Chapter 5
Grounded Theory in Sustainable Energy Initiatives

ABSTRACT

The purpose of this chapter is to raise awareness by introducing ideas that are generally based on transition studies and grounded theory (GT). In addition, to support us to understand phenomena such as green building investment decision making, changing energy saving behavior, and diffusion of smart grids and energy systems, these ideas also help developing interventions to reduce climate change through renewable energy technologies. Since energy systems are important determinants of social structure and complexity, and also because little attention has been paid to the social dynamics of energy transition in a social setting, the use of GT as a qualitative research methodology suitable to study this social phenomena can be helpful in this regard.

INTRODUCTION

At the core of most countries' policies, research on transition to cleaner and renewable energies is not merely technological but requires a holistic view of a combination of economic, political, institutional and socio-cultural change (Berkhout et al., 2012). In order to overcome dependency on imported energy, the European Union (EU) has taken the lead in developing approaches for the development of new and low-carbon energy, and in this respect has formulated the European Strategic Energy Technology Plan (SET plan). This plan includes the areas such as energy efficiency, smart grids and energy

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systems, and renewables integration. Significant improvement in energy efficiency will undoubtedly continue as a challenge in all sectors including energy production, distribution and consumption in industry, buildings, transportation, agriculture and services for years to come. There is a growing tendency towards a network of different networks and even different types of energy (electric, heat) that are interconnected and need to communicate with each other to provide an optimal solution, to ensure resistance. The transition to a low-carbon society largely depends on the successful integration of energy from low-carbon renewables (EUA, 2017).

In response to global warming and its impact on the environment, industries are now trying to be greener. It also makes global consumers aware of the need to protect the environment. Consequently, green electronics and electrical products have become a trend. When a plant produces toxic, recyclable and energy-saving green products, it must coordinate its supply chain with all companies, including supplier, customer, and specialist sales distributors. A green supply chain management coordinates the concept of green in order to produce, supply and recycle products in coordination with the manufacturing process. The green supply chain management practices were investigated by Chien et al. (2012) in the Taiwanese industry using the grounded theory (GT). According to the obtained results, Taiwan's electronics and electrical industry is using green theory worldwide to support material analysis. As an inductive and exploratory research method in subject areas, GT can be used by researchers to formulate the theory using it without relying on existing theories. The researcher began working with a specific study area instead of starting with a pre-conceived theory, allowing the theory to emerge from the heart of the data. The process of conducting research on the GT involves: research questions, notes and data collection, analysis, theoretical sampling and theoretical saturation, writing and formulating theory, and comparing texts. The analysis process begins with open coding and ideally ends with selective coding (Corbin and Strauss, 2008). According to Osarumwense Asemota (2013) stated on power consumption theories in Namibia, GT is useful when current theories are either inappropriate or lacking.

This chapter reviews the applications of GT in the field of energy transition. Transitions studies concerning energy efficiency in building industry and relevant behaviors through which people try to reduce overall energy, diffusion of smart grids and energy systems, and mitigating climate change with renewable-energy technologies are discussed in this chapter.

Investigating Green Entrepreneurial Intention for Sustainability Through an Integrated VBN-TPB framework

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