

PalArch's Journal of Archaeology of Egypt / Egyptology

ENVIRONMENTAL LEADERSHIP, PRACTICES AND SUSTAINABILITY

K. Noorliza

Universiti Sains Malaysia

Email: 1noorliza@usm.my

K. Noorliza. Environmental Leadership, Practices and Sustainability– Palarch's Journal of Archaeology of Egypt/Egyptology 17(7) (2020). ISSN 1567-214X.

Keywords: Environmental leadership; Environmental practices; Sustainability

ABSTRACT:

Though ecological concerns in the logistics industry have become significant since the early 1990s, not many logistics service providers (LSPs) conform to the environmental management standard (ISO 14001). This shows the evidence of the delay in logistics and freight transports sector in practice to become environmentally and socially sustainable responses. Despite this, few scholars have interests in the field of research of environmental and sustainability in the logistics sector. Consequently, the study of the mechanism of sustainability performance improvement via environmental leadership and practices are critical for green implementation and sustainability performance. Unlike conventional administration, managers or LSPs with environmental leadership incorporate ecological sustainability as a primary element of organizational missions and vision. This study holds that the intrinsic values of environmental leadership inspire positive impacts on environmental practices. The environmental leadership plays a significant role in preserving the natural environment by promoting biofuels or green energy usage in the logistics industry, enforcing regulatory authorities and government policies on green environment and supporting the green environment by developing environmental strategies. This conceptual paper identifies significant values or factors that can nurture environmental leadership, stimulating more positive impacts on environmental resources and sustainability performance of LSPs.

INTRODUCTION

Environmental aspects of logistics clearly are critical issues and serious concerns of logistics service providers (LSPs). The burning of fossils fuels releasing greenhouse gas (GHG) and carbon dioxides (CO₂) emissions primarily generated from freight transport vehicles and vessels, logistics industry necessarily cause higher negative impacts on human health, environmental degradation and social issues. Though ecological concerns in the logistics industry have become significant since the early 1990s, LSPs shows a lack of attention in adopting environmental or implementing sustainable practices. In practice, not many LSPs conform to the environmental management standard (ISO 14001), rather than facing challenges in implementing green ecological (Karia, 2020). The evidence shows the delay in logistics and freight transports sector in practice to become environmentally and socially sustainable responses (Sternberg and Norrman 2017). Given such critical ecological issues, managers must preserve the universe by continuous improvement in environmental practices.

Though many sustainability studies, few scholars have an interest in environmental and sustainability research in the logistics sector (Abbasi and Nilsson, 2016; Baah et al., 2020) most focused on the manufacturing industry. A recent study of LSPs shows a lack of attention in adopting environmental or implementing sustainable practices (Dietz et al., 2009; Steg et al., 2015; Stern et al., 2016; Leiserowitz et al., 2017). Despite this, minimal studies are investigating how LSPs and managers are encouraged to adopt sustainable practices that generate sustainability performance (Smith and Sarros, 2004; Abbasi and Nilsson, 2016). Given the scant research to date, consequently, the study of the mechanism of sustainability performance improvement via environmental leadership and practices is significant, which are critical success factors for green implementation and sustainability performance.

Interest to highlight identified gaps, this study inspires to provide the novel contribution of the mechanism of sustainability performance in the logistics industry. Explicitly, this study offers a new conceptual framework that fostering sustainability performance through environmental resources by executing environmental leadership as a booster. Therefore, this new model advances the knowledge of environmental leadership, environmental and sustainability literature of LSPs perspectives in logistics research domains.

THEORETICAL BACKGROUND

The research on environmental concerns in logistics industry stays insufficient. Based on the literature reviews, there has been relatively little research specifically concentrating on ecological problems of logistics and the role of its leadership in sustainable practices. Despite most aware of environmental degradation causing human health and social issues, many LSPs are not environmentally responsive; others resist and respond to regulatory mandates. The political instability, lack of regulatory and authority promoting biofuel and renewable resources (Khan et al., 2019) shows the evidence of the lack of environmental leadership towards environmental sustainability and health problems. Strategic management literature emphasizes that high managerial commitment is crucial for successfully engaging in environmental practices (Park and Kim, 2014; Daily et al., 2009). Unfortunately, human capital is limited research and empirical evidence in the logistics field.

Future competitive, sustainable logistics firms rely on environmental practices fostering by environmental leadership on preserving the natural environment, sequentially enhance economically and competitiveness. All successful implementation or practice begins with positive intentions of CEO or leaders behaviour. As predicted environmental leadership influences an organization's environment-oriented strategic positions (Lee et al., 2018; Kim and Stepchenkova, 2018) in turn environmental practices generate firm sustainability (Younis et al., 2016; Zaid et al., 2018; Maas et al., 2018).

As the environmentalism becomes a high priority and importance in logistics, the capability of LSPs to implement green initiatives heavily relies on factors of leadership behavior empowering green practices and protecting the natural environment. Leadership is a determinant of promoting and implementing changes, initiatives, practices or innovations that make organizations have more positive outcomes (Qureshi et al. 2019). Leadership is also essential to engage an individual to become alert, creative and innovative in preserving the natural environment. Therefore, environmental leadership plays a significant role in

protecting the natural environment by promoting biofuels or green energy usage in the logistics industry, enforcing regulatory authorities and government policies on green environment and supporting the green environment by developing environmental policies.

Resource-based view (RBV) theory explains that the leadership of managers/firms is the enabler to generate values and sustainable competitiveness (Barney, 1991). According to the natural-resource-based view (NRBV) theory by integrating the environmental concerns into cleaner productions, firms offer innovation capabilities and create sustainable competitiveness (Hart, 1995) in terms of product/service innovation, people wellbeing, firm profitability and planet preservation (Noorliza, 2020). NRBV explains that environmental leadership is a function of environmental practices, subsequently enhance a firm's profitability and competitiveness (Rossani et al., 2020; Jiang et al., 2020). Environmental leadership denotes a critical element of sustainable practices from the visualization of leaders or organizations; or culture of organizations described as intention, creativity and receptiveness to ecological mindset (Bauman et al., 2018).

According to human capital theory, environmental leadership is the most lasting capability of intrinsic leadership values to predict environmental practices and enhancing sustainability performance. Also, regulatory stakeholders' pressures significantly induce the adoption of green logistics practices (Baah et al., 2020). According to Karia and Asaari (2016), green leaders or green organizations are the most prominent empowers to lead, preserve and sustained improvement or a function of 4Ps sustainability pillars in terms of the quality of product/service/process, people, planet while enhancing profitability and competitive advantage.

Environmental leadership is a belief system of employees, managers, organizations or policymakers towards the environmental sustainability achievement (Shrivastava, 1994). Unlike conventional administration, managers with environmental leadership incorporate ecological sustainability as a primary element of organizational missions and vision. An individual belief system may have a positive association with environmental leadership. Such environmental leadership intrinsic values manifest a leader's belief system or pure value within themselves directly influence environmental practices; in other words, the morals, habits and proactive attitude of the leader towards ecological.

Such intrinsic values can promote positive impacts on environmental leadership to better sustainable practices (Gualandris et al., 2014; Mittal and Dhar, 2016), stimulating leaders to adopt sustainable practices fostering sustainability performance. Nevertheless, the intrinsic values stimulate leader attributes to environmental leadership remain limited observation. This ecological study hence aims to understand the intrinsic values within leader belief, action and behaviour that motivates them to act more pro-environmental. The ground on the literature (Bouman et al. 2018), the study reviews the four intrinsic values: biospheric, altruistic, egoistic and hedonic as boosters of environmental leadership. The suggested environmental leadership model's four diverse intrinsic values of leadership are:

1. Biospheric – these values-oriented in leader concern and action towards the environment, benefits of the planet and more conscious of the consequence of their efforts on nature.

2. Altruistic – values manifest in leaders for the humankind wellbeing, benefits of people/community safety and health.
3. Egoistic – these values exhibited leaders' inclining to the personal achievement
4. Hedonic – set of values equipped in leaders for attaining desire, ease and positive thoughts.

Further, a research paper by Karia and Asaari (2019) proposes attributes of innovative and adaptive leadership respectively tend to be optimistic for implementing new ideas; responding to uncertainty and demand for betterment; and aligning and adjusting to internal and external changes, dynamic and competitive environment. Such mindsets are a motivation for employees to endorse the belief holistically in creating environmental behaviour (Graves et al., 2019). Logistics literature reports that leadership has a considerable effect on the adoption of ecological practices among the logistics industries in China (Lin & Ho, 2011).

Such intrinsic values within leaders inspire positive impacts on firms' environmental leadership as a booster of sustainability performance. Connecting to the other side of the model is environmental practices. Environmental resources are indicators of LSPs overall green practices in their operations and activities that lead to positivity in their sustainability performance; for example, by adopting cleaner production logistics firms gain a balance of financial, social and environmental performance.

CONCEPTUALIZATION ENVIRONMENTAL CAPABILITY

NRBV theory endorses that cleaner production in logistics firms heavily executes on sustainable or ecological practices that construct culture, values, concerns and intentions of preserving the natural environment that makes more positive impacts on its ecosystem. Logistics literature mentions that sustainable resources are crucial for socio-economic performance and environmental sustainability, creating competitive advantage and financial performance (Karia, 2020; Agyabeng-Manesh et al. 2020). The green logistics practices as environmental capability significantly improve environmental and financial performance (Baah et al., 2020; Rossoni et al., 2020).

Such green resources displayed in Table 1 presents the variables and measurement items for environmental capability. The use of sustainable transport reducing CO₂ emission is essential for logistics firms to comply with legislation and regulations (Karia, 2020; Karia & Asaari, 2016; Kumar, 2015). According to Khan et al. (2019), the excellent quality of transport-related infrastructure has a positive connection with the green energy resources, carbon emissions, greenhouse gas emissions, fuel consumption, health expenditure and political stability. Strategic warehouse location and building design sustainability can save energy efficiency and energy-efficient storage and movement (Karia, 2020; Batra & Chanana, 2015). The sustainable packaging and distribution require biological material for reducing the usage of plastics and carbon footprints and subsequently will decrease significant risks to people and the marine environment (Karia, 2020; Karia & Asaari, 2016; Batra & Chanana, 2015; Zhen and Dai, 2012). Sustainable information sharing create values to all partners and allows preserving the natural environment across supply chains (Karia, 2020; Huang and Wang, 2017). Measuring CO₂ emissions and monitoring environmental impact to adhere to logistics environmental policies and practices (Karia, 2020; Baah et al., 2018). Reusable and recycle materials

can prevent the environment and reduce waste management (Baah et al. 2018; Dias and Braga Junior; 2016).

Table 1 Environmental capability in logistics

Environmental Capability	Pre-defined	Source
<i>Sustainable transport. To generate less or no pollution</i>	<i>Hybrid vehicle – generate a low amount of carbon dioxide Electric vehicle – no carbon dioxide emissions. Control carbon footprint during the transportation process by improving performance and intermodal transportation – a combination of different transport modes (road, rail, sea and air)</i>	<i>Karia (2020) Karia & Asaari (2016) Kumar (2015) Khan et al. (2019)</i>
<i>Sustainable warehouse. To saving and reduce energy and resource consumption</i>	<i>Strategic warehouse location and design, Proper storing and disposing of hazardous materials, and energy-efficient storage and movement. Save energy efficiency and building design sustainability. The proper inventory control system, decrease inventory levels</i>	<i>Karia (2020) Karia & Asaari (2016) Kumar (2015) Batra & Chanana (2015)</i>
<i>Sustainable packaging and distribution. To harmless the environment and reduce the cost of waste disposal</i>	<i>Recyclable or biodegradable materials in packaging techniques Using environmental-friendly materials. Reduce the cost of waste disposal, resource consumption and prevent environmental pollution. Promoting cost reduction and carbon footprint</i>	<i>Karia (2020) Karia & Asaari (2016) Batra & Chanana (2015) Kumar (2015) Zhen and Dai (2012)</i>
<i>Sustainable information sharing To create values for all partners</i>	<i>Sustaining environmentally friendly among supply chain network – involving all stakeholder</i>	<i>Karia (2020) Huang and Wang (2017)</i>
<i>Monitoring and evaluation. To adhere to environmental policies and practices</i>	<i>Measuring and monitoring the environmental impact of transport Standard indicator to measure - CO2 emissions and energy data</i>	<i>Karia (2020) Baah et al. (2018)</i>
<i>Reusable and recycle materials. To prevent the environment and reduce waste management</i>	<i>Capturing reverse logistics and waste management Reuse of materials and production components</i>	<i>Baah et al. (2018) Dias and Braga Junior (2016)</i>

SUSTAINABILITY PERFORMANCE

Many logistics studies hypothesize the relationship between sustainable resources and performance (Das, 2018; Graves et al., 2019; Jiang et al., 2020; Subramaniam et al., 2020). As theorized, environmental resources make positive impacts on sustainability performance dimensions comprising operational, environmental, market, financial, economic, and social performance (Baah et al., 2020; Agyabeng-Manesh et al., 2020). Nevertheless, scholars observe the

conflict findings in the relationship between environmental practices with all the aspects of sustainability performance (Walker et al., 2014; Wang and Dai, 2018; Miemczyk and Luzzini, 2019; Kitsis and Chen, 2020). In contrast, Agyabeng-Manesh et al. (2020) detect the green logistics practices significantly affect environmental performance but indirectly affect the market, financial and social performances through environmental performance.

Nevertheless, the adoption of environmental resources in the logistics industry steadily constructs the following three critical sustainability performances:

Environmental performance - Regardless of industry, green practices have a positive effect on environmental performance (Agyabeng-Manesh et al., 2020). Thus renewable energy resources in logistics significantly decrease carbon footprint and protect the environment. The investment in environmental practices allows firms to reduce environmental pollution and solid waste, reduce the use of unsafe materials (Zhu et al., 2007), reduce CO₂ emissions, prevent environment, save energy and consumption resources. The adoption of environmental practices significantly affects the environmental performance of LSPs.

Economic performance - In general, firms gain profitability and competitiveness through cleaner production as green logistics makes more positive benefits to international rivals. Energy-efficiency storage and distribution save the cost of logistics operations. The review concludes that environmental practices have positive impacts on economic performance. Though investment in sustainability incurs a high initial cost, the logistics firms achieve profitability in the long run (Khan et al., 2019). The sustainable warehouse can save and reduce energy and resource consumption; recyclable, biodegradable materials in packaging can reduce the cost of waste disposal and resource consumption, therefore, improve the economic performance of logistics firms (Karia, 2020; Baah et al. 2018, Dias and Braga Junior, 2016).

Social performance -Social performance is a firm reputation as a result of a commitment to social issues. LSPs' environmental practices significantly influence social performance (Baliga et al., 2019; Kitsis and Chen, 2020; Baah et al., 2020). The implementation of sustainable practices can improve the employees' quality of life, motivation and productivity and enhance the company image and reputation and customer satisfaction (Tsai et al., 2009; Gardas et al., 2015). Therefore, applying green logistics practices enhance the welfare and safety of society that increase the firm image, reputation and competitiveness.

CONNECTING FACTORS OF LEADERSHIP, CAPABILITY AND PERFORMANCE

Overall, factors of environmental leadership offer positive contributions to the environmental capability that fostering sustainability performance. Notably, CEOs and leaders who displayed pro-environmental strong leadership significantly elevated the level of leadership skills, qualities and environmental practices. While those displaying environmental leadership significantly explain the implementation or adoption of green practices as a firm capability in logistics operations or activities.

Leadership plays a key role to formulate the environmentally-conscious business strategy and thereby promotes the green practices (Walker et al.; 2014). Empirically, factors of environmental leadership have positive impacts on the organization's environment-orientation strategy (Etzion, 2007), green practices

or green practices adoption (Lee, Kim, & Kim, 2018). Environmental leadership is an antecedent of green practices that empower sustainability development.

The above reviews are based on leadership and their impact on practices and outcomes. This current paper concentrates on modelling the extent to which environmental leadership contributes to the environment-related capability that makes organizations attain more positive results. Figure 1 visualizes the graphical research model.



Figure 1 Research model

CONCLUSION

The study provides a useful conceptual paper in understanding leadership influencing organizational capability through environmental practices. Further research examining these relationships could justify significant findings and provide more empirical evidence by collecting and analyzing data from different contexts. That LSPs investing in a continuing program of boosting environmental leadership driven by the human resources team is a worthwhile organization environment-orientation strategy. Concentrating on deploying environmental leadership could enhance the theoretical and practical benefits of individual positive effects. Developing capabilities on the factor of environmental leadership in their employees is nevertheless the most reliable approach to sustainably preparing for long term performance enhancement since the application of human capital is the robust factors of firm growth and competitiveness.

ACKNOWLEDGEMENT:

This research work is supported by Project (1001/PMGT/8016031) of Research University Grant

REFERENCE

- Abbasi, M., & Nilsson, F. (2016). Developing environmentally sustainable logistics: Exploring themes and challenges from a logistics service providers' perspective. *Transportation Research Part D: Transport and Environment*, 46, 273-283
- Agyabeng-Mensah, Y., Alum, E., Ahenkorah, E. 2020. Exploring financial performance and green logistics management practices: Examining the mediating influences of market, environmental and social performance. *Journal of Cleaner Production* 258, 120613
- Baah, C., Jin, Z., Tang, L. 2020. Organizational and regulatory stakeholder pressures friends or foes to green logistics practices and financial performance: Investigating corporate reputation as a missing link. *Journal of Cleaner Production* 247, 119125.
- Baliga, R., Raut, R.D., Kamble, S.S., 2019. Sustainable supply chain management practices and performance. An integrated perspective from a

- developing economy. *Management of Environmental Quality: An International Journal*. DOI 10.1108/MEQ-04-2019-0079.
- Barney, J., 1991. Firm resources and Sustained Competitive Advantage. *Journal of Management* 17 (1), 99–120.
- Bouman T, Steg L and Kiers HAL (2018) Measuring Values in Environmental Research: A Test of an Environmental Portrait Value Questionnaire. *Front. Psychol.* 9:564. doi: 10.3389/fpsyg.2018.00564
- [Etzion, D.](#) (2007). Research on Organizations and the Natural Environment, 1992-Present: A Review, *Journal of Management*, 33 (4), 637-664
- El Baz, J., and Laguir, I. (2017). Third-party logistics providers (TPLs) and environmental sustainability practices in developing countries The case of Morocco, *International Journal of Operations & Production Management*, Vol. 37 No. 10, pp. 1451-1474
- Gardas, B.B., Raut, RD & Narkhede, B.E. (2019). Analyzing the 3PL service providers's evaluation criteria through a sustainable approach, *International Journal of Productivity and Performance Management*, 68 (5), 958-980
- Gualandris, J., Kalchschmidt, M., 2014. Customer pressure and innovativeness: their role in sustainable supply chain management. *Journal of Purchasing and Supply Management* 20 (2), 92-103.
- Hart, S.T. (1995). A Natural-Resource-Based View of the Firm, *The Academy of Management Review*, Vol. 20, No. 4, pp. 986-1014
- Jiang, Y., Jia, F., Blome, C., Chen, L., 2020. Achieving sustainability in global sourcing towards a conceptual framework. *Supply Chain Management: An International Journal* 25(1), 35-60
- Karia, N. and Asaari, M.H.A.H. (2016). Transforming green logistics practice into benefits: a case of third-party logistics (3PLs), *Proceeding of the International Conference on Industrial Engineering and Operations Management (IEOM)*, 8-10 March, 2016, pp.178
- Karia, N and Asaari, M.H.A.H (2019). Leadership attributes and their impact on work-related attitudes. *International Journal of Productivity and Performance Management*, 68 (5): 903-919
- Karia, N. (2020). Green logistics practices and sustainable business model, *Handbook of Research on the Applications of International Transportation and Logistics for World Trade*, pp 354-366. 10.4018/978-1-7998-1397-2.ch019.
- Kim, M and Stepchenkova, S. (2018). Does environmental leadership affect market and eco performance? Evidence from Korean franchise firms, *Journal of Business & Industrial Marketing*, 33/4 pp. 417–428
- Kitsis, A.M., Chen, I.J., 2020. Do motives matter? Examining the relationships between motives, SSCM practices and TBL performance. *Supply Chain Management: An International Journal* 25/3, 325-341.
- Lee, Y.K, Kim, Y.S., Lee, K.H and Li, D. (2012). The impact of CSR on relationship quality and relationship outcomes: A perspective of service employees, International Journal of Hospitality Management* 31, 745– 756.
- Maas, S., Schuster, T., & Hartmann, E. (2018). Stakeholder pressures, environmental practice adoption and economic performance in the German third-party logistics industry—a contingency perspective. *Journal of Business Economics*, 88(2), 167-201.
- Miemczyk, J., Luzzini, D., 2019. Achieving triple bottom line sustainability in supply chains: The role of environmental, social and risk assessment practices. *International Journal of Operations and Production Management* 39 (2), 238-259
- Qureshi, Muhammad Imran, Shazia Qayyum, Abdelmohsen A. Nassani, Abdullah Mohammed Aldakhil, Muhammad Moinuddin Qazi Abro, en Khalid Zaman. 2019. “Management of various socio-economic factors under the United Nations sustainable development agenda”. *Resources Policy* 64:101515.

- Ren, S., Tang, G. and Susan E. Jackso, S.E. (2020), Effects of Green HRM and CEO ethical leadership on organizations' environmental performance. *International Journal of Manpower*. DOI 10.1108/IJM-09-2019-0414
- Rossoni, L., Poli, I.T., Sinay, M.C.F., Araujo, G.A., 2020, Materiality of sustainable practices and the institutional logics of adoption: A comparative study of chemical road transportation companies. *Journal of Cleaner Production* 246, 119058
- Shrivastava, P., & Hart, S. (1994). Greening organizations 2000. *The International Journal of Public Administration*, 17(3-4), 607-635.
- Sternberg, H., & Norrman, A. (2017). The Physical Internet—review, analysis and future research agenda. *International Journal of Physical Distribution & Logistics Management*.
- Subramaniam, P.L., Iranmanesh, M., Kumar, K.M., Foroughi, B., 2020. The impact of multinational corporations' socially responsible supplier development practices on their corporate reputation and financial performance. *International Journal of Physical Distribution & Logistics Management* 50 (1), 3-25.
- [Walker, H., Seuring, S. Sarkis, J., Klassen, R.](#), 2014. Sustainable operations management: recent trends and future directions. *International Journal of Operations & Production Management* 34 (5).
- Wang, J., Dai, J., 2018. Sustainable supply chain management practices and performance. *Industrial Management & Data System* 118 (1), 2-21.