

Chapter 27

Knowledge Management for the Circular Economy

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ABSTRACT

The place of knowledge management in ensuring effective transition into a circular economy by developing a circular business model as an alternative to the conventional linear economic model is under-investigated. Knowledge coordination, creation, and dissemination capability of a firm are important in developing the green industry and offering new job opportunities. This chapter adopted a literature review approach to establish the link between knowledge management and transition into a circular economy. Findings show that the firm's eco-innovation process depends largely on strategic knowledge management. Therefore, systems understanding and self-motivated creativity are essential professional knowledge levels in developing circular business models for sustainability. Hence, firms need to enhance the knowledge-based for continuous business process improvement, eco-efficiency, and eco-innovation.

INTRODUCTION

There is a massive sensitization intimating the need for circularity and sustainability by major players in the global business environment. The ongoing sensitization came as a way of providing solutions to environmental problems such as biodiversity loss, water, air, and soil pollution, resource depletion, and excessive land use are increasingly jeopardising the earth's life-support systems (Geissdoerfer, Savaget, Bocken, & Hultink, 2017). The provision of information on circular economy through knowledge creation and application is necessary in developing professionals and organisational process for sustainable development. Knowledge sharing through data or information is also important for individual and organisational development. Therefore, management of such an important aspect of individual and organisational development could be regarded as an effort in the right direction.

Knowledge management can be referred to as a fundamental driver of eco-innovative performance in a circular economy. A circular economy is an alternative economic system that encourages reuse,

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sharing, repair, refurbishment, remanufacturing and recycling to create a closed system with the aim of minimising resource input and reduction of waste, pollution and emissions (Geissdoerfer et al., 2017). In a nutshell, such an economy promotes reduce, reuse and recycle (3R) policies (Geissdoerfer et al., 2017; Mohajan, 2019). Evidently, an effective knowledge management has been described as a critical ingredient for organisation seeking sustainable competitive advantage (Omotayo, 2015). For example, there is need for adequate investment and the will to promote eco-efficiency and eco-innovation (Fields & Atiku, 2017) for organisations to implement reuse and recycling applications (Mohajan, 2019) necessary to become resource-efficient (Tukker, 2015).

The chapter seeks to establish the interplay between knowledge management and circularity by showcasing the levels of professional knowledge required in advancing the circular business models for sustainability. This chapter provides insights on the place of professional knowledge (know-why and care-why) at various levels in an organisation for eco-efficiency and eco-innovation, leading to sustainable competitive advantage. This chapter positions that effective knowledge management could be used as a basis to promote green consciousness for individuals, and eco-innovation in creating green industries and jobs by investors or companies in the 21st century. This chapter is structured to provide the background of circular economy, and the challenges of different companies in adopting sustainable business practices. The methodology adopted to examine the place of knowledge management in promoting effective transition into a circular economy was also emphasised accordingly.

BACKGROUND

The term circular economy is a sustainable economic model developed as an alternative to the conventional linear economic model. The conventional economic model of produce-consume-waste posed a serious challenge to sustainable development. The circular economy as an alternative economic model has a long origin that could be traced back to the 1970s (Allwood, 2014). Specifically, Stahel and Reday introduced some of the features of circular economy in 1976 based on their focus on industrial economics (Geissdoerfer et al., 2017). The authors in their focus on industrial economics came up with the concept 'a loop economy' in their explanation of workplace strategies for resource-efficiency, job opportunities, and dematerialisation of the industrial economy. Circular economy became more pronounced as a concept in China in 1998 (Qi, et al., 2016).

Recently, circular economy has received many attention from policymakers, researchers and practitioners world-wide as a way of promoting sustainable development goals (Niero & Hauschild, 2017). For example, the European Commission's action plan for circular economy aims at developing a sustainable, low carbon emission, resource-efficient and competitive European economy (European Commission, 2015). The reason is that the traditional linear production and consumption systems is detrimental to the environmental and social aspect of sustainability. Therefore, circular economy is regarded as a sustainable approach, which requires a transformation of both production and consumption systems (De los Rios, & Charnley, 2017). Circular economy is an alternative economic model that supports the implementation of resource-efficiency, reuse and recycling policies to promote sustainable development. Theoretically, some of the pertinent influences on circular economy are cradle to cradle, looped and performance economy, regenerative design, industrial ecology, biomimicry and blue economy (Ellen MacArthur Foundation, 2017). Some of these schools of thought focus on minimising waste and resource extradi-

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