

Leadership Style that Influences Employees' Green Behavior: A Literature Review

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Abstract

This article shall examine the drivers influencing employees' green behaviour (EGB). This is important because understanding this process lets businesspeople choose the best ways to get employees to act in a green way. Parallel to the Sustainable Development Goals (SDGs) by 2030, everyone needs to do their part to encourage responsible production and usage. There are three leadership styles as determinants (ethical leadership, transformational leadership, and digital leadership) and employees' green behavior included in the conceptual framework of the current study. The Social Cognitive Theory, proposed by Bandura in 1986 forms the basis of this study's conceptual framework. To identify those relationships, a comprehensive examination of relevant literature and previous research is conducted. The findings indicate a favorable correlation between two leadership styles, namely ethical leadership, and transformational leadership, as exhibited by managers, and the adoption of EGB. There is no direct link between digital technology and EGB that has been shown in the previous research. However, most studies found a link between digital leadership and the process of digital transformation, which then shows up in the setting of EGB. Therefore, this study provides an understanding of leadership styles of managers in fostering green behavior for both practitioners and researchers.

Keywords: Green Behavior, Green Organization, Leadership Style, Social Cognitive Theory.

Introduction

The agenda of sustainability and environmental care is increasingly discussed and has become a very relevant issue nowadays. Environmental balance emerges as a very important component in the corporate world in the 21st century (Starik and Marcus 2000). Pollution is

seen increasing from year to year until the emergence of a green concept which provides an approach to the use of resources efficiently with savings and environmental care (Chang and Chen 2013). This challenge is huge for organizations and causes various programs, systems environmental management has been implemented to deal with it (Khanna and Kumar, 2011). Therefore, it is seen that Employee Green Behavior (EGB) is an important aspect that needs to be emphasized to support existing systems and policies (Zibarras and Coan, 2015). While the characteristics that affect EGB need to be studied to see continuation of the environmental balance agenda in the organization (Norton, 2016).

We aim to achieve the Sustainable Development Goals (SDGs) by 2030, and one of the most important challenges is fostering responsible production and consumption. This is crucial because understanding such mechanisms allows industry practitioners to choose effective strategies to encourage green behavior among employees. The concentration of the field of study green has also been widespread in organizational studies such as the concept of green management, green technology, green industry, and green engineering (Rajiani et al., 2015). For ensure the sustainability of the environment is preserved, systems and programs such as System Environmental Management MS ISO 14001 established. MS ISO 14001 is a standard management system to manage the impact of organizational activities on the environment around (Haslinda and Fuong, 2010). But this management system also gets a lot of criticism for focusing more on organizational commitment than employees (Vílchez, 2017).

The EGB is the most important study related to human factors in organizations to protect the environment (Robertson and Barling, 2013; Young et al., 2015). Most previous studies have seen that EGB is one of the important factors in environmental balance in organizations (Bissing- Olson et al., 2013; Elisha et al., 2013; Rao 2014; Ruepert et al., 2016). Thus, it is very important to study the factors that initiate EGB. Leaders can activate employee EGB through role modeling by first fostering stakeholder-oriented values among employees. Employees are more likely to internalize stakeholder-oriented attitudes and develop a sense of responsibility for the environment, and hence EGB, when they observe managers' activities that concern the interests of stakeholders and a larger community (Voegtlin et al., 2020). Therefore, the study of the leadership styles of managers is necessary to ensure that they who are directly involved in the organization's strategic planning to cultivate pro environmental culture to achieve the organization's mission and vision in environmental sustainability.

Recent Issues

According to the Department of Statistics Malaysia environmental protection expenditure by the industry sector in Malaysia in 2020 amounting to RM2.9 billion. Scheduled waste produced in 2015 in Malaysia is as much as 2.9 million metric tons. The pollution of this industry is getting higher and becoming a threat to the balance of the modern world (Xiang et al., 2011). However, this situation is difficult to avoid because of industrialization and manufacturing has become the main source of national economic growth (Eltayeb et al., 2010).

In Malaysia, it is not just an Environmental Management System implemented but the organization also needs to comply with laws and acts the environment that has been set, including the Environmental Quality Act (AKAS) 1974, Environmental Quality Regulations (Sewage and Effluents Industrial) 1979, Environmental Quality Regulations (Effluents Perindustrian) 2009 and (Industrial Effluent Regulations 2009-IER 2009) (Nawawi et al., 2013). Although these rules and acts have been established, there are also industries or factories

that do not comply. A study by Nawawi et al (2013) shows that many manufacturing plants do not yet have awareness for apply these rules and laws. Based on their research only 65 percent in 2005 obeyed the law.

To ensure that all policies and efforts towards EGB are realized, this study will add to the body of knowledge on leadership and EGB and provide practitioners with suggestions on how to use a suitable leadership style to promote EGB among employees. Considering this, the theory of leadership seeks to investigate many leadership philosophies, including ethical leadership, transformational leadership, and digital leadership. Thus, the objective of this study is to investigate several styles of leadership that may influence the EGB in an organization. Among the leadership styles to be studied are ethical leadership, transformational leadership, and digital leadership.

Research Design

This study entails a qualitative literature review that examines the topic of leadership styles, EGB, and their interrelationship. In order to achieve this objective, a comprehensive examination of relevant literature and previous research is conducted, collecting from reputable scholarly journals, books, conference proceedings, reports, websites, and various commentaries. The subsequent sections provide a summary of pertinent studies categorized under the areas of leadership styles (ethical leadership, transformational leadership, and digital leadership) and the relationship between leadership styles and innovative behavior. The reviewed research is summarized and presented in the concluding remarks.

Literature Review

The associated variables that researchers will put forth were covered in this part, including employees' green behavior (EGB), leadership styles which are ethical leadership, transformational leadership, and digital leadership.

Employees' Green behavior (EGB)

Employees' Green Behavior (EGB) is defined as any measurable individual behavior that contributes to the achievement of environmental sustainability goals in a working context. It can be an important component in the environmental sustainability of an organization. (Ones and Dilchert, 2012). Actions to avoid waste such as saving water and electricity, recycled paper and paperless practices are considered EGB. These practices can contribute to the environmental sustainability of the organization. Several studies conducted over the last few years have examined the priorities of EGB, including individual-level predictors such as personality, impact, and motivation, but also contextual predictor, such as organizational regulations, climate, policy and leadership behavior. (Norton et al., 2014).

According to Wiernik, et al (2016), EGB in the workplace is usually clearer and more controlled by the needs and culture of the organization. Therefore, it is suggested that the behavior seen in an organizational setting may be different than when it was observed in a non-working setting. Norton et al (2015), found that EGB has been divided into two dimensions namely voluntary behavior and required worker behaviour. This goes hand in hand with the findings of a study by Borman and Motowidlo (1993), which classified EGB as a workplace green label required by organizations and a private sphere green label displayed in a non-working environment that is a voluntary label.

The required EGB concept is the same as employee work performance. EGB is also known as EGB related tasks consisting of following and implementing organizational needs such as

policies, modifying working methods and producing sustainable products and processes (Norton, et al., 2015). These activities are officially recognized as part of the individual work that contributes to the technical core of the organization (Borman and Motowidlo, 1997). Norton, et al (2015) also explained that EGB volunteering has been defined as green behavior involving personal initiatives that exceed organizational expectations. Customized workplace EGB practices can be identified with activities such as highlighting environmental interests, creating environmental programs and policies, lobbying, and encouraging others to practice, and inspiring others.

Bissing-Olson et al (2013) suggested that EGBs that are directly related to the scope of work and related tasks are individuals who complete their tasks by focusing on the environmental sustainability known as the required EGB. Voluntary EGB is a proactive action in relation to efforts and initiatives taken by employees that go beyond their field of work and work environment. This approach also suggests that there is a different level of employee engagement with EGB. Some employees can only do what they consider necessary for their work and tasks, while others go beyond what is required in the work scope and engage in more proactive EGB. It means that there are some individuals acting proactively practicing TEGB not only for the scope of work, but also in other daily routines. The difference between choosing between just practicing EGB within the work scope or both including for daily routine may be related to the motivation to engage in EGB (Fielding and Zacher, 2014).

Leadership Styles that Initiate Employees' Green behavior (EGB)

Ethical leadership

According to Eisenbeiss (2012), ethical leadership as responsibility and sustainability orientation specifically taps the leadership component of goal-setting and strategic decision-making and therein may reflect the leader's concern for long-term success, the welfare of the greater community, and environmental protection. He noted that social scientific theories of ethical leadership have infrequently taken accountability and sustainability into account. He emphasized how both western and non-western cultures and intellectual traditions have used accountability and sustainability orientations to influence ethical behavior. Ethics is concerned with how one's behavior affects the welfare of future generations (Eisenbeiss, 2012). Through safeguarding the environment and promoting eco-ethical living, ethical human behavior ensures that future life on our planet will be protected. This is done through making wise and equitable use of the resources that are currently accessible.

Brown et al. (2005) also defined ethical leadership as the demonstration of normatively appropriate conduct through personal actions and interpersonal relationships. The promotion of normatively appropriate conduct to followers through two-way communication, reinforcement, and decision making. The ethical leadership practices the moral manner, which means morally upright manager influences workers' work-related outcomes, such as attitudes and behaviors, by his or her ethical behavior (Islam et al., 2019). In addition, ethical managers set an example for their staff members by acting in an ethical manner toward them, including treating them fairly, equally, and justly (Ahmad and Umrani, 2019). They are also concerned with the direction of their subordinates, the delegation of authority, moral principles, the definition of roles, equity, rewards, and recognition (Shareef and Atan, 2019). Therefore, the purpose of this study is to examine how ethical leadership affects the workplace behaviors of their subordinates.

Transformational Leadership

According to Bass and Riggio (2012), Transformational leadership may be described as a dynamic process that brings about significant changes in individuals. The process involves altering the individual values and self-perceptions of subordinates with the aim of enhancing the overall effectiveness of the organization and the performance of the subordinates (Bass and Riggio, 2012). The idea posits that for a leader to gain the loyalty of their followers, it is essential for them to acknowledge, appreciate, and have confidence in their followers, while also recognizing that everyone has unique contributions to offer (Northouse, 2021). Suifan et al (2018) explained that transformational leaders fulfill multiple functions inside an organization. They serve as a source of inspiration and set a positive example for others to follow. Additionally, leaders encourage and facilitate green behavior among their followers. They provide encouragement and support to inspire their team members to achieve the organization's shared vision and objectives. Furthermore, leaders play a crucial role in guiding and mentoring their followers to ensure their success.

Through a persistent process of inquiry and challenging the beliefs and cognitive frameworks of their followers, these leaders effectively encourage intellectual contemplation, hence fostering the motivation of their followers to engage in the generation and implementation of ideas. Leaders that possess the ability to articulate the vision of the organization in relation to individual goals have the capacity to enhance the inspiration and motivation of their followers (Bednall et al., 2018). Hence, it is posited that transformational leaders have the capacity to motivate individual employees by establishing a connection between their own aspirations and the future trajectory of the organization, thereby stimulating their involvement in EGB. This is achieved through the cultivation of a robust collective vision and a sense of affiliation with the organization.

Based on the results of several research conducted in this field, it has been shown that transformational leadership is linked to a rise in subordinate commitment, enhancement in performance, and promotion of more innovative problem-solving approaches (Mittal and Dhar, 2015; Yukl, 2012). The approach prioritizes the internal drive of individuals, ethical conduct, fostering leadership skills within team members, and creating a collective vision and objectives.

Digital Leadership

According to Mihardjo and Sasmoko (2019), digital leadership refers to the effective integration of digital culture and digital capabilities within an organization. The objective of digital leadership is to establish a business model that is customer-centric, technologically advanced, and at the forefront of industry trends. This is achieved through three key strategies: (1) redefining the responsibilities, competencies, and leadership approach of the digital leader, (2) establishing a digital organization that encompasses governance, vision, values, structure, culture, and decision-making procedures, and (3) adapting individual-level aspects such as people management, virtual teams, knowledge management, communication, and collaboration (Eberl and Drews, 2021).

However, Sow and Aborbie (2018) assert that digital leaders are those who consistently manage the digital transformation processes and adopt a variety of leadership styles (transformational, transactional, etc.) by offering competitive advantages from a strategic point of view. Managers that engage in digital leadership undertake the necessary measures to effectively facilitate the digital transformation of the organization and its associated business environment. Digital leadership includes the adoption of novel viewpoints about

workplace practices, business models, IT departments, corporate platforms, and employee attitudes and skill sets (El Sawy et al., 2016). Digital leadership refers to the practice of effectively overseeing and guiding employees' online activities, which encompass tasks such as uploading product descriptions, managing customer-directed marketing initiatives, responding to consumer inquiries, and making informed judgments regarding the company's online endeavors (Meier et al., 2017).

Underpinning Theories

The study has employed a theoretical framework to examine the factors that initiate green behavior. Therefore, the purpose of this study is to employ the previous theory in order to assess the proposed theoretical framework.

Social Cognitive Theory

The Social Cognitive Theory, proposed by Bandura in 1986, originated from the Social Learning Theory, which Bandura first introduced in 1977. The Social Learning Theory focused on the role of observational learning and imitation in human development, highlighting the importance of modeling behaviors on individuals. Subsequently, the theoretical framework assimilated the concept of cognition to provide a more comprehensive elucidation of human behavior, encompassing mental faculties such as information processing as a response to the influences exerted by modeling. Furthermore, this study examines the factors that drive individual motivation and the potential for individuals to motivate others. It also explores individual performance, skill acquisition, and self-regulation (Koutroubas and Galanakis, 2022). Based on the tenets of this theoretical framework, the behaviors shown by leaders and the socio-cultural context they cultivate within an organizational setting exert a substantial influence on EGB. Leaders have the capacity to foster a culture centered around sustainability and promote employee engagement in environmentally friendly behaviors through many means. These include exhibiting green behavior themselves, offering positive reinforcement and support, and allowing opportunities for employees to learn from observing others. Hence, the use of Social Cognitive Theory has been effective in elucidating the mechanisms via which leaders in workplace settings motivate and influence employee group behavior (EGB).

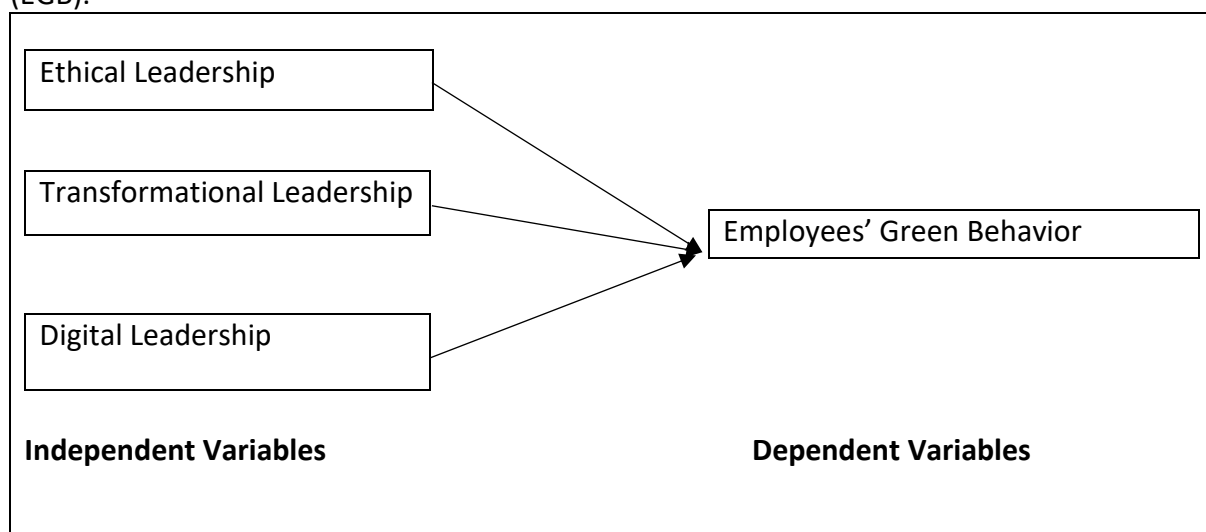


Figure 1: Conceptual Framework

Because it can serve as the premise for the study's purpose, this study produces a research framework. This study's conceptual structure includes three independent variables (ethical leadership, transformational leadership, and digital leadership) and one dependent variable (Employees' green behavior). Within the model, independent variables and dependent variables have a direct link. The Social Cognitive Theory will serve as the conceptual underpinning for this investigation.

Figure 1 displays the independent and dependent variables of the current investigation using a conceptual framework depiction. Employees' green behavior is the dependent variable, whereas ethical leadership, transformational leadership, and digital leadership are the independent variables. Furthermore, the arrows suggest that the current study seeks to determine the extent to which antecedent circumstances influence employees' green behavior. Numerous research has explored employees' green behavior as a dependent variable, but more work remains to be done in various aspects of this idea.

Discussion

Ethical Leadership and Employees' Green Behavior

Ethical leaders can be readily observed as they exemplify acceptable behavior, effectively communicate ethical standards, and implement a system of rewards and punishments to reinforce ethical compliance among employees. An ethical leader possesses a robust moral character, demonstrating a genuine care for the well-being of all individuals, and should prioritize adherence to environmental regulations. According to Mayer et al (2010), leaders are commonly seen as legitimate role models for normative behavior.

A notable trend in contemporary times is the growing recognition among leaders of the significance of environmental sustainability (Ones, et al., 2012). In this context, ethical leaders demonstrate a significant level of attention for environmental matters. The concept of environmental sustainability is recognized as having ethical implications (Barnett, 2005). Consequently, leaders who prioritize ethics acknowledge their moral responsibility to save the environment (Wu et al., 2015). The discovery was accompanied by a study by Brown et al (2005) showed that ethical leaders exert their influence on nurses to promote ethical conduct within the management process through several means. One such approach involves leading by example, wherein leaders demonstrate behaviors that align with established ethical standards. In addition, ethical leaders utilize moral principles as a guiding framework to shape their decision-making and actions. Furthermore, they employ a process of long-term, consistent behavior modeling and reinforcement to encourage nurses to adopt and sustain ethical practices.

Additionally, according to Li et al (2021), there is a significant correlation between nurses' inclination to participate in environmentally friendly actions and their actual engagement in such behaviors. This association is particularly pronounced in healthcare organizations with a high level of ethical leadership, as opposed to those with a low level of ethical leadership. In a study conducted by Saleem et al (2020), multilevel path analysis was employed to examine the relationship between ethical leadership and green psychological climate, as well as its subsequent impact on environmentally friendly behavior (EGB). While the recognition of the influence of ethical leaders on employees' environmentally friendly behavior is well-established, there exists a dearth of research investigating the specific mechanisms through which ethical leaders impact the relationship between nurses' intention to engage in environmentally friendly practices and their subsequent behavioral outcomes (Aboramadan,

2020). The findings of the study revealed a statistically significant positive effect of ethical leadership on green psychological climate, which in turn influences EGB.

Transformational Leadership and Employees' Green Behavior

Over the last two decades, there has been a significant increase in scholarly interest surrounding the concept of transformational leadership within the field of leadership (Judge and Piccolo, 2004). Numerous empirical investigations have provided evidence to support the notion that transformational leadership plays a pivotal role in shaping employee behavior (Bass and Avolio, 1994; Sosik et al., 1998). According to Bono and Judge (2003), transformational leaders have the ability to motivate employees to redirect their focus towards objectives that promote the organization's long-term growth. As a result, subordinates may internalize the values promoted by their leader and integrate them into their own self-concept. If a leader with transformational qualities possesses green values, it is reasonable to anticipate that they will have an impact on the green behaviors of their subordinates (Robertson and Barling, 2013).

A leader that embodies green transformational leadership can address the environmental problems of their subordinates by cultivating positive relationships with them and effectively communicating their own environmentally conscious ideals. Several scholars have identified a range of transformative styles demonstrated in the pro-environmental activities of leaders (Chen and Chang, 2013; Robertson and Barling, 2013). A study by Priyadarshini et al (2022) also discovered that green transformational leadership enhances green empowerment and organizational citizenship behaviors toward the environment among employees. A green transformational leader encourages his subordinates to engage in activities that benefit the organization's environmental management, such as considering the organization's long-term development, solving environmental problems, and contributing to the firm's environmental performance. Furthermore, a transformational leader seeks to motivate subordinates to engage in pro-environmental activities (Robertson and Barling, 2013), as well as on employee green behavior (Chen and Chang, 2013; Mittal and Dhar, 2016).

Digital Leadership and Employees' Green Behavior

Based on the findings from previous studies made, there is no finding directly linking digital leadership to EGB. However, Yao et al (2023) reveals a significant finding indicating that digital leadership exerts a favorable influence on the process of digital transformation. Digital transformation refers to the utilization of innovative digital technology to facilitate significant corporate expansion, enhance customer experience, streamline operational processes, or develop new business models (Warner and Waeger, 2019). The construction business is witnessing the emergence of digital transformation as a significant economic benefit, facilitating the generation of environmentally sustainable value. The construction industry has been able to overcome traditional information obstacles and improve their ability to find green development opportunities and expand their capacity for green creativity with the emergence of the digital era (Li et al., 2023).

The utilization of such technology frequently yields favorable effects on corporate operations, products, and services. Consequently, firms have successfully enhanced production and efficiency, minimized cycle time, and achieved significant advancements by means of digital transformation. These reforms have also been found to have a positive correlation with the reduction of detrimental environmental effects, as they provide firms with alternate methods for conducting their commercial operations (Lokuge, et al., 2020). Thus, the implementation

of appropriate management practices is crucial in the process of reevaluating and restructuring digitalized businesses. These practices serve to facilitate the acquisition of knowledge, improve organizational capacity, and foster creativity (Shamim et al., 2016). The digital expertise and proficiency of leaders play a crucial role in facilitating effective communication and collaboration between information technologies (IT) and business leaders (Benlian and Haffke, 2016). This, in turn, fosters the development of strategic alignment between IT and the overall business objectives (Sabherwal et al., 2019), ultimately leading to enhanced user experience. In addition, digital leadership has the capacity to offer many forms of information, tools, and training to facilitate the establishment and advancement of a company's digital workforce.

According to Benitez et al. (2022), digital leadership enhances an organization's performance in terms of innovation through digitalizing the organization's platform. They concluded that digital leadership capability is favourably connected to platform digitization capabilities, which in turn has a beneficial connection with innovation performance including new green practices. This outcome shows company leaders that they need to have digital leadership competence to be able to digitize the platform to innovate and surpass direct competition.

Conclusion

In conclusion, the significance of adopting environmentally conscious practices inside organizations has been progressively underscored over the past decade. Past studies have revealed that green approaches in the workplace have shown outstanding collective achievements in all areas including the psychological, spiritual, and physical well-being of workers. They support corporate initiatives including natural resource conservation and environmental protection (Anderson and Bateman, 2000; Bissing-olson et al., 2013). At the same time, it benefits the growth of the organization, while contributing to the sustainability of the environment. Indirectly, this practice will have a positive impact not only on the organization, but on society and the world as well. Organizations must have a green policy at work and be actively practiced not only for energy saving or an effective resource management approach, but more than that, as an inevitable commitment to universal sustainability.

The findings indicate that most researchers primarily focus on examining the influence of ethical leadership and transformational leadership style on employees' engagement in environmentally sustainable behavior or green behavior inside the workplace. Then, to yet, no empirical evidence has been found to establish a direct correlation between digital technology and EGB. Numerous research has been conducted examining the correlation between digital leadership and the process of digital transformation, which is subsequently manifested in the context of EGB. This can serve as a more focused area of investigation in future research endeavors.

Overall, this study demonstrates that when leaders exhibit environmentally sensitive conduct, they inspire employees to engage in similar practices. The study conducted by Yang et al. (2011) in the Taiwanese construction sector supports the notion that improved leadership skills among project managers contribute to stronger relationships among team members. Additionally, the study demonstrated a favorable correlation between teamwork and project performance and success. The results of the study further substantiated the significant contribution made by managers in enhancing the environmental performance of organizations. Therefore, this study offers valuable insights that can contribute to our comprehension of the factors influencing and the consequences associated with green

organizational values. These insights are applicable to both the public and private sectors and can inform the evaluation and improvement of policies and initiatives aimed at fostering sustainable organizational development.

References

- Aboramadan, M. (2020). The effect of green HRM on employee green behaviors in higher education: the mediating mechanism of green work engagement. *International Journal of Organizational Analysis, ahead-of-print(ahead-of-print)*.
- Ahmad, I., and Umrani, W. (2019). The impact of ethical leadership style on job satisfaction. *The Leadership and Organization Development Journal, 40*(5), 534-547.
- Anderson, L. M., & Bateman, T. S. (2000). Individual environmental initiative: Championing natural environmental issues in US business organizations. *Academy of Management journal, 43*(4), 548-570.
- Bandura, A. (1986). *Fearful expectations and avoidant actions as coefficients of perceived self-efficacy*.
- Barnett, C., Clarke, N., Cloke, P., Malpass, A. (2005). The political ethics of consumerism. *Consum. Policy Review, 15*, 45–51.
- Bass, B. M., and Avolio, B. J. (eds). (1994). *Improving Organizational Effectiveness Through Transformational Leadership*. Thousand Oaks, CA: Sage Publications, Inc.
- Bednall, T. C., Rafferty, A.E., Shipton, H., Sanders, K., and Jackson, C. J. (2018). Innovative behaviour: how much transformational leadership do you need? *British Journal of Management, 29* (4), 796-816.
- Benlian, A. and Haffke, I. (2016). Does mutuality matter? Examining the bilateral nature and effects of ceo–cio mutual understanding. *The Journal of Strategic Information Systems, 25*(2), 104-126.
- Bissing-Olson, M. J., Iyer, A., Fielding, K. S., & Zacher, H. (2012). Relationships between daily affect and pro-environmental behavior at work: The moderating role of pro-environmental attitude. *Journal of Organizational Behavior, 34*(2), 156–175.
- Bissing-Olson, M. J., Iyer, A., Fielding, K. S., & Zacher, H. (2013). Relationships between daily affect and pro-environmental behavior at work: The moderating role of pro-environmental attitude. *Journal of Organizational Behavior, 34*(2), 156–175.
- Blanco-Portela, N., R-Pertierra, L., Benayas, J., Lozano, R. (2018). Sustainability leaders' perceptions on the drivers for and the barriers to the integration of sustainability in *Latin American Higher Education Institutions Sustainability, 10*.
- Bono, J. E., and Judge, T. A. (2003). Self-concordance at work: toward understanding the motivational effects of transformational leaders. *Acad. Manag. J. 46*, 554–571.
- Borman, W. C., & Motowidlo, S. J. (1997). Task Performance and Contextual Performance: The Meaning for Personnel Selection Research. *Human Performance, 10*(2), 99–109.
- Brown, M. E., Treviño, L. K., & Harrison, D. A. (2005). Ethical Leadership: A social learning perspective for construct development and testing. *Organizational Behavior and Human Decision Processes, 97*(2), 117–134.
- Carmi, N., Arnon, S., & Orion, N. (2015). Transforming Environmental Knowledge Into Behavior: The Mediating Role of Environmental Emotions. *The Journal of Environmental Education, 46*(3), 183–201.
- Chen, Y. S., and Chang, C. H. (2013). The determinants of green product development performance: green dynamic capabilities, green transformational leadership, and green creativity. *J. Bus. Ethics, 116*, 107–119.

- Eberl, J. K., & Drews, P. (2021). Digital leadership—mountain or molehill? a literature review. *International Conference on Wirtschaftsinformatik*, Cham, Springer, 223-237.
- Eilks, I., Linkw, M. (2022). Greening the chemistry curriculum as a contribution to education for sustainable development: When and how to start? *Current Opinion in Green and Sustainable Chemistry*.
- Eisenbeiss, S. A. (2012). Re-thinking ethical leadership: An interdisciplinary integrative approach. *The Leadership Quarterly*, 23(5), 791–808.
- El Sawy, O., Kræmmergaard, P., Amsinck, H., Vinther, A. (2016). How LEGO built the foundations and enterprise capabilities for digital leadership. *MIS Q Exec*, 15 (2), 141-166.
- Eltayeb, T. K., Zailani, S., & Filho, W. L. (2010). Green business among certified companies in Malaysia towards environmental sustainability: benchmarking on the drivers, initiatives and outcomes. *International Journal of Environmental Technology and Management*, 12(1), 95-125.
- Vílchez, F. V. (2017). The dark side of ISO 14001: The symbolic environmental behavior. *European Research on Management and Business Economics*, 23(1), 33–39.
- Fielding, K. S., & Zacher, H. (2013). Relationships between daily affect and pro-environmental behavior at work: The moderating role of pro-environmental attitude. *Journal of Organizational Behavior*, (34), 2.
- Filho, W. L., Amaro, N., Avila, L. V., Brandli, L., Damke, L. I., Vasconcelos, C. R. P., Hernandez-Diaz, P. M., Frankenberger, F., Fritzen, B., Velazquez, L., & Salvia, A. (2021). Mapping sustainability initiatives in higher education institutions in Latin America. *Journal of Cleaner Production*, 315, 128093.
- Haslinda, A., & Fuong, C. C. (2010). The Implementation of ISO 14001 Environmental Management System in Manufacturing Firms in Malaysia. *Asian Social Science* 6(3): 100–107.
- Islam, T., Ahmed, I., and Ali, G. (2019). Effects of ethical leadership on bullying and voice behavior among nurses: mediating role of organizational identification, poor working condition and workload. *Leadership in Health Services*, 32(1), 2-17.
- Judge, T. A., and Piccolo, R. F. (2004). Transformational and transactional leadership: a meta-analytic test of their relative validity. *J. Appl. Psychol.* 89, 755–768.
- Khanna, M., & Kumar, S. (2011). Corporate environmental management and environmental efficiency. *Environmental and Resource Economics*, 50, 227-242.
- Koutroubas, V., & Galanakis, M. (2022). Bandura's social learning theory and its importance in the organizational psychology context. *Psychology Research*, 12(6), 315-322.
- Li, L., Yi, Z., Jiang, F., Zhang, S., Zhou, J. (2023). Exploring the mechanism of digital transformation empowering green innovation in construction enterprises. *Developments in the Built Environment*, 15.
- Li, M., Gong, Z., Gilal, F. G., Van Swol, L. M., Xu, J., & Li, F. (2021). The Moderating Role of Ethical Leadership on Nurses' Green Behavior Intentions and Real Green Behavior. *BioMed Research International*, 2021, 1–7.
- Liobikienė, G., and Poškus, M. S. (2019). The importance of environmental knowledge for private and public sphere pro-environmental behavior: modifying the value-belief-norm theory. *Sustainability Journal*, 11(3324).
- Lokuge, S., Sedera, D., Cooper, V., Burstein, F. (2020). Digital Transformation: Environmental Friend or Foe? Panel Discussion at the Australasian Conference on Information Systems 2019. *Computer Science - Computers and Society*.

- Mayer, D. M., Kuenzi, M., Greenbaum, R. L. (2010). Examining the link between ethical leadership and employee misconduct: The mediating role of ethical climate. *J. Bus. Ethics*, 95, 7–16.
- Meier, C., Sachs, S., Stutz, C., McSorley, V. (2017). Establishing a digital leadership barometer for small and medium enterprises (SME), Management Challenges in a Network Economy. *Proceedings of the MakeLearn and TIIM International Conference*.
- Mihardjo, L. W. W., & Sasmoko, S. (2019). Digital transformation: digital leadership role in developing business model innovation mediated by co-creation strategy for telecommunication incumbent firms. In *Strategy and behaviors in the digital economy. IntechOpen*.
- Mittal, S., & Dhar, R. L. (2015). Transformational leadership and employee creativity: mediating role of creative self-efficacy and moderating role of knowledge sharing. *Management Decision*, 53(5), 894-910.
- Mittal, S., and Dhar, R. L. (2016). Effect of green transformational leadership on green creativity: a study of tourist hotels. *Tour. Manag.*
- Nawawi, N. M., Sapian, A. R., Majid, N. H. A., & Aripin, S. (2013). Hospital design in tropical Malaysia towards a green agenda. In *Proceedings uia/phg 2013 annual healthcare forum+ Gupha meeting at IIDEX Canada, Toronto, Canada*.
- Northouse, P. G. (2021). *Introduction to leadership: Concepts and practice* (5th ed.). Sage.
- Norton, T. A., Parker, S. L., Zacher, H., & Ashkanasy, N. M. (2015). Employee green behavior: a theoretical framework, multilevel review, and future research agenda. *Organ. Environ.*, 28, (1).
- Norton, T. A., Parker, S. L., Zacher, H., & Ashkanasy, N. M. (2014). Organisational sustainability policies and employee green behaviour: The mediating role of work climate perceptions. *Journal of Environmental Psychology*, (38).
- Ones, D. S., & Dilchert, S. (2012). Environmental Sustainability at Work: A Call to Action. *Industrial and Organizational Psychology*, 5(4), 444–466.
- Prieto-Sandoval, V., Alfaro, J. A., Mejía-Villa, A., & Ormazabal, M. (2016). ECO-labels as a multidimensional research topic: Trends and opportunities. *Journal of Cleaner Production*, 135, 806–818.
- Prieto-Sandoval, V., Torres-Guevarab, L. E., and García-Díaza, C. (2022). Green marketing innovation: Opportunities from an environmental education analysis in young consumers. *Journal of Cleaner Production*, 363.
- Priyadarshini, C., Chatterjee, N., Srivastava, N.K., Dubey, R. K. (2022). Achieving organizational environmental citizenship behavior through green transformational leadership: a moderated mediation study. *Journal Of Asia Business Studies*
- Rajjani, I., Yahya, S., Yunus, A.R., Ahamat, A., Budiono & Mohtar, N. S. (2015) Conceptualizing strategic green human resources management to boost environmental performance. 25th International Business Information Management Association Conference - Innovation Vision 2020: From *Regional Development Sustainability to Global Economic Growth*, IBIMA 2015, 50–56.
- Rao, T. V. (2014). HRD audit: Evaluating the human resource function for business improvement. *SAGE Publications India*.
- Robertson, J. L., and Barling, J. (2013). Greening organizations through leaders' influence on employees' pro-environmental behaviors. *J. Organ. Behav.* 34, 176–194.

- Ruepert, A., Keizer, K., Steg, L., Maricchiolo, F., Carrus, G., Dumitru, A., ... & Moza, D. (2016). Environmental considerations in the organizational context: A pathway to pro-environmental behaviour at work. *Energy Research & Social Science*, 17, 59-70.
- Sabherwal, R., Sabherwal, S., Havakhor, T., and Steelman, Z. (2019). How does strategic alignment affect firm performance? The roles of information technology investment and environmental uncertainty. *MIS Quarterly*, 43(2), 453-474.
- Saleem, M., Qadeer, F., Mahmood, F., Ariza-Montes, A., & Han, H. (2020). Ethical Leadership and Employee Green Behavior: A Multilevel Moderated Mediation Analysis. *Sustainability*, 12(8), 3314.
- Shamim, S., Cang, S., Yu, H., and Li, Y. (2016). Management approaches for industry 4.0: a human resource management perspective. *2016 IEEE Congress on Evolutionary Computation (CEC)*, Vancouver, BC, Canada, 5309-5316.
- Shareef, R., and Atan, T. (2019). The influence of ethical leadership on academic employees' organizational citizenship behavior and turnover intention. *Management Decision*, 57(3), 583-605.
- Sosik, J. J., Kahai, S. S., and Avolio, B. J. (1998). Transformational leadership and dimensions of creativity: motivating idea generation in computer-mediated groups.
- Sow, M., and Aborbie, S. (2018). Impact of leadership on digital transformation. *Business and Economic Research*, 8(3), 139-148.
- Starik, M., & Marcus, A. A. (2000). Introduction to the special research forum on the management of organizations in the natural environment: A field emerging from multiple paths, with many challenges ahead. *Academy of Management Journal*, 43(4), 539-547.
- Suárez-Perales, J., Valero-Gil, D. I., Leyva-de la Hiz, P., Rivera-Torres, C., Garcés-Ayerbe. (2021). Educating for the future: how higher education in environmental management affects pro-environmental behaviour. *J. Clean. Prod.*, 321(128972).
- Suifan, T. S., Abdallah, A. B., & Al Janini, M. (2018). The impact of transformational leadership on employees' creativity: The mediating role of perceived organizational support. *Management Research Review*, 41(1), 113-132.
- Warner, K., and Waeger, M. (2019). Building dynamic capabilities for digital transformation: an ongoing process of strategic renewal. *Long Range Planning*, 52(3), 326-349.
- Wiernik, B. M., Dilchert, S., & Ones, D. S. (2016). Age and employee green behaviors: a meta-analysis. *Frontiers in Psychology*, (7), 194.
- Wu, L.-Z., Kwan, H. K., Yim, F. H.-K., Chiu, R. K., He, X. (2015). CEO ethical leadership and corporate social responsibility: A moderated mediation model. *J. Bus. Ethics*, 130, 819–831.
- Xiang, L., Luo, J., & Vasilakos, A. (2011). Compressed data aggregation for energy efficient wireless sensor networks. In *2011 8th annual IEEE communications society conference on sensor, mesh and ad hoc communications and networks* (pp46-54). IEEE.
- Yang, R., Shi, P., Liu, G. P., & Gao, H. (2011). Network-based feedback control for systems with mixed delays based on quantization and dropout compensation. *Automatica*, 47(12), 2805-2809.
- Yao, Q., Tang, H., Liu, Y., Boadu, F. (2023). The penetration effect of digital leadership on digital transformation: the role of digital strategy consensus and diversity types. *Journal of Enterprise Information Management*.

- Young, W., Davis, M., McNeill, I. M., Malhotra, B., Russell, S., Unsworth, K., & Clegg, C. W. (2015). Changing Behaviour: Successful Environmental Programmes in the Workplace. *Business Strategy and the Environment*, 24(8), 689–703.
- Yukl, G. (2012). Effective leadership behavior: What we know and what questions need more attention. *Academy of Management perspectives*, 26(4), 66-85.
- Zibarras, L. D., & Coan, P. (2015). HRM practices used to promote pro-environmental behavior: a UK survey. *The International Journal of Human Resource Management*, 26(16), 2121-2142.