

Preface

Sustainability is becoming a key business imperative. For the sake of their long-term success, companies have increasingly recognised the need to ensure the future of both humans and the Earth (Hay et al. 2005; Kleindorfer et al. 2005; O'Brien 1999). Moreover, an impressive number of articles in scientific journals are concerned with sustainability (Linton et al. 2007), and the mass media provide an incredible variety of stimuli. Featured on 24,300,000 web pages in 2010 (Google 2010) and 121,000,000 in 2012 (Google 2012), sustainability has attracted the attention of numerous programmes, places and institutions.

More and more companies are considering sustainability as an opportunity and a source of competitive advantage (Accenture 2010) that must be developed in core business processes (Porter and Kramer 2006). In 2010, Accenture conducted an online survey of 766 Chief Executive Officers (CEOs), across 100 countries and 25 industries, who are members of the United Nations Global Compact. Eighty per cent of the responding CEOs stated that sustainability issues must now be fully embedded into corporate strategy and that integration is considered a source of competitive advantage.

Sustainable strategies are long-term oriented and aim to develop and regenerate different company resources and to achieve economic, environmental and social performance (Bettley and Burnley 2008; Dyllick and Hockerts 2002; Nichioka 2010). This goal has been referred to as the 'Triple Bottom Line' (Elkington 1994). Economic sustainability represents the need to guarantee economic success to a company and its stakeholders (Vachon and Mao 2008; Steurer and Konrad 2009; Dyllick and Hockerts 2002). Environmental sustainability is concerned with reducing environmental impact through more efficient use of materials and natural resources and pollution prevention (Rothenberg et al. 2001). Social sustainability involves benefits that have an impact both outside a company (i.e. benefits that a company may bring to the surrounding society) and inside a company (i.e. supporting worker health and safety and well-being, encouraging future generations to develop skills and capabilities and promoting a high quality of life; Pagell and Wu 2009).¹

¹ Because this book focuses on internal operations, it considers social sustainability only in terms of impact inside a company, as described by Kelindorfer et al. (2005).

Academics and practitioners are aware of the increasing connection between operations and sustainability (Bettley and Burnley 2008; Kleindorfer et al. 2005; Linton et al. 2007; Pagell and Wu 2009; Seuring and Muller 2008). A company's operations function is the 'engine room of the organisation' and is responsible for the production and delivery of the company's product (Bettley and Burnley 2008). Operations necessarily involve issues related to energy and material consumption and emissions, along with worker well-being and working conditions.

Bettley and Burnley (2008) summarise the 'main driving forces' responsible for the increasing importance of sustainability in operations management as follows: competitive pressures arising out of the recognition of the cost advantages of reducing materials and energy consumption and waste production and the resulting economic benefits of environmentally friendly behaviours; perceived marketing advantages; legal obligations to limit the impact of human activities on the environment and on third parties; the demands of investors seeking long-term reliability; and finally, internal ethical values, which change in parallel with external shifts.

To pursue their environmental and social goals, operations departments invest more and more in environmental and social programmes (Klassen and Whybark 1999; Vachon and Klassen 2007); until recently, however, the operations management literature has primarily focused on strategies and programmes related to environmental issues (Bettley and Burnley 2008; Kleindorfer et al. 2005; Burke and Gaughran 2007). Nonetheless, various authors suggest the increasing relevance of the social perspective (Bettley and Burnley 2008; Vachon and Mao 2008). There is only limited guidance on how to design an operations system to achieve the triple bottom line (Docherty et al. 2009; Kleindorfer et al. 2005; Waage et al. 2005; Hutchins and Sutherland 2008).

The literature suggests that economic sustainability exists on different level with respect to environmental and social issues because it simultaneously plays the role of enabler and final goal of firm's activities (Mauerhofer 2008; Russo 2009). Therefore, operations-related programmes—related to economic performance improvement—and environmental and social programmes—related to environmental and social performance improvement—have previously been considered separately. Lean manufacturing has been widely recognised as a competitive weapon that leads to better operational and economic performance (de Treville and Antionakis 2005). The impact of lean manufacturing on the triple bottom line is contradictory: both positive and negative effects on environmental and social sustainability have been suggested, and the literature highlights possible synergies with environmental and social programmes (Bergmiller and Mcright 2009; Miller et al. 2010). The theme of lean manufacturing effects on the environment and worker well-being is not restricted to the literature; for example, using social networks (e.g. LinkedIn), groups of practitioners and academics discuss both environmental and worker health and safety issues in lean manufacturing contexts (e.g. Lean Six Sigma, Lean Business System), focus on the topic of worker well-being in lean manufacturing contexts (e.g. Lean Safety, EHSQ Elite) and address the environmental impact of lean manufacturing (e.g. Lean and Green, Lean and Green Network).

Accenture's 2010 survey of Global Compact-affiliated CEOs showed that even when firms have environmental and social sustainability programmes and initiatives, few implement all of the procedural and organisational changes necessary to fully achieve their triple bottom line goals. Therefore, companies must understand how human resources management (HRM) (i.e. training, involvement and incentives) and organisational practices (i.e. role design, teamwork) should be designed to provide the knowledge, skills and mindset to effectively achieve the triple bottom line (Accenture 2010; Mohrman and Worley 2010).

The main purpose of this book is to help companies to deploy sustainable operations strategies by providing empirical evidence about how HRM and organisational practices can increase environmental, social and economic sustainability performance—triple bottom line—fostering the definition and implementation of environmental and social programmes and the alignment of lean manufacturing and environmental and social goals and programmes.

This book is organised into four main chapters. In the first chapter, operations strategies and their links to the triple bottom line are presented. Next, the book is structured into three primary chapters discussing the roles of HRM and organisational practices in terms of (i) impacts on environmental and social sustainability, (ii) sustainable operations strategy definition and implementation and (iii) triple bottom line and lean manufacturing alignment.

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