Green Finance and Sustainability:

Environmentally-Aware Business Models and Technologies

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BUSINESS SCIENCE Reference

Detailed Table of Contents

This chapter reviews and discusses the debate over the effectiveness of environmental regulation in promoting industrial Technological Environmental Innovation (TEI). Using the innovation-friendly regulatory principles adapted from Porter and van der Linde (1995a and 1995b), this chapter demonstrates how properly designed and implemented environmental regulation (TEI promoting regulation) has played a critical role in promoting TEI in the transport industry in California and Hong Kong.

This chapter consider new methods of component extraction and identification for the Environmental Sustainability Index (ESI) – an aggregation of environmental variables created as a measure of overall progress towards environmental sustainability. Principally, the authors propose and illustrate a parametric version of Independent Component Analysis via Copulas (CICA). The CICA procedure yields a more coherent picture of the determinants of environmental sustainability.

Section 2
Green ICT for Sustainability

In this chapter, the current situation regarding green data centres in the Netherlands is mapped. The chapter successively goes through the entire chain of processes that are needed for arriving at greener data centres. The chapter starts with the legislators. It continues with the procurement of IT. It discusses the design of facilities required for a data centre and the ICT provisions as used by this data centre. It looks at the analysis of the degree of sustainability in data centres and the measures that need to be taken as a result of this. And it concludes by describing how ICT equipment could be recycled.

The first part of the chapter includes presentation of benefits resulting from IT (Information Technology) resources virtualization, Grid computing and cloud computing development. The second part

This chapter presents a global overview of green logistics practices at various management levels and the inherent challenges of their implementation in emerging markets. It begins by clarifying the terminology and describing its scope and characteristics, and it continues with an analysis of the impact of green logistics on the creation of economic and social value.

This book chapter examines the relationship between the pursuit of a sustainability-focused corporate strategy and the level of vertical integration observed in organizations. The study makes two contributions. First, it develops the theoretical foundation for linking sustainability strategies to organizational structure. Second, it empirically examines the vertical integration level of 144 sustainability-focused companies in 9 different industries.

This chapter will discuss the role of logistics and supply chain management in the generation of such pollutants and examine methods to mitigate this byproduct of modern business activity. It will be shown that a series of trade-offs exist which are complex in nature and require careful consideration when confronting environmental concerns.

The adoption of greener construction practices occurs mostly in the realm of building projects. Existing environmental evaluations are often generic, and hence, unable to manage the complexity of larger infrastructure systems such as airports. To respond to this need, the authors of this chapter developed the theoretical grounds for the evaluation of greener airport systems.

Nowadays, more organisations are focusing on how to improve their environmental performance, partly driven by recent regulations in this area. This means that green supply chain management plays an important role over traditional supply chain management. Companies could gain competitive advantage through the proper management of their supply chain activities, for example, purchasing management. In fact, organisations can now generate more business opportunities than their competitors by addressing environmental management successfully.

This chapter presents an environmentally integrated manufacturing system analysis for companies looking for the benefits of environmental management in achieving high productivity levels. When the relationship between environmental costs and manufacturing decisions is examined, it can be seen that the productivity of the company can be increased by using an environmentally integrated manufacturing system analysis methodology.

Section 5
Regional Development

This chapter examines the impact of Chinese electricity market establishment and environmental regulatory institution on CCS. This chapter argues that Chinese government should protect Intellectual Property Right (IPR), liberalize electricity market, and enforce environmental regulation in order to harvest CCS benefits successfully.

China and its population are confronted with fundamental environmental challenges, as both environmental degeneration and the impact of climate change exhibit critical political, economic, and social implications for their future development. Among the various environmental challenges China faces, this chapter identifies pollution issues, soil erosion, acid rain, and sea-level rise.