Motivations to Adopt Green ICT: A Tale of Two Organizations

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ABSTRACT

Though green information and communication technology (ICT) is gradually becoming a buzzword, not much scholarly attention has delved into the motivations that can entice organizations to adopt it. To address this issue, this paper serves a three-fold purpose. First, it investigates the motivations for adopting green ICT from organizations’ perspectives. Second, it explores cases of two organizations (Hewlett-Packard and Microsoft Corporation) known for their green ICT strategies and unearths the extent to which such motivations are applicable to them. Third, through the two cases, the paper gives valuable insights to non-green organizations into the potential benefits of green ICT. The paper proposes a three-tier theoretical framework consisting of management, technological, marketing, financial and regulatory motivations, and acts as an eye-opener for non-green organizations by suggesting that it is their inability to identify these motivations that prevent them from adopting green ICT.

Keywords: Carbon Footprint, Case Study, Green Computing, Green Information and Communication Technology (ICT), Hewlett-Packard (HP), Microsoft, Motivations

INTRODUCTION

Information and communication technology (ICT) is an umbrella term associated with the use of computers and communication technologies, and involves systematic collection, storage, retrieval, processing and dissemination of information. Over the past decade, ICT has transformed the world by continuously delivering ingenious products and services. It finds widespread applications in e-governance, distance education, disaster management, agriculture, human resource management, and plays a pivotal role in the overall growth and development of the society (Bhatnagar, 2000). The steep increase in the use of ICT is not foreseeable to plateau in the near future.

The obvious blessings of ICT however, cannot refute the fact that it is a potential environmental pollutant. It contributes as heavily as 2-2.5 percent of the global carbon footprint (Gartner, 2007). ICT thus, represents a double-edged sword. On one hand, it has become such an integral component of the modern society

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that it can never be discarded. On the other, its use can be detrimental for the environment. Hence, the only option is to renovate, remodel and revive the existing ICT sector to ensure that its impacts on the environment are minimized as much as possible. This makes way for an emerging trend, known as green ICT.

Green ICT, also known as green computing or sustainable computing, is defined as:

*The study and practice of designing, manufacturing, using, and disposing of computers, servers, and associated subsystems (monitors, printers, storage devices, etc.) efficiently and effectively with minimal or no impact on the environment* (Murugesan, 2008, pp. 25-26).

It refers to a set of computing strategies that are eco-friendly and environmentally sustainable. It is not a one-time effort but is regarded as a continuous process to adopt environmentally conducive computational techniques (Jenkin, Webster & McShane, 2011). Green ICT is fast becoming a buzzword given its ability to reduce the carbon footprint associated with traditional ICT.

Although the notion of green ICT is profitable for the environment, organizations are often found reluctant to adopt it. This is perhaps because green ICT efforts apparently require huge investment of time, money and resources, which cannot be undertaken overnight (Jenkin, Webster & McShane, 2011; Olson, 2008). Widespread adoption of green ICT by organizations can occur only if its use leads to the achievement of tangible beneficial outcomes or avoidance of tangible adverse consequences (Philipson, 2011). Yet not much scholarly attention has delved into the factors that can potentially motivate organizations to adopt green ICT.

In order to address the issue, this paper sheds light on green ICT from the perspective of organizations, and serves a three-fold purpose. First, it investigates the motivations for adopting green ICT from organizations’ perspectives. Second, it explores cases of two organizations (Hewlett-Packard and Microsoft Corporation) known for their green ICT strategies and unearths the extent to which such motivations are applicable to them. Third, through the cases, the paper gives valuable insights to non-green organizations into the potential benefits of green ICT.

The remainder of the paper is organized as follows. The following section presents the literature, which subsequently culminates into a three-tier theoretical framework that underpins the motivations for organizations to adopt green ICT. Then, the Methodology section explains the procedures for data collection and analysis. Next, the cases of the two organizations are elaborated in light of the theoretical framework. Finally, the paper discusses the implications and concludes by highlighting the limitations and future scope.

**LITERATURE REVIEW**

**Importance of Green ICT**

Though the ICT industry was initially viewed as environmentally benign, the carbon footprint caused by ICT equipments has been a subject of intense interest since the first Energy Star specification for personal computers was released in the early 1990s (Johnson & Zoi, 1992). ICT represents 2-2.5 percent of the total global carbon emissions, which is equivalent to the global aviation industry (Gartner, 2007). In previous decades, environmental considerations of ICT were at best, after thoughts. However, as the ICT sector gathers steam, they are becoming essential forefront considerations (Bozman & Prete, 2011). This has led to the emergence of green ICT.

Green ICT aims to maximize the use of ICT resources while reducing their cumulative carbon footprints (Murugesan, 2008; Potter, 2008). It attempts to find the intersection between the adoption of appropriate eco-friendly strategies and the implementation of right business strategies (Gupta, 2009). It involves looking at the bigger picture - not only profit maximization for the organization but also better environment for mankind. Green ICT is not a single technique
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