Interplay between information systems and environmental management in ISO 14001-certified companies

Implications for future research on big data

Paula De Camargo Fiorini
Department of Production Engineering,
Sao Paulo State University (UNESP), Bauru, Brazil
Charbel Jose Chiappetta Jabbour and
Ana Beatriz Lopes de Sousa Jabbour
Montpellier Business School, Montpellier Research in Management,
Montpellier, France
Nelson Oliveira Stefanelli
Business School, University of São Paulo, Ribeirão Preto, Brazil, and
Yudi Fernando
Faculty of Industrial Management,
Universiti Malaysia Pahang, Kuantan, Malaysia and
Management Department, Bina Nusantara University, Jakarta Barat, Indonesia

Abstract

Purpose – The purpose of this paper is to identify the contributions of information systems (IS) for the evolutionary process of corporate environmental management by highlighting implications for big data research. **Design/methodology/approach** – The authors conducted two case studies with Brazilian enterprises certified by ISO 14001, by conducting interviews, document analysis and direct observation. Implications for a research agenda on big data are also presented. **Findings** – As results, the authors present the identification of the main contributions of IS for the evolution of environmental management in the studied cases. The authors found that advanced stage regarding IS may be considered a factor that implies a more effective environmental management.
Originality/value – The main contribution of this research consists of the presentation of a framework that identifies the support of IS for corporate environmental practices. By confirming the relation between IS and maturity levels of environmental management, the authors highlight that application of big data has the potential of boosting the relation between IS and corporate environmental management.

Keywords Information systems, ISO 14001, Big data, Sustainable operations, Corporate environmental management