


Key Factors for Green IS Acceptance in Banking Segment: Pragmatic Analysis

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ABSTRACT

Almost all service organizations are now well aware about global warming and advantages of green information systems (Green IS) in order to gain social and economic profit at the cost of no harmful effect on environment. Recurrent annotations in the literature have explored that for successful Green IS adoption certain keys factors are required to be considered and followed in various organizations. This paper reviews, analyzes, and corroborates 11 key factors empirically that are accountable for successful adoption of Green IS and performance improvement achievement of banking segments with special reference to the banks positioned at Lucknow, Uttar Pradesh, India. Eleven key factors are identified via in-depth literature review and examined using UTAUT2 and T-O-E models. Analysis of Moment Structure 21.0-Structural Equation Modeling tool is used in the study for data analysis and corroboration. The study will enrich the literature review in this field; also, it will be helpful to the decision makers and practitioners in different segments for successful adoption of Green IS in organizations.

KEYWORDS

Banking, Green Information Systems, Green IS Adoption, Key Factors, SEM, TOE, UTAUT2

INTRODUCTION

Environment concern is gaining attention rapidly across the globe (Brooks et al., 2012; Jenkin et al., 2011; OECD, 2009). Contribution of Information Technology (IT) sector in the Greenhouse Gas (GHG) emission and monitoring global warming (Dedrick, 2010; OECD, 2009), enforcing the IT sector reorientation (Schmidt et al., 2010). Practitioners and researchers studying in the fields like Environment Sustainability, Green Information Systems, Information systems etc. as well as in other disciplines self-proclaimed that there is an urgent need to react and take steps towards GHGs emission and climate change (Gholami et al., 2016). Across the world, environmental scientists had already declared, in 1988, and presented reports on climate change at Intergovernmental Panel on Climate Change (IPCC, 2014). Even after the human activities' implication on environment, their

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tinest concern for environment have not measured any of the activities, which is rapidly contributing to the global warming and consequently expanding sea levels and droughts, biodiversity forfeiture etc. (Anthony and Che Pa, 2016). The intercontinental impetus, in Paris, presented a common agreement of 195 member countries of the UN over legitimate obligatory treaty on climate to lower the global warming below 2°C (UNFCCC, 2015).

The multifaceted potential and benefits of adopting Green Information Systems have been declared by various research studies and reports (Singh & Sahu 2020; Ereş et al. 2009; Molla 2008; Mines & Davis 2007). Adoption of Green IS by organizations benefits the organizations itself, their employees, customers and surrounds in different ways like enhancing their efficiency, growing economies, social benefits in addition to improved reputation and overall performance (Hernandez, 2018; Radu, 2016; Gholami et al., 2016; Deng and Ji, 2015, Ereş et al., 2009). The literature exemplifies that Green IS adoption is the need of the current era to sustain in the competition without any maltreatment to the surroundings. Additional to this, the literature reveals that few Key factors are crucial to consider and to achieve for successful implementation of Green IS in organizations (Sahu and Singh, 2016, Singh and Sahu, 2016, Thomas et al., 2015; Chen et al., 2009). However, little literature is available on key factors for adoption of Green IS in organization, particularly very few literatures are available in Indian organizations context.

Literature shows that many authors have used the term Green IS and Green IT interchangeably (Lei & Ngai, 2013; Gupta & Sahu, 2013). This study has also used the two terms interchangeably. The Green IS studies the planning, adoption and, effect of information systems contributing to ecological business practices (Malhotra et al., 2013, Watson et al. 2008). Green IS includes assorted activities of organizations, decision-making practices and all human activities in the field of information systems and business operations in organizations (Loeser et al., 2017). In UNFCCC, Conference of the Parties, India representative declared that India will lessen the emissions from its Gross Domestic Product by 20–25% till or before 2020 in comparison to the 2005 year levels (Pahuja et al., 2014). Therefore, Indian organizations are in the phase of Green IS adoption (Lee et al., 2013), but due to lack of awareness of key factors, they are facing glitches in smooth and successful adoption of Green IS (Singh and Sahu, 2016).

This study aims to identify the key factors for successful Green IS adoption in banking segment especially referring to the banks situated at Lucknow, Uttar Pradesh India. Second section of the study covers in-depth Literature Review process that explored 11 Key factors for successful Green IS in banking segment. Third section TOE and UTAUT2 model has been used for survey and categorization of Key Factors and AMOS-SEM techniques used for data analysis and interpretation. As a final point a framework for successful Green IS adoption has been developed and presented. At the end of the study limitations and conclusion with future research opportunities is presented.

LITERATURE REVIEW

Topical literature and reports show that organizations have witnessed and realized that Information systems and Information Technology have substantiated a lot for gaining economic benefits for daily operations, however, its (IT & IS) adverse effect on environment has also been verified (Zaman & Sedera, 2015; Chou & Chou 2012; Murugesan, 2008). Consequently, organizations have taken step or are in the phase to take step towards reducing their carbon footprints via reducing GHGs emission from their IT/IS services (Soomro & Sarwar, 2012; Molla 2009). Ehrlich and Holden (1974) had presented a relation among total effect on environment and population, technology and affluence. They predicted that per unit use technology has direct effect on environment. According to Chou & Chou (2012), presently use of IT/IS in organization is extremely high as now most of the services of the world are produced with the help of digital technology. That require heavy amount of installation of IT infrastructure as computer/laptops, printers, scanners, Wi-Fi devices, data centers, servers etc.

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