Chapter 17
An Explanatory Study of User Satisfaction:
Evidence From Brunei Health Information and Management System (Bru-HIMS)

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ABSTRACT

In achieving one of Brunei Vision 2035, which is to be among the top 10 in the world for quality of life, Ministry of Health (MOH) Brunei Darussalam has responded by implementing Brunei Healthcare Information and Management System (Bru-HIMS) that is equivalent to international best practices. Bru-HIMS has been implemented for about eight years since it first launched on 11 September 2012 where the outcome to user experience is unknown. Hence, this chapter investigates user satisfaction on Bru-HIMS specifically at RIPAS hospital and studies improvement towards providing quality healthcare in Brunei. DeLone and McLean Information System framework is applied to evaluate Bru-HIMS user satisfaction based on the six variables: information quality, system quality, service quality, intention to use and usage, perceived net benefits, and user satisfaction. Questionnaire survey was conducted to obtain primary data from Bru-HIMS. The findings demonstrate positive relationships between the six variables, which indicates Bru-HIMS has positively influenced Bru-HIMS users.

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INTRODUCTION

In a circular economy (CE), waste generation is minimized through the careful design of new products and an industrial process in which materials constantly circulate in a "closed-loop system" (Fisher and Pascucci, 2017). Waste has become extremely present across the whole planet, and raw materials are in demand more than ever. Applying the CE concept encourages environmental protection and social prosperity (Jawahir and Bradley, 2016), sustainability of public organizations (Klein et al., 2020) while enabling economic growth in line with sustainable development. A circular economy can reduce environmental devastation in the whole system, as well as increase the generation of new added value. The current linear 'production' method uses energy in all production phases; it is based on the "extract-produce-use-dump" model and represents an unsustainable production model. A circular economy enables an economic system in which raw materials circulate and are transformed from one form into another, resulting in no or minimal waste generation. The idea behind the circular economy concept has been developing as a consequence of realizing the negative environmental impact of the linear production method. Previous research indicated that indicating that the limited research on CE practices and strategies in public organizations which focused so far on the areas of public internal operations, internal operations and processes, and public service delivery. In this book chapter, we determine the application of the CE concept that may apply in the context of effectiveness of Bru-HIMS implementation.

One of Brunei Vision 2035 objective is to be among the top 10 in the world for quality of life (Brunei Vision 2035, 2018). The aim is to provide Bruneians with political stability and high standard of living at the same time ensuring appropriate care and support for member of the society as well as the environment. Realizing the needs to enhance the efficiency and effectiveness of patient care, services, work processes and patient safety, Ministry of Health (MOH) Brunei Darussalam has responded by implementing an e-Health initiative that is equivalent to international best practices called Bru-HIMS (Brunei Darussalam Healthcare Information and Management system). The action made by MOH was also to respond to His Majesty the Sultan and Yang Di-Pertuan of Brunei Darussalam's Titah in 2000 regarding his view on the establishment of e-Brunei that aim to minimise the use of paper and going towards global information technology (Brunei Resources, 2005). This in line with sustainability issue that concerns organizations and policy makers. Information technology has significant importance for managing and containing carbon emissions. According to a study by McKinsey (Boccaletti et al. 2008), IT related production and consumption accounted for only about 2% of overall carbon emissions in 2007. However, the share of IT's footprint is likely to go up to about 3% by 2020, an increase of about 80% from the current levels. Much of this anticipated increase is because of the high growth rate of computing needs in developed world and large scale adoption of PC, mobile phones and proliferation of data centers in developing economies such Brunei. The realization that information technology has significant importance for managing and containing carbon emissions, and therefore is vital for sustainable development, has resulted in a movement to promote deployment of environmentally conscious practices in managing IT under the concept of green information systems (IS) or green IT. Melville (2010) defines green information systems or information system for environmental sustainability as "IS enabled organizational practices and processes that improve environmental and economic performance".

Figure 1 above shows Bru-HIMS implementation plan in Brunei Darussalam. Bru-HIMS supports in managing and storing endless flow of patient's information through an Electronic Patient Record (EPR) System (Ministry of Health Brunei Darussalam, n.d.). Function of the system includes appointment system, outpatient management system, in patient management system, clinical care system, laboratory