Chapter 3
Understanding Attitude towards Green IT among Professionals in IT Service SMEs in Bangladesh

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ABSTRACT

Bangladesh is a least developed country which ranks 131 out of 132 in the environment pollution index. Currently, small- and medium-sized enterprises (SMEs) provide 70–80 percent of job opportunities in Bangladesh. Information technology (IT) is one of the industries providing highest employment in the country. The IT professionals' expertise plays an important role in influencing the firms' decisions regarding sustainability. The objective of this chapter is to develop a theoretical model to measure attitude towards green IT usage among IT professionals in Bangladesh. The model will be grounded on self-determination theory.

INTRODUCTION

The study of attitude towards green IT practice has emerged to be a dominant and driving field in current information system research. Many researchers suggest that the green IT perspective can be a partial solution to environmental problems According to Ansari et al. (2010), from the business point of view, "Green IT is part of a fundamental change in the economy and society. It is a subset of the larger green (sustainable) business trend, which reconciles sustainable business practices with profitable business operations." Molla et al. (2011) defined green IT attitude as sentiment, norms, and values with relation to eco sustainability and role of IT. Esfahani et al. (2015) tested green IT attitude by measuring the impact of argument quality, source credibility and green IT belief. By using value-belief-norm theory,

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Huijts et al. (2013) measured the predictive power of personal norms on pro-environment behaviour. Akman and Misra (2015) investigated on technology acceptance model to explain the attitude towards using green IT. In this research, we primarily focus on green IT attitude, which will influence end users to adopt green IT practice. On individual level, limited researchers worked on self-determination theory (SDT). The objective of this study is to derive and empirically test a theoretically grounded model of the factors leading to green IT attitude.

BACKGROUND

Burning of fossil fuel, e-waste, deforestation and land clearing for agricultural purposes, and overexploitation of definite resources are some causes behind the increase of greenhouse gases in the atmosphere. According to The *Economist* (2015) special report on climate change, the earth's atmospheric carbon dioxide concentration increased from 361 parts per million in 1995 to 399 parts per million in 2014, with drastic increase between years 2000 and 2015.

Carbon dioxide, methane, CFCs – also commonly known as greenhouse gases – trap heat and warm the earth's surface, thus being the main culprits behind rising temperatures. The earth's temperature now is 0.9 degrees warmer than it was in 1880, that is, before the Industrial Revolution. The rising concern over climate change, pollution and ozone depletion has led to various treaties and agreements among the world leaders. With the Kyoto Protocol, participating countries agreed upon reducing greenhouse gas emissions by year 2020. In addition to the Kyoto Protocol, COP21, held in Paris recently, had participating nations achieve agreement that the global temperature increase should be kept below 2 degrees or 1.5 degrees Celsius above the industrial era (UNFCC, 2015). However, researchers argued reducing carbon emission or mitigating temperature is not achievable over a short period of time (Molla et al, 2009).

On the other hand, innovations in the last century have led to cheaper, better, and faster production. Modern technology has also changed business transactions from traditional business to e-business, and the economy to an e-economy. Information technology has taken an important role, both in business and daily human life. It has made the world closer and smaller, through eliminating global boundaries and creating economic opportunities. Sadly, such opportunities came with their own flaws, like increasing demand of energy, servers, and data centres. Older equipment or e-waste ended in landfills faster than we could imagine – all in order to make way for newer and higher-efficiency equipment (Srivastava & Srivastava, 2012). Although IT is one of the culprits behind environmental issues, Ruth (2009) argued that IT can also provide solutions to address the problem of the remaining 98 per cent of the carbon emission.

The mentioned effects are explained as first-order effects and second-order effects. First-order effects are the negative effects of IT, resulting from all phases of production from cradle to grave. Second-order effects refer to the positive effects of IT on the environment (Esfahani et al, 2014; Faucheux & Nicolaï, 2011). Hence, making greener and environmental friendly IT products is termed green IT, whereas using IT to tackle environmental issues is termed IT for green.

The IT Industry in Bangladesh

Bangladesh is a least developed country (LDC), located in South Asia, with a population of 160 million (Trading Economics, 2015) that has increased 211 per cent in 50 years. The country's vast population led it to becoming a country with large labour markets. Although Bangladesh Bureau of Statistics could

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