

Understanding Motivation Factors in Green IT Adoption: An Empirical Evidence from Philippine SMEs

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ABSTRACT

Green information technology entails the resource-efficient consumption through the use of IT infrastructure to ensure sustainable business and environmental performance. This article explores the perceptions of firms who have adopted Green IT, by developing a conceptual framework that reflects the motivation factors in Green IT adoption in developing countries. The framework was tested using a structured survey and deployed to senior managers of manufacturing and service industries. Results indicated that attitude, internal and external pressure and consider future consequence positively effects the decision to adopt Green IT in organizations. This study also found that customer satisfaction, environment, and economic performance are significant factors in achieving sustainability. Thus, pro-environmental commitment and actions of the organizations drive green business activities. Through this research, the study recommends further investigation of the relationship among the motivation factors as well as its implications for organizations' performance towards sustainability.

KEYWORDS

Extent of Green IT Adoption, Green IT, Green IT Adoption, Sustainability

INTRODUCTION

Green IT refers to the sustainable use of resources recognizing its incremental benefits for economy and environment. This is due to the need for reducing the business activities impacts to the environment as well as promotes long term sustainability in all aspects of organizations' operations (Park et al., 2012). Hence, Green IT is considered as one of the many approaches to help solve environmental problems and achieve resource-efficient production and conservation.

Previous studies found the increasing benefits Green IT adoption in organizations. First, GIT adoption promotes resource-efficient business operation reducing carbon footprint and wastes (Mithas et al., 2010; Gholami et al., 2017). Second, it encourages environment stewardship and responsibility among firms resulting good corporate image, brand equity, and eco-friendly practices (Melville, 2010; Gan et al., 2017). Lastly, drives green innovation aiming to sustain green business operation by designing and developing energy-efficient electronics and IT equipment (Dao et al., 2011; Loeser et al., 2017). Thus, Green IT can drive positive effects both for economic and environment performance.

DOI: 10.4018/IJABIM.2018100102

However, prior researches were focused on understanding the acceptability and readiness of organizations to adopt Green IT programs and activities (Deng and Ji, 2015; Verdecchia et al., 2017). Most of the studies dealt in developed countries have varying contexts and characteristics which might be different from developing countries perspective (Hernandez et al., 2016). Moreover, these studies dealt with readiness, acceptability, issues and challenges in Green IT adoption. However, limited studies have empirically explored on the motivational factors of Green IT adoption in developing economies, such as the Philippines.

Thus, this study is guided by answering the research question: “What are the motivational factors for an organization to choose to begin Green IT adoption in developing countries?”

Therefore, this study explores on the motivational factors to the adoption of Green IT in organizations. This work can further the understanding of Green IT adoption context in developing countries such as the Philippines, and similarly significant for the developing countries aiming to spur Green IT adoption to achieve economic and environment sustainability.

LITERATURE REVIEW

Green IT

The economic development resulted in environmental degradation, however, firms have also become more aware of natural environment preservation and conservation through resource-efficient business activities, and equipment operation. Companies adopt to sustainable strategies-based stewardship, pollution deterrence, and sustainability as environment protection strategies. These approaches are viewed as prospects to decreasing resource consumption while doing more with less rather than as cost in doing business. Thus, Green IT is approach to planning, designing, adopting, and controlling an eco-friendly use of materials and resource-efficient consumption of energy by utilizing IT infrastructure to reducing disposal, emissions, and manufacturing processes intensity while ensuring the companies adherence to pollution prevention goals, stewardship and sustainability. The Green IT adoption is seen as eco-friendly program comparable with the goals of socio-economic development. Murusegan (2008) suggested that greener goals are integrated in product and service lifecycle to deal with the impacts of IT equipment to the environment from conceptualization, manufacturing, use and waste management. Molla (2009) broadened this idea to cover green sourcing and consider human and managerial aspects in managing IT infrastructures. Bose and Luo (2012) suggested four primary goals that facilitate the application of eco-friendly standards on IT including: (a) utilization of natural recoverable materials for sustainable consumption, (b) end of life management of IT products (c) reduce emission and pollutions by enhancing manufacturing and production processes, (d) constant enhancement of environment-friendly practices for environment conservation, protection, and human health.

Previous studies suggest a number of Green IT applications as strategy to reducing carbon emissions (Park et al., 2012; Hernandez et al., 2016; Karkonasasi et al., 2016). These strategies complement the goals of (a) energy efficiency: cloud-based storage and virtualization, optimization, cooling, and intelligent computer power management (b), green office environment: intelligent and natural lighting systems paperless transaction processing, (c) green transport: telecommuting, conferencing, and transport system, and (d) green industries: applications, appliances and use of wireless and sensor networks, (e) waste management: reuse, reduce, recycle of resources. These solutions could be financially challenging to companies as Green IT requires constant long – term investments.

Attitude Towards Green IT Adoption

Attitude is the awareness and interest in Green IT and considered the affective characteristic of senior managers (Butler, 2011; Gholami et al., 2013). The influence of senior managers acts significantly

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