

# Chapter 63

## Green IT Adoption Practices in Education Sector: A Developing Country Perspective

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### ABSTRACT

*Green IT is a resource efficient and effective consumption to reduce organizations processes impacts to the environment using information technology. This article aims to explore GIT practices of higher education institutions in the Philippines, where a qualitative multiple-case study is used. The study found that higher education institutions Green IT adoption covers the use of paperless and digital archiving systems, resource efficient IT equipment, responsible electronic waste disposal, recycling and reuse, and initiated awareness programs to educate the employees about Green IT and sustainability. The study also found that these practices are in its early stage of adoption in higher education institutions in the Philippines. This article also presents practical and research implications to further the uptake of Green IT in higher education institutions.*

### 1. INTRODUCTION

Green IT (GIT) is a resource efficient and effective consumption through the use of IT infrastructure and systems. It also involves managerial and individual's practices towards sustainable environment (Lei and Ngai, 2013). It is an approach to encourage stakeholders' participation in solving environmental problems, and strategic focus for organizations to achieve sustainability (Loeser et al., 2017). Essentially, this approach is expected to reduce business operations cost, wastes and emissions of carbon footprint, thus, minimizing the overall impact of IT usage in the environment (Gholami et al., 2013).

Although there are different approaches to achieve GIT benefits, both for organizations and environment (Asadi and Dahlan, 2017), a handful of studies explored on GIT practices in organizations, more specifically, the education sector. First, the education sector researchers are actively involved in the

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growing literature of GIT exploring private and public organizations. To date, limited studies have been published on exploring the practices of GIT in higher education institutions (HEI). Second, there is a growing appreciation of GIT adoption in higher education institutions in developed countries. However, there is an inadequate investigation of evidence of GIT in developing countries. Third, higher education institutions have started offering programs on sustainability and environment. It presents a challenge of how universities adopt to GIT as a way to foster environmentally sustainable efforts. Thus, this study is motivated by these concerns that the literature lacks in-depth investigation of the GIT practices, issues, and challenges faced by higher education institutions. Hence, this study fills the gap of understanding Green IT adoption practices in higher education institutions.

This study contributes to growing literature on GIT adoption in higher education institutions, more specifically, in a developing country perspective, the Philippines. Also, it offers new insights on the state of Green IT adoption covering the practices and potential challenges faced by higher education institutions, and approaches to achieve sustainability. Thus, this research is guided by the research question: “*What are Green IT adoption practices towards sustainability?*” To achieve the goal of the study, a qualitative approach using multiple case studies was employed involving higher education institutions in the Philippines. Hence, this study argues that the understanding of GIT adoption in HEIs not only significant to the Philippines, and is similarly important to other rising economies.

The remaining sections of this paper are presented as follows: GIT in education and overview of the Philippine higher education institutions, discussion of the research methodology, the data analysis is presented, discussion of findings, explanation of implications to both research and practice, and conclusion and future work.

## **2. REVIEW OF LITERATURE**

### **2.1. Green IT**

The environmental challenges covering the rising carbon footprint emissions, depletion of natural resources and increasing waste ending in landfills is gaining more attention and discussion among public and private stakeholders (Hilty and Aebischer, 2015). These challenges resulted in the formation of accords in various regions to understand the implications of human safety, business, technology development, and environmental sustainability (Nisha et al., 2013). Conversely, it is a significant area of research in the information systems and environmental education. Thus, sustainability through Green IT was conceived as an important strategic focus for organizations today. GIT is an efficient resource consumption using IT infrastructure as well as applying managerial and human practices, and organizational policies towards sustainability (Molla et al., 2014). To date, many organizations have been proposing their GIT agenda (Ardito and Morisio, 2014), and anchoring it to the sustainability mission and vision (Hernandez and Ona, 2016), to realize the full benefits of GIT, both for economic and environmental performance. Previous studies suggest that adoption of GIT in organizations have been very limited (Khor et al., 2015), especially in developing countries (Hernandez and Ona, 2015). It requires technological and organizational readiness, and support from the external environment to progress from simple to broad – complex GIT adoption activities (Deng and Ji, 2015). Hence, there is a greater need to explore and initiate GIT adoption in organizations.

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