

Measuring Hospital Environmental Performance: An alternative approach

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Abstract

The publication of ‘Our Common Future’ (1987) and increasing pressures on reducing waste and costs in manufacturing and services have generated growing research on environmental performance measurement. Developed countries and emerging economies such as Brazil have been faced with these issues while seeking alternative ways to reduce the environmental impact of operations and improve the quality of processes and results. The healthcare sector, particularly hospitals, have struggled to find new frameworks to measure and monitor their environmental performance. Considering this context, the current study sought to develop an alternative framework drawn from literature review, best practices, field studies and legislation. An environmental performance measurement framework and process were applied in six philanthropic hospitals in the South of Brazil. A total of 69 goals were established by the six hospitals and later deployed in 65 strategic, 67 tactical and 53 operational actions. In terms of outcomes, 57,97% of all goals were achieved and ongoing targets encompass 36,23%; only 2,9% of all goals could not be achieved. Overall, the framework was deemed feasible, usable and useful for managers. According to case study participants, the framework allows the generation of meaningful indicators while creating a culture of sustainability and commitment to established goals.

Keywords

Healthcare Operations. Environmental Performance. Measurement. Hospitals. Framework.

Biographies

Andreia Pasqualini Blass received her PhD from the Pontifical Catholic University of Parana – PUCPR. She is a Professor in the Operations Management Division and Course Leader. Dr Blass is also the Coordinator of Unilabor (Microbiology and Water Analysis Laboratory) and Unidavi’s Sustainability Programs Director. She is also a member of the local Food Safety and Quality chapter. Currently, she holds a postdoc position at the Pontifical Catholic University of Parana in the Business Administration Department. Her teaching encompasses the Medicine, Manufacturing and Mechanical Engineering courses. Her research interests include sustainability measurement and management, biotechnology, food safety and security and healthcare operations performance.

Lilian Adriana Borges holds a PhD from the University of Nottingham Business School (United Kingdom) in Manufacturing Engineering and Operations Management. For 10 years, she worked in the industry in the exports/imports area. Dr Borges is a Professor in the Medicine, Manufacturing Engineering and Business Administration Courses. She is part of both the local council on Food Safety and Quality and Healthcare and deputy coordinator of the Acafe Research Chamber, which includes 18 community universities. Her research interests include sustainability processes and performance measurement, healthcare operations, operations strategy and food supply chain management.

Sergio Gouvea da Costa received his PhD in Industrial Engineering from the University of Sao Paulo (USP), his Master's degree in Electrical Engineering (Automation) from the University of Campinas (UNICAMP), and his Bachelor of Science in Electrical Engineering from the Federal University of Technology – Parana (UTFPR). During his PhD he spent 15 months as a Visiting Fellow at the Institute for Manufacturing, University of Cambridge, UK. He is a Professor at the Industrial & Systems Engineering Graduate Program at the Pontifical Catholic University of Parana (PUCPR) and an Associate Professor at the Federal University of Technology – Parana (UTFPR), Brazil. His current research interests include Lean Manufacturing, Operations Strategy and Lean Healthcare.

Edson Pinheiro de Lima is a Full Professor of Technology and Operations Management at the Industrial and Systems Engineering Graduate Program of the Pontifical Catholic University of Parana (PUCPR). He also has the position of the Associate Professor at the Federal University of Technology – Parana (UTFPR), both in Brazil. Dr Pinheiro is a Researcher sponsored by the Brazilian National Council of Science and Technology (CNPq). He was from 2009-2010 the Program Director of the Industrial and Systems Engineering Graduate Program at the PUCPR. On 2007, he spent one year as a Visiting Academic at the Operations Management Group of the Warwick Business School, UK. He holds a BSc Degree in Electrical Engineering (UTFPR– Brazil), a MSc Degree in Electrical Engineering – Automation (UNICAMP – Brazil) and a PhD in Industrial Engineering (UFSC – Brazil). During his PhD he spent 12 months as a Visiting Academic at the Polytechnic University of Madrid, Spain. His research and teaching is in operations strategy, performance management, strategic management, organizational design and sustainable operations.