Laiphrakpam, M., & Arunlertaree, C. (2019). Green Office, Its Features and Importance for Sustainable Environmental Management: A Comparative Review in Search for Similarities and Differences. 14(5), 31-38. <https://doi.org/10.14456/jtir.2019.46>
- Bashirun, S. N., Samudin, N. M. R., Zolkapli, N. M., & Badrolhisam, N. I. (2019). Fostering Organizational Citizenship Behavior for the Environment in Promoting Employee Green Behavior at the Workplace. *International Journal of Business and Management*, 3(1), 18-24.
- Blok, V.; Wesselink, R.; Studynka, O.; Kemp, R. (2015). Encouraging Sustainability in the Workplace: A Survey on the Pro-Environmental Behaviour of University Employees. *Journal Clean Production*, 106, 55-67.
- Brazdauskas, M., & Žirmelė, L. (2020). Creating Green Offices: Employee Engagement Perspective. *Innovation*, 6.
- Cantor, D. E., Morrow, P. C., & Montabon, F. (2012). Engagement in Environmental Behaviors Among Supply Chain Management Employees: An Organizational Support Theoretical Perspective. *Journal of Supply Chain Management*, 48(3), 33-51.
- Choi, H., Jang, J., & Kandampully, J. (2015). Application of the Extended VBN Theory to Understand Consumers' Decisions About Green Hotels. *International Journal of Hospitality Management*, 51, 87-95.
- Coşkun, A., & Akar, N. (2019). WWF-Turkey's Green Office Initiatives. *Green Behavior and Corporate Social Responsibility in Asia*. Emerald Publishing Limited.
- Dilchert, S., & Ones, D. S. (2012). Environmental Sustainability in and of Organizations. *Industrial and Organizational Psychology*, 5(4), 503-511.
- D'Souza, C., Taghian, M., & Lamb, P. (2006). An Empirical Study on The Influence of Environmental Labels on Consumers. *Corporate Communications: An International Journal*, 11(2), 162-173.
- Farooq, K., Yusliza, M. Y., Wahyuningtyas, R., Haque, A. U., Muhammad, Z., & Saputra, J. (2021). Exploring Challenges and Solutions in Performing Employee Ecological Behaviour for A Sustainable Workplace. *Sustainability*, 13(17), 9665.
- Giridhar, T.R. (1998). Eco-Labeling: A Comparative Analysis. *Chemical Business*, 12(7), 95.
- Hosseinpou, M., Mohamed, Z., Rezai, G., Shamsudin, M. N., & AbdLatif, I. (2015). How Go Green Campaign Effects on Malaysian Intention towards Green Behaviour. *Journal of Applied Sciences*, 15(6), 929-933. <https://doi.org/10.3923/jas.2015.929.933>

- Malsha, K. P. P. H. G. N., Anton Arulrajah, A., & Senthilnathan, S. (2020). Mediating Role of Employee Green Behaviour Towards Sustainability Performance of Banks. *Journal of Governance and Regulation*, 9(2).
- Mouratidis, K., & Peters, S. (2022). COVID-19 Impact on Teleactivities: Role of Built Environment and Implications for Mobility. *Transportation Research Part A: Policy and Practice*, 158, 251-270.
- Nindyati, A. D., & Paramadina, U. (2015). Green Behavior (Reuse, Reduce, Recycling -3R) at Home and at Workplace. January 2014. <https://doi.org/10.13140/RG.2.1.3229.7365>
- Noor, H. M., & Abdullah, Y. A. (2018). Public Awareness towards Sustainable Transportation in Shah Alam, Malaysia. *Asian Journal of Behavioural Studies*, 3(11), 137-146.
- Nordlund, A., Jansson, J., & Westin, K. (2016). New Transportation Technology: Non Activation Processes and The Intention to Switch to An Electric/Hybrid Vehicle. *Transportation Research Procedia*, 14, 2527-2536. <https://doi.org/10.1016/j.trpro.2016.05.334>
- Norton, T. A., Ayoko, O. B., & Ashkanasy, N. M. (2021). A Socio-Technical Perspective on the Application of Green Ergonomics to Open-Plan Offices: A Review of the Literature and Recommendations for Future Research. *Sustainability (Switzerland)*, 13(15). <https://doi.org/10.3390/su13158236>
- Norton, T.A.; Zacher, H.; Parker, S.L.; Ashkanasy, N.M. (2017). Bridging The Gap Between Green Behavioral Intentions and Employee Green Behavior: The Role of Green Psychological Climate. *Journal of Organizational Behavior*, 38, 996-1015.
- Ong, Y. S., Yusof, N., & Osmadi, A. (2021). Challenges of Green Office Implementation: A Case Study in Penang, Malaysia. *International Journal of Sustainable Construction Engineering and Technology*, 12(1), 153-163.
- Paillé, P., Boiral, O., & Chen, Y. (2013). Linking Environmental Management Practices and Organizational Citizenship Behaviour for The Environment: A Social Exchange Perspective. *International Journal Human Resource Management*, 24, 3552-3575.
- Partanen-Hertell, M., Harju-Autti, P., Kreft-Burman, K., & Pemberton, D. (1999). Raising Environmental Awareness in The Baltic Sea Area.
- Ramus, C. A., & Steger, U. (2000). The Roles of Supervisory Support Behaviors and Environmental Policy in Employee "Eco Initiatives" at Leading-Edge European Companies. *Academy of Management Journal*, 43(4), 605-626.
- Rashid, N. R. N. A. (2009). Awareness of Eco-Label in Malaysia's Green Marketing Initiative. *International Journal of Business and Management*, 4(8), 132-141.
- Riskos, K., Dekoulou, P. E., Mylonas, N., & Tsourvakas, G. (2021). Ecolabels and the Attitude-Behavior Relationship towards Green Product Purchase: A Multiple Mediation Model. *Sustainability*, 13(12), 6867.
- Siron, R., Saad, N. A. M., & Tasripan, M. A. (2019). The Perceptions towards Green Environmental Management Dimensions: A Study at Pontian District Council, Johor State of Malaysia. *Journal of Tourism, Hospitality and Environment Management*, 4(17), 01-10.
- Suganthi, L. (2019). Examining the Relationship Between Corporate Social Responsibility, Performance, Employees' Pro-Environmental Behavior at Work with Green Practices as Mediator. *Journal of Cleaner Production*.
- Taufiquea, KMD., Chamhuri Siwarb, Norshamliza Chamhuric & Farah Hasan Sarah (2016). Integrating General Environmental Knowledge and Eco-Label Knowledge in Understanding Ecologically Conscious Consumer Behavior. *Procedia Economics and Finance* 37, 39 - 45.
- Thøgersen, J., Haugeard, P., Olesen, A. (2010). Consumer Responses to Ecolabels. *European Journal of Marketing* 44, 1787-1810.
- Thevanes, N., & A. A. A. (2017). The Mediating Effect of Environmental Attitude of Employee in the Relationship between Environmental Training and Environmental Orientation of Organization. *Journal of Human Resources Management and Labor Studies*, 5(1), 1-16. <https://doi.org/10.15640/jhrmls.v5n1a1>
- Wang, F., Peng, X., Wei, R., Qin, Y., & Zhu, X. (2019). Environmental Behavior: Research in Resources Conservation and Management: A Case Study of Resources, Conservation and Recycling. *Resources Conservation Recycle*. 141, 431-440.
- Xie, C., Ding, H., Zhang, H., Yuan, J., Su, S., & Tang, M. (2021). Exploring The Psychological Mechanism Underlying the Relationship Between Organizational Interventions and Employees' Energy-Saving Behaviors. *Energy Policy*, 156 (August 2020), 112411. <https://doi.org/10.1016/j.enpol.2021.112411>
- Yee Sin, O., Yusof, N., & Osmadi, A. (2021). Challenges of Green Office Implementation: A Case Study in Penang, Malaysia. *International Journal of Sustainable Construction Engineering and Technology*, 12(1), 153-163. <https://doi.org/10.30880/ijscet.2021.12.01.015>
- Zain, S. M., Basri, N. E. A., Mahmood, N. A., Basri, H., Zakaria, N., Elfithri, R., & Shahudin, Z. (2012). Recycling Practice to Promote Sustainable Behaviour at University Campus. *Asian Social Science*, 8(16), 163.
- Zen, I. S., Subramaniam, D., Sulaiman, H., Saleh, A. L., Omar, W., & Salim, M. R. (2016). Institutionalize Waste

- Minimization Governance Towards Campus Sustainability: A Case Study of Green Office Initiatives in Universiti Teknologi Malaysia. *Journal of Cleaner Production*, 135, 1407–1422. <https://doi.org/10.1016/j.jclepro.2016.07.053>
- Zhou, J. (2012). Sustainable Transportation in the US: A Review of Proposals, Policies, and Programs since 2000. *Frontiers of Architectural Research*, 1(2), 150-165.