

International Journal of Industrial Engineering and Management



## Green Supply Chain Management and Environmental Performance: The moderating role of Firm Size

S. K. Fianko <sup>a</sup>, N. Amoah <sup>b</sup>, S. Afrifa Jnr <sup>a</sup>, T. C. Dzogbewu <sup>c</sup>

<sup>a</sup> Department of Business Support Studies, Central University of Technology, Bloemfontein, Free State, South Africa;

<sup>b</sup> Department of Business & law, University of Brescia, Brescia, Italy;

<sup>c</sup> Department of Mechanical and Mechatronic Engineering, Central University of Technology, Bloemfontein, Free State, South Africa

## References

- A. Ait Sidhoum and T. Serra, "Corporate Sustainable Development. Revisiting the Relationship between Corporate Social Responsibility Dimensions," Sustain. Dev., vol. 26, no. 4, pp. 365–378, 2018, doi: 10.1002/sd.1711.
- [2] UNEP-SBCI, "UNEP-SBCI releases its latest report on 'Greening the Building Supply Chain.'" https://www.construction21.org/ articles/h/unep-sbci-releases-its-latest-report-on-greening-the-building-supply-chain.html (accessed Apr. 21, 2021).
- [3] M. Levine, D. Ürge-Vorsatz, K. Blok, L. Geng, D. Harvey, S. Lang, G. Levermore, A. Mongameli Mehlwana, S. Mirasgedis, A. Novikova, J. Rilling, and H.M. Yoshino. "Residential and commercial 1 buildings Coordinating Lead Authors: Lead Authors: Contributing Authors: Review Editors: This chapter should be cited as," in Climate Change 2007: Mitigation. Contribution of Working III to the Fourth Assessment, France, 2007, pp. 387–446.
- [4] United Nations, "World Urbanization Prospects, The 2014 Revision," 2015.
- H. Walker and N. Jones, "Sustainable supply chain management across the UK private sector," Supply Chain Manag., vol. 17, no. 1, pp. 15–28, Jan. 2012, doi: 10.1108/13598541211212177.
- [6] W. Yu, R. Chavez, M. Feng, and F. Wiengarten, "Integrated green supply chain management and operational performance," Supply Chain Manag., vol. 19, no. 5/6, pp. 683-696, Sep. 2014, doi: 10.1108/SCM-07-2013-0225.
- [7] Q. Zhu, J. Sarkis, and K. hung Lai, "Institutional-based antecedents and performance outcomes of internal and external green supply chain management practices," J. Purch. Supply Manag., vol. 19, no. 2, pp. 106–117, Jun. 2013, doi: 10.1016/ j.pursup.2012.12.001.
- [8] C. Mafini and A. Muposhi, "The impact of green supply chain management in small to medium enterprises: Cross-sectional evidence," J. Transp. Supply Chain Manag., vol. 11, Feb. 2017, doi: 10.4102/jtscm.v11i0.270.
- [9] S. M. Diab, F. A. AL-Bourini, and A. H. Abu-Rumman, "The Impact of Green Supply Chain Management Practices on Organizational Performance: A Study of Jordanian Food Industries," J. Manag. Sustain., vol. 5, no. 1, Feb. 2015, doi: 10.5539/ jms.v5n1p149.
- [10] S. Yildiz Çankaya and B. Sezen, "Effects of green supply chain management practices on sustainability performance," J. Manuf. Technol. Manag., vol. 30, no. 1, pp. 98–121, 2019, doi: 10.1108/JMTM-03-2018-0099.
- [11] S. Kusi-Sarpong, J. Sarkis, and X. Wang, "Assessing Green Supply Chain Practices in the Ghanaian Mining Industry: A Framework and Evaluation." International Journal of Production Economics, 181, 325-341
- [12] E. Afum, V. Y. Osei-Ahenkan, Y. Agyabeng-Mensah, J. Amponsah Owusu, L. Y. Kusi, and J. Ankomah, "Green manufacturing practices and sustainable performance among Ghanaian manufacturing SMEs: the explanatory link of green supply chain integration," Manag. Environ. Qual. An Int. J., vol. 31, no. 6, pp. 1457–1475, Jul. 2020, doi: 10.1108/MEQ-01-2020-0019.
- [13] S. Famiyeh, A. Kwarteng, D. Asante-Darko, and S. A. Dadzie, "Green supply chain management initiatives and operational competitive performance," Benchmarking, vol. 25, no. 2, pp. 607–631, 2018, doi: 10.1108/BIJ-10-2016-0165.
- [14] C. H. Hsu, A. Y. Chang, and W. Luo, "Identifying key performance factors for sustainability development of SMEs integrating QFD and fuzzy MADM methods," J. Clean. Prod., vol. 161, pp. 629–645, Sep. 2017, doi: 10.1016/j.jclepro.2017.05.063.
- [15] P. Boadu, S. C. Analyst, C. Team, D. Essuman, D. Nuertey, and K. Nkrumah, "Embracing Green Supply Chain Practices In The Construction Industry, The Case Of Construction Firms In The Kumasi Metropolis And Its Environs," Res. J. Manag., vol. 2, no. 6, pp. 1–17, 2014.
- [16] U. Mumtaz, Y. Ali, A. Petrillo, and F. De Felice, "Identifying the critical factors of green supply chain management: Environmental benefits in Pakistan," 2018, doi: 10.1016/j.scitotenv.2018.05.231.

- [17] C. R. Carter and D. S. Rogers, "A framework of sustainable supply chain management: Moving toward new theory," International Journal of Physical Distribution and Logistics Management, vol. 38, no. 5. Emerald Group Publishing Limited, pp. 360–387, 2008, doi: 10.1108/09600030810882816.
- [18] A. J. Acevedo-Urquiaga, N. Sablón-Cossío, J. A. Acevedo-Suárez, and A. J. Urquiaga-Rodríguez, "A model with a collaborative approach for the operational management of the supply chain," Int. J. Ind. Eng. Manag., vol. 12, no. 1, pp. 49–62, 2021, doi: 10.24867/IJIEM-2020-1-276.
- [19] A. A. Zaid, A. A. M. Jaaron, and A. Talib Bon, "The impact of green human resource management and green supply chain management practices on sustainable performance: An empirical study," J. Clean. Prod., vol. 204, pp. 965–979, Dec. 2018, doi: 10.1016/j.jclepro.2018.09.062.
- [20] X. Zhang, L. Shen, and Y. Wu, "Green strategy for gaining competitive advantage in housing development: A China study," J. Clean. Prod., vol. 19, no. 2-3, pp. 157-167, Jan. 2011, doi: 10.1016/j.jclepro.2010.08.005.
- [21] J. Ying Liu, S. Pheng Low, and X. He, "Green practices in the Chinese building industry: drivers and impediments," J. Technol. Manag. China, vol. 7, no. 1, pp. 50–63, Feb. 2012, doi: 10.1108/17468771211207349.
- [22] J. Shao and E. Unal, "What do consumers value more in green purchasing? Assessing the sustainability practices from demand side of business," J. Clean. Prod., vol. 209, pp. 1473–1483, Feb. 2019, doi: 10.1016/j.jclepro.2018.11.022.
- [23] M. Y. Foo, K. Kanapathy, S. Zailani, and M. R. Shaharudin, "Green purchasing capabilities, practices and institutional pressure," Manag. Environ. Qual. An Int. J., vol. 30, no. 5, pp. 1171–1189, Aug. 2019, doi: 10.1108/MEQ-07-2018-0133.
- [24] J. Wang, Y. Zhang, and M. Goh, "Moderating the role of firm size in sustainable performance improvement through sustainable supply chain management," Sustain., vol. 10, no. 5, May 2018, doi: 10.3390/su10051654.
- [25] Q. Zhu, J. Sarkis, and Y. Geng, "Green supply chain management in China: pressures, practices and performance," Int. J. Oper. Prod. Manag., vol. 25, no. 5, pp. 144–3577, 2005, doi: 10.1108/01443570510593148.
- [26] L. Y. Shen and V. W. Y. Tam, "Implementation of environmental management in the Hong Kong construction industry," Int. J. Proj. Manag., vol. 20, no. 7, pp. 535–543, Oct. 2002, doi: 10.1016/S0263-7863(01)00054-0.
- [27] S. Shrestha, "Comparison of energy efficient and green buildings : technological and policy aspects with case studies from Europe, the USA, India and Nepal," 2016, doi: 10.14279/DEPOSITONCE-4948.
- [28] J. L. Walls, P. Berrone, and P. H. Phan, "Corporate governance and environmental performance: is there really a link?," Strateg. Manag. J., vol. 33, no. 8, pp. 885–913, Aug. 2012, doi: 10.1002/smj.1952.
- [29] H. Younis, B. Sundarakani, and P. Vel, "The impact of implementing green supply chain management practices on corporate performance," Compet. Rev., vol. 26, no. 3, pp. 216–245, 2016, doi: 10.1108/CR-04-2015-0024.
- [30] T. K. Eltayeb, S. Zailani, and T. Ramayah, "ARTICLE IN PRESS Green supply chain initiatives among certified companies in Malaysia and environmental sustainability: Investigating the outcomes," 2010, doi: 10.1016/j.resconrec.2010.09.003.
- [31] K. W. Green Jr, P. J. Zelbst, J. Meacham, and V. S. Bhadauria, "Green supply chain management practices: impact on performance," An Int. J., vol. 17, pp. 290–305, 2012, doi: 10.1108/13598541211227126.
- [32] Q. Zhu, J. Sarkis, and K. hung Lai, "Confirmation of a measurement model for green supply chain management practices implementation," Int. J. Prod. Econ., vol. 111, no. 2, pp. 261–273, Feb. 2008, doi: 10.1016/j.ijpe.2006.11.029.
- [33] A. B. L. de Sousa Jabbour, F. C. D. O. Frascareli, and C. J. C. Jabbour, "Green supply chain management and firms' performance: Understanding potential relationships and the role of green sourcing and some other green practices," Resour. Conserv. Recycl., vol. 104, pp. 366–374, Nov. 2015, doi: 10.1016/j.resconrec.2015.07.017.
- [34] J. W. Creswell, Qualitative enquiry & research design, choosing among five approaches, vol. 2nd ed. 2007.
- [35] R. V. Krejcie and D. W. Morgan, "Determining Sample Size for Research Activities," Educ. Psychol. Meas., vol. 30, no. 3, pp. 607-610, Sep. 1970, doi: 10.1177/001316447003000308.
- [36] A. Paulraj, "Understanding the relationships between internal resources and capabilities, sustainable supply management and organizational sustainability," J. Supply Chain Manag., vol. 47, no. 1, pp. 19–37, Jan. 2011, doi: 10.1111/j.1745-493X.2010.03212.x.
- [37] S. T. Ng, J. M. W. Wong, S. Skitmore, and A. Veronika, "Carbon dioxide reduction in the building life cycle: A critical review," in Proceedings of the Institution of Civil Engineers: Engineering Sustainability, Dec. 2012, vol. 165, no. 4, pp. 281–292, doi: 10.1680/ensu.11.00005.
- [38] Y. Chen, G. E. Okudan, and D. R. Riley, "Sustainable performance criteria for construction method selection in concrete buildings," Autom. Constr., vol. 19, no. 2, pp. 235–244, Mar. 2010, doi: 10.1016/j.autcon.2009.10.004.
- [39] Q. Shi, J. Zuo, R. Huang, J. Huang, and S. Pullen, "Identifying the critical factors for green construction An empirical study in China," Habitat Int., vol. 40, pp. 1–8, Oct. 2013, doi: 10.1016/j.habitatint.2013.01.003.
- [40] J. Pallant, S. Sands, and I. Karpen, "Product customization: A profile of consumer demand," J. Retail. Consum. Serv., vol. 54, p. 102030, May 2020, doi: 10.1016/j.jretconser.2019.102030.
- [41] R. Joshi and R. Yadav, "Captivating Brand Hate Using Contemporary Metrics: A Structural Equation Modelling Approach," Vision, p. 097226291989217, Jan. 2020, doi: 10.1177/0972262919892173.
- [42] C. Ranaweera and C. Jayawardhena, "Talk up or criticize? Customer responses to WOM about competitors during social interactions," J. Bus. Res., vol. 67, no. 12, pp. 2645–2656, Dec. 2014, doi: 10.1016/j.jbusres.2014.04.002.
- [43] J. F. Hair, C. M. Ringle, and M. Sarstedt, "Editorial Partial Least Squares Structural Equation Modeling: Rigorous Applications, Better Results and Higher Acceptance by Joseph F. Hair, Christian M. Ringle, Marko Sarstedt :: SSRN," Long Range Planning, Volume 46, Issues 1-2, 2013. https://papers.ssrn.com/sol3/papers.cfm?abstract\_id=2233795 (accessed Apr. 21, 2021).
- [44] S. Balasubramanian and V. Shukla, "Green supply chain management: an empirical investigation on the construction sector," Supply Chain Manag. An Int. J., vol. 22, no. 1, pp. 58–81, Jan. 2017, doi: 10.1108/SCM-07-2016-0227.
- [45] L. R. Epoh and C. Mafini, "Green supply chain management in small and medium enterprises: Further empirical thoughts from South Africa," J. Transp. Supply Chain Manag., vol. 12, Jun. 2018, doi: 10.4102/jtscm.v12i0.393.