# Chapter 14
# A Framework for Environmentally Responsible Business Strategies

**Bhuvan Unhelkar**
*University of Western Sydney & MethodScience, Australia*

**Bharti Trivedi**
*DDU Nadiad, India*

## ABSTRACT

*An organization's future increasingly depends on its environmental sustainability, so it is vital to equip present business architecture with a framework for environmental compliance. A business needs to understand the Green policies, processes that create waste and emissions, enablement of efficient use of resources, metrics for monitoring the greening of the organization and implementation of environmental strategies. This chapter will provide a review of environmental challenges and understanding of the contribution of Information and Communication Technology (ICT) in environmental strategies of a business and its sustainable management. A consolidated, systematic approach to the redesign of a business enterprise and to forming an Environmentally Responsible Business Strategy (ERBS) is presented. The methodology includes five activities: Need for reengineering the business architecture, Map and investigate the processes, Design ERBS, Implement reengineered process and employ ERBS and improve continuously to monetize emissions.*

## INTRODUCTION

Advanced and smart ICT applications are keys to effectively fight climate change, protect biodiversity and manage natural resources (www.oecd.org**)**. According to Gurría, OECD Secretary-General, and Sander, Danish Minister for Science, Technology and Innovation, to achieve a low-carbon economy, the development and deployment of new technologies is essential. Gurria suggested that there is need to expand the pool of available technologies and their potential to mitigate climate change and then to reduce the cost of new or emerging technologies that will be non-polluting or reduce emissions. Together, they will help to lower future marginal cost of mitigating climate change.

DOI: 10.4018/978-1-61692-834-6.ch014

As per Sander (www.oecd.org) it is very important to focus on Green ICT to boost beneficial ICT applications across all spheres of society. This paper will identify the opportunities and the best practices by ICT to form an Environmentally Responsible Business Strategy (ERBS) for environmental management, energy efficiency, resource management and form a cleaner strategy for business with minimal waste. This paper finds the feasibility of business reengineering and overall impact of the magnitude of ICT to reduce energy consumption, measure the emissions and increase resource utilization.

## ICT AND THE ENVIRONMENT: LITERATURE REVIEW

Firstly, in order to understand the role of ICT to reengineer the business process to attain the ERBS, an understanding of the direct carbon footprints of the ICT sector is required. Secondly, the quantifiable emissions reductions that can be enabled through ICT applications in other sectors of economy (Tang, 2008) need to be understood. Finally, the new market opportunities and product innovations are considered.

The ICT industry has a very significant role to play in reducing Green House Gas (GHG) emissions (Tang, 2008). According to the estimates of Gartner the global information and communications technology (ICT) industry accounts for approximately 2 percent of global carbon dioxide ($CO_2$) emissions (www.gartner.com). International telecommunication Union (ITU) (portal.unesco.org**)** stated that ICT can play a vital role in combating climate change. They can be used for remote monitoring of climate change and gathering important scientific data - for instance, using telemetry or remote sensing by satellite. Furthermore, smart technologies can usher in a whole new generation of energy-efficient products, notably in next-generation networks (NGN). According to the Worthington (2009) these emissions could achieve a 15% reduction in overall emissions by 2020.

## NEED FOR REENGINEERING THE BUSINESS ARCHITECTURE

Reengineering is the fundamental rethinking and radical redesign of business processes to achieve dramatic improvements in critical, contemporary measures of performance such as cost, quality, service and speed (Hammer & Champy, 1993). As highlighted by Unhelkar and Dickens (2008) that the rapidly growing importance of environmental issues requires business enterprises to take immediate responsibilities for "Green" initiatives because business enterprises have greater resource available to them, as compared to rest of the society. Furthermore, their activities have greater impact on the environment (Unhelkar & Dickens, 2008).

There is a need to reengineer the business operations, process and services according to the environmental parameters because with the increasing recognition that man made $CO_2$ emissions are a major contributing factors to global warming (Murugesan, 2008). Enterprise, government and society at large now have an important new agenda: tackling environmental issues and adopting environmentally sound practices.

As business and ICT move closer to a convergence then ever before, business will access technology resources not just through a common infrastructure or application platform, but through the transparent business methodology (www.business-ecology.org). This requires ICT to no longer be viewed as a utility but rather an integral and vital asset of a business to form an Environmentally Responsible Business Strategy (ERBS). Figure 1 illustrates the internal and external factors that compel an organization to adopt "Green" policies and strategies.