Modeling Eco-Efficiency Using Statistical Approaches: A Microscopic Review

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Abstract

Eco-environmental sustainability, a fundamental management concept, has become important in achieving competitiveness. Assessing and quantifying its benefits in terms of materials and products significantly influences future improvement and takes further resolutions. This study conducts a literature review to understand the various statistical approaches used to estimate eco-efficiency performance. The study guides sustainability analysts and practitioners in understanding various advanced approaches and techniques to assess eco-environmental sustainability. Conclusions and recommendations for future research were extracted and documented.

Keywords
Eco-efficiency, Eco-environmental performance, sustainability and statistical approaches.

Biographies
Khalid Radi Al-Hajri is a Master of Science student in the Engineering Management program at Qatar University. He holds a Bachelor of Engineering (BEng) (Hons) in Mechanical Engineering from University of Manchester . His research focuses on lean thinking, sustainability, facility location optimization, and decision techniques.

Dr. Adeeb A. Kutty is an accomplished professional with a bachelor's degree from the University of Calicut, India, in Electrical and Electronics Engineering and a master's degree in Technology and Engineering Management from Universitat Rovira Virgili, Tarragona, Kingdom of Spain. Dr. Kutty holds a Ph.D. in Engineering Management with concentration in sustainability and urban development from Qatar University and works as a Sustainability scientist at the Department of Industrial and Systems Engineering, Qatar University. His research interests include sustainability and systems engineering, smart cities and regional development, smart mobility and decision support systems, transportation, and project management.