Green Business Practices for Software Development Companies: An Explorative Text Analysis of Business Sustainability Reports

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ABSTRACT

This paper reports the findings of a text analysis of the corporate sustainability reports of eleven large scale Indian Software Development Businesses for the period of 2012 to 2014. The results shows that there are twenty-two reported components of software development sustainability namely green buildings, green energy, green factory, green data centres, green infrastructure, green initiatives, green innovation, green packaging, green portfolio, green power, green practices, green procurement, green products, green program, green rating, green solutions, green space, green team, green tech and green supply chain which are addressed in the published reports of Indian software development businesses. The reports were further analysed to infer some knowledge on how the software development companies could contribute to green environment and the possible environmental impacts of these contributions. Finally a number of generalised conclusions were derived and followed by a set of implications for best practices in green software development as the outcome of the research reported in this paper.

Keywords: Corporate Sustainability, Environment, Green Software Development, Indian Software Development Business

1. INTRODUCTION

Green business practices were started taking momentum with the increasing concerns on environmentally friendly business practices. There are a number of recent documented studies dealing with the green business practices of organisations. For example, green product innovation (Dangelico & Pujari, 2010); green purchase behaviour among younger generations (Kanchanapibul, Lacka, Wang, & Chan, 2014); green supply chain practices under uncertainty (K.-J. Wu, Liao, Tseng,
and Chiu, 2014); investigation into the practices of green marketing (Fuentes, 2014); a strategic approach to develop green supply chain (Masoumik, Abdul-Rashid, Olugu, & Ghazilla, 2015) and an investigation into the relationship between leadership, operational practices, institutional pressures and environmental performance (Dubey, Gunasekaran, & Samar Ali, 2015) are a few to highlight. These advancements in the green thinking front along with the increasing emphasis on environmentalism and related ethical goals compels the organisations to be greener in their practices adapted for developing the product as well as delivering the final output. For example, the greening could be achieved in all phases of business activities used across the entire product life cycle from concept initiation through development to product delivery. This requires an organisation wide understanding of greening possibilities in all phases of business activities. Therefore we present the following research questions to be tackled in the research documented in this paper.

1. What has to be Green in a Software Development Business?
2. How Software Development Companies could contribute to Green Environment?
3. What lessons we could learn from Indian Software giants on Green Software Development?

Firstly, we are looking at the actual elements of green software development. Green software development has been a well-researched area, but lacks to have a comprehensive framework for assessing the whole process. For example (Shenoy & Eeratta, 2011) documented a research on a number of changes in the SDLC process which would reduce the environmental impacts to an extent. However, this research has not clearly identified the key aspects in a software development business which is essentially needs to be green. Therefore, the first research question focuses on identifying the aspects which has to be made green in a software development environment.

Secondly, the ways in which software development companies could contribute to green environment is investigated. A recent research reported by (Murugesan, 2008) states that adapting a holistic approach to green IT is the responsibility of the organisations towards creating a more sustainable environment. The research reported by (Hopkins et al., 2009) state that different organisations interpret sustainability in different ways, which means that there is no universally accepted standard method or way to assess sustainability in organisations. This phenomenon could also be applied to the software businesses which are striving to make contribution towards greening the environment.

Finally, we are looking at the lessons which could be learnt from Indian software giants on green software development. India has been identified as a country with remarkable software exports to the western part of the world. In fact, a research reported by (D’Costa, 2003) highlights the uneven technological education and innovation in India which has been primarily geared by the increasing software exports of that country to the developed counterpart. Besides highlighting the issues caused by the uneven development of technological education, the article indirectly alarms the excessive diffusion of software technology in that country, which could possibly make the organisations to be more aware about the environmental friendliness of the technologies and resources they are deploying in their business.

Therefore, we have decided to tackle the aforementioned three questions for the research documented in this paper.

The next section will summarily present the recent relevant published literature in this domain.
Critical Success Factors (CSFs) for Enterprise Resource Planning (ERP) Solution Implementation in SMEs: What Does Matter for Business Integration
Simona Sternad, Samo Bobek, Zdenko Dezelak and Ana Lampret (2010). Enterprise Information Systems for Business Integration in SMEs: Technological, Organizational, and Social Dimensions (pp. 412-431).
www.igi-global.com/chapter/critical-success-factors-csf-enterprise/38211?camid=4v1a

IT Adoption and Industry Type: Some Evidence from Kuwaiti Manufacturing Companies
www.igi-global.com/article/adoption-industry-type/2090?camid=4v1a