

Sustainability Practices and Campus Operational Management: Decoding the University Rankings

Chalaka Fernando PhD

Manager – Environmental Management Plan
Facilities and Services Division
The Australian National University
Canberra, Australia

Chalaka.fernando@anu.edu.au

Chanjief Chandrakumar PhD

Team Lead – Life Cycle Assessments
thinkstep Pty Ltd, South Perth, Australia

Chanjief.Chandrakumar@thinkstep-anz.com

Food Losses and Wastes Lead
Global Research Alliance on Agricultural Greenhouse Gases
New Zealand

Chanjief.Chandrakumar@globalresearchalliance.org

Nuwan Gunarathne PhD

Senior Lecturer
Department of Accounting, Faculty of Management Studies and Commerce
University of Sri Jayewardenepura
Nugegoda, Sri Lanka

nuwan@sjp.ac.lk

Hiruni Rathwatta (MBA)

Lecturer
Department of Accountancy and Finance, Faculty of Management Studies
Rajarata University of Sri Lanka
Mihintale, Sri Lanka

hirunir@mgt.rjt.ac.lk

Warunika Hettiarachchi (MBA)

Lecturer
Department of Marketing Management, Faculty of Management Studies
Sabaragamuwa University of Sri Lanka
Sir Lanka

warunika@mgt.sab.ac.lk

Abstract

Global environmental concerns have catalysed a paradigm shift toward sustainable practices across multiple sectors, including higher education institutions. Renowned university ranking schemes, such as QS Sustainability, now recognise sustainability as a part of their criteria, while others, like the Times High Education Impact Ranking, have introduced specific indicators aligned with Sustainable Development Goals (SDGs). Ranking schemes such as Green Star explicitly incorporate sustainability into their evaluations. In response to social pressures and ranking opportunities, universities have progressively acknowledged their role in promoting and operationalising sustainability beyond traditional areas like education, research and community outreach. The current Operations Management (OM) systems and functions on campus, including building operations, maintenance, landscape and engineering, only support environmental impact reduction through typical preventive and corrective maintenance processes. They do not often respond to external sustainability pressures or ranking opportunities. There is limited research that examines how university OM systems can be transformed to support universities' sustainability activities and enhance sustainability-focused rankings. This study explores the transitional requirements of university OM systems and how they can enhance university green practices, ultimately leading to enhanced university rankings. A customised approach is adopted to enhance the University OM systems by adopting the Extended Transformation Model of Operations by Bettley and Burnley, 2008 to integrate sustainability and complement the ranking. Based on the above model, the required practices should be viewed as inputs and achieving university rankings can be considered a primary output connected to stakeholder values. Then, a diverse group of researchers analysed the statements made by the key author to mitigate the self-indulgent and introspective nature of autoethnography. As an approach, the first step is to integrate double-materiality assessments as inputs to OM systems as indicated the 'Tertiary Inputs' in the model. Common elements such as greening the infrastructure, energy and climate change, waste, biodiversity, and water management should be prioritised based on the materiality assessment with the critical stakeholders' engagement. The second step can be mapping the relevant university ranking elements against the chosen significant materiality elements, aligned with the 'Primary Inputs' in the model. They can be analysed against the existing OM actions/targets and developed into a matrix linking with the targeted university ranking elements. The third step is essential to sustaining the proposed approach, as shown by the 'Secondary inputs' in the model. The listed priority areas in the matrix must integrate into teams' and individual key performance indicators (KPIs) to ensure the deliverables are met and the contributors are well appreciated. Ultimately, the matrix provides OM staff members with better visibility on their contribution towards making a greener campus and eventually improving the universities' ranking. This research contributes to the existing literature on sustainability practices and campus OM in the context of connecting to the university rankings. The insights derived from the study are particularly relevant for Higher Education Institute policymakers and sustainability practitioners. Developing case studies by applying the proposed model in high-ranking and emerging universities is identified as the next step in this work.

Keywords

Operational Management, Sustainability Management, University Ranking, University Systems.

Biographies

Chalaka Fernando is a 17-years+ experienced Sustainability professional currently leading the Environmental Management Plan at the Australian National University in Canberra, where he earned his PhD in Quantitative Sustainability Assessment for sharing economy systems such as carpooling, using Dynamic-Life Cycle Assessment as the methodology. Previously, he served as the General Manager for Sustainability at the largest apparel company in Sri Lanka and held various sustainability roles in the cement industry for over a decade. His expertise spans Environmental Management, CSR, Sustainable Construction, Quality Management, and overall Sustainability, culminating in his promotion to Regional Sustainability Compliance Coordinator for the Middle East and APAC regions. His core competencies include sustainability management strategising and operationalising, stakeholder engagement and collaboration, quantitative sustainability assessments (LCA) with simplified interpretation skills, GHG reporting and management, project management, and energy assessments. He is adept at data-driven materiality analysis, monitoring, reporting, and review, change management, process simplification, and implementing and maintaining ISO systems certifications. He is passionate about working with diverse teams and executing simple, scalable sustainability actions. Currently, he serves as a Non-Executive Director for the Australian Life Cycle Assessments Society (ALCAS)

Chanjief Chandrakumar is a sustainability specialist and a researcher who investigates the connections between science-based climate action, sustainable development, policy, and economic aspects. Over the past 8 years, Chanjief has worked alongside government agencies, financial institutions, and leading research universities and organisations in Australia, Europe, and New Zealand, including the Global Research Alliance on Agricultural Greenhouse Gases, International Energy Agency, New Zealand Ministry for Primary Industries, ETH Zurich, University of Oxford, and University of Sydney. He was also the founding president of the IEOM Student Chapter at University of Peradeniya, Sri Lanka (back in 2015). Currently, Chanjief is a Team Lead – Life Cycle Assessments at thinkstep Pty Ltd, where he advises businesses to succeed sustainably, using tools and approaches such as Life Cycle Assessment (LCA), circular economy, and science-based targets. He is also part of the Global Research Alliance on Agricultural Greenhouse Gases and an active member of the MACS-G20 Collaboration Initiative on Food Losses & Food Wastes. Chanjief holds a BSc (Hons) degree in Production Engineering from the University of Peradeniya, Sri Lanka, and a PhD in Environmental Life Cycle Management from Massey University, New Zealand. His PhD investigated a method called ‘Absolute Sustainability-based Life Cycle Assessment’ which assessed the climate change performance of New Zealand’s economic sectors. The innovative method is based around three established frameworks: LCA, Planetary Boundaries and Sustainable Development Goals.

Hiruni Rathwatta is currently working as a lecturer and an emergent scholar in the Department of Accountancy and Finance at Rajarata University of Sri Lanka (RUSL). She also serves as the representative for the Faculty of Management Studies at the university’s Sustainability Centre. Hiruni completed her first degree in Accounting (Special) from the Department of Accounting at the University of Sri Jayewardenepura, Sri Lanka. She then pursued her master’s degree at the University of Colombo, Sri Lanka. Hiruni holds an Associate membership in the Chartered Institute of Management Accountants (UK). Her areas of research interest include sustainability, Sustainability Education, Accounting History, Accounting Education, and Strategic Management Accounting.

Dr. Nuwan Gunarathne holds the position of Senior Lecturer in the Department of Accounting at the University of Sri Jayewardenepura (USJ), Sri Lanka. He is also the Director of the Research Centre at the Faculty of Management Studies and Commerce of USJ. He is a Fellow Member of the Institute of Certified Management Accountants of Sri Lanka and a member of the Chartered Institute of Management Accounting (UK). Nuwan earned his doctorate in corporate sustainability and sustainability accounting from Griffith University, Australia. He also possesses an MBA from the Postgraduate Institute of Management (PIM) in Sri Lanka and a Business Administration degree from the University of Sri Jayewardenepura, Sri Lanka. His areas of research encompass corporate sustainability, digitalisation of sustainability reporting, waste management, and accounting education.

Warunika Hettiarachchi is a Lecturer attached to the Department of Marketing Management, Sabaragamuwa University of Sri Lanka. She also serves as a member of the Policy Gap Analysis of SUSL and a member of the Process Optimization committee under the Faculty Quality Assurance Cell. She obtained her BSc. (Special) in Marketing Management from the University of Sri Jayewardenepura and a Master of Business Administration (MBA) from the Postgraduate Institute of Management (PIM), University of Sri Jayewardenepura. Warunika is a Member of the Sri Lanka Institute of Marketing. Her areas of research interest include Sustainability Marketing, Sustainability Education, Hospitality & Tourism Management, Consumer Behaviour, and Consumer Psychology.