ABSTRACT

Green IT is the sustainable use of computing resources in organizations with minimal or no impact on the environment. The role of Green IT is recognized to achieve sustainability in organizations. This study presents the extent of Green IT adoption in a developing country. This study used GIT maturity model to assess the overall level of Green IT maturity among manufacturing organizations. The results suggest that participants recognized Green IT, however, a low level of maturity is found within the manufacturing organizations. To further Green IT adoption in organizations, practical and research implications are presented.

INTRODUCTION

Green IT (GIT) is a resource-efficient consumption strategy through the utilization and operation of IT infrastructures and implementation of associated policies aiming to enhance business and environment sustainability. GIT is recognized for its potential in driving organizations towards reducing business footprint while achieving performance with a lesser impact on the environment (Loeser et al., 2017). Hence, GIT is for greener business activities, efficiency, and conservation of resources. Previous studies have recognized the benefits of GIT to sustain firms’ competitiveness. First, cost reduction is one of the emphasis of GIT adoption benefits in organizations to remain sustainable with regard to business operations. GIT lowers business costs for complying with environmental regulations compared with
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competitors who still do traditional way of business which only focus on economic benefits (Ramaya et al., 2013; Gholami et al., 2017a), requires relatively less material and resources during the product design and manufacturing stages (Savita et al., 2016), and lower operational costs (Chugh et al., 2016). Second, the adoption of GIT enhances corporate reputation within the business community and to its stakeholders. GIT improves corporate image of firms as compared with their competitors (Hba et al., 2016), perceived by customers as environmentally responsible (Chuang & Huang, 2016), and favored by shareholders due to their good GIT reputation (Ainin et al., 2016). Third, green innovation as a benefit of GIT aims to make the firms more capable of spurring environmental research and development (Gholami et al., 2016b), enhances environmental management systems (Hoang et al., 2016), and green innovation as compared with major competitors (Hanelt et al., 2016). Hence, GIT can drive green innovation, foster environmental stewardship to improve corporate image and reputation, and cost reduction within business operations.

Despite, the growing benefits of GIT in organizations, there is little work that investigates Green IT adoption in developing countries, such as the Philippines. First, most of these studies have been conducted in developed countries in which Green IT has been progressing enormously using various frameworks, and strategies and research on GIT in the social enterprise are relatively scarce (Coffey et al., 2013). Thongmak (2013) analyzed GIT frameworks in the literature, however, most of these were implemented in developed countries; thus, a proposed sustainable ICT framework for developing countries is discussed. Similarly, Bokolo (2016) found that GIT is more proliferated in IT organizations in developed countries. Thus, this study offers new insights on GIT in a developing country perspective. Second, developed countries are proactively underway of assessing their current level of Green IT maturity and readiness for a more effective propagation of improvement efforts aiming to achieve resource-efficient and low carbon economy guided by a comprehensive GIT strategy. Therefore, a handful of work has been done to initially understand the level of maturity of GIT in organizations in developing economies, such as the Philippines. Seuring and Gold (2013) and de Sousa Jabbour (2014) notes that there are few studies on developing countries exploring the maturity of GIT adoption in the manufacturing industry. Similarly, Ateetanan and Usanavasin (2015) investigated the level of GIT adoption in the government agencies in a developing country using Green IT Maturity Model and found a lower level of adoption. Hence, there is a need to explore GIT maturity in a developing country perspective further. Third, most studies in GIT adoption explored on the factors, antecedents, and drivers to adoption of GIT using well-known Information Systems (IS) theories (Deng & Ji, 2015; Dezdar, 2017), however, few studies attempt to investigate on the level maturity of GIT in manufacturing sector, which greatly contributes to global carbon footprint and degradation of environment (Giret et al., 2015). Thus, this gap in the literature with regards to GIT use in the manufacturing industry is addressed and extends prior empirical findings on GIT adoption maturity in organizations.

Therefore, a study that explores the level of GIT in maturity in developing countries could further insights on its current status, experience, issues, and challenges. To this end, this research aims to assess the level of Green IT maturity within the Philippines manufacturing industry. Hence, this research not only assists policy makers and implementers to further the uptake of GIT within organizations, however, consider GIT as a strategic approach to green growth especially for developing countries and global firms aiming to harness the potential of GIT for economic and environmental sustainability.