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Editorial

Sustainable consumption and production in business decision-making models

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ABSTRACT

This special issue addresses sustainable consumption and production (SCP) in business decision-making model by examining novel methods, practices, and opportunities. The articles present and analyze top-down sustainability efforts as well as bottom-up efforts on the models, customer perceptions, business decision-making models and proposed solution methods This editorial note summarizes the discussions on the business decision-making operational attributes, sustainable consumption and production practices, and on evaluation and practical methods A dominant finding is that the issues of SCP in business decision-making model should be explored in different business contexts.

1. Introduction

Sustainable consumption and production (SCP) is one most pressing challenge among emerging sustainable development goals. This needs to be addressed in business sectors, especially, enhancing the business decision-making models. This special issue (SI) is to build on the existing researches and latest debates on different approaches for managing SCP in business decision-making models. Hence, this SI seeks to integrated the studies that might broadens our understanding, addresses on how research on sustainable resource and utilities management has evolved in light of accumulated knowledge or in response to specific critiques, and deepens theoretical and practical insights into how SCP or sustainable resource and utilities management are successfully addressed at the business decision-making model, in the industrial, sectorial and national levels. In addition, there are proposed strategies and tools in multi-disciplines such as industrial ecology, supply chain management, and sustainable operations strategies.

In the literatures, Tseng et al. (2013a,b, 2016a,b) found that the SCP is not merely a top-down effort (government, industries, and firms). Rather, bottom-up efforts (firms, industries, and government). There is also a need from viewpoint of supply chain management such as customers, manufacturers, logistic provider and suppliers as voluntary practices (Tseng et al., 2015; Tseng et al., 2016a,b; Velazquez et al., 2015). In addition, the sustainable development is also being studied in different perspectives (Lin et al., 2016; Shi et al., 2016; Wu et al., 2016). However, the decision-making model for business focal point on plays a critical role in the top-down and supply chain efforts. These prior studies are presented in most recent arguments in the business field such as government incentives, stakeholder theory, eco-innovation, barriers identification, business performance measure, green consumerism etc. Some studies presented the solution method to deal with the particular situation in business field (Chen et al., 2014; Tseng et al., 2013a,b). Yet, few studies presented the SCP in business decision-making model. Hence, this SI is to collect the related and state of the art studies to deepen the current literature needs.

This SI presented the business decision-making models focusing on the customer value based, business oriented model and proposed methods approach to the model. These 3 sub-sections are not only from the top to the bottom, but also the bottom to top. Still, this SI focuses on the business decision-making model in SCP. The remaining section are organized as Section 2: Business decision-making model; Section 3: Learning points and Section 4: Conclusions.

2. Business decision-making models

Understanding the related SCP information is necessary to assist in a particular business decision in considering the factors that are relevant for improving the process and the right information can streamline or optimize those factors into a business decision-making model.

2.1. Green environment

A dynamic model for green growth system presented by Guo et al. (2016), integrated five factors including economy, population, resources, environment, and policy to investigate pathways towards green growth and simulate the prospects of long-term energy consumption in China. Yet, the government policies are related to the sustainable development, there is still a need for

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a study to connect how is the debate from the government level to business sectors. Hence, Gong et al. (2016) identified major debates of their study to show a significant proportion of current business model building research assumes there is an implicit or explicit win-win situation and (1) contributes to explore the interrelationship between sustainable triple-bottom performance in the decision-making process; (2) integrating corporate governance mechanism into decision-making process for sustainable consideration; and (3) conducting a comparison between academic theory and industry practice regarding the performance metrics. The alignment of government policy and business sector needs to be addressed, the situation of complexity also has to be aware and the matrices of measurement should be properly described.

2.2. Focused on the customer value based

The customer needs must be studied in alignment with the perceptions of customer and firms' operations. A better understanding of recycling behavior helps in designing and improving the effectiveness of recycling policies and programs. Fan et al. (2016) debated that The Taiwan Environmental Protection Administration is responsible for all e-waste recycling, including its collection and processing, but manufacturers have to pay a fixed fee to the government for recycling when electric and electronic products are sold to customers and resulted recycling refunds or rebates, holding duration, and the advent of innovative technology were proven to have a significant impact on the recycling behavior of obsolete computers. The improvement of customers' trust is remaining a gap in the market. Especially, the firms influence on consumer's perception of remanufactured products that if the firms apply green practices and environmental certifications (energy saving and material saving information and trust) to remarketing the remanufactured products. A decision-making model is proposed with consideration both consumers' preference for remanufactured products and the effect of the government subsidy using the price elasticity of demand of remanufactured products as an indicator to differentiate consumers' environmental preference; it examines a joint decision problem for price determination of a remanufactured product and share of the subsidy between the remanufacturer and consumers (Zhao et al., 2016).

Wang et al. (2016) presented a conceptual model to examine on how perceived value and trust regarding remanufactured products affecting one's intention to purchase the products. The model contains three knowledge considerations pertaining to remanufactured products (energy savings, materials, and emission reduction) as exogenous variables to perceived value and perceived trust. The influence of green certification is included as a moderator of the relation-ships between the information variables and perceived trust. In addition, as a consumer looks at the benefits of buying remanufactured products, the customers can see the demonstrated reduction in new materials being used, the focus on recycling and recovering value from previously discarded items, and the projected positive impact on the environment. Consumer decision-making can be motivationally driven or based on the remanufactured products' information. Hence, the remanufactured products' for consumers need to be further addressed.

2.3. Business oriented model

Song et al. (2016) aimed to develop an improved approach to evaluate the resource and environmental efficiency, based on data envelopment analysis; in this approach, the evaluation of resource inputs into the objective function is introduced. On account of its improvements, the proposed model can measure resource and environmental efficiency, and inefficiencies with regards to resource inputs, undesirable outputs, and desirable outputs. Still, there is a need to present what are the matrices for the business model. Zhang et al. (2016) valid measurement scales provide managers with a "to do list" to make the specific business decisions to achieve sustainable development in the supply chain. The validity and reliability of the constructs are as following 8 synergetic management practices from different disciplines: (1) Sustainable Product Design; (2) Environmental Procurement; (3) Environmental Customer Collaboration; (4) Internal Green Management; (5) Investment Recovery; (6) Diversity Management; (7) Community Development and Involvement and (8) Safety Management. These measures are proved as related sustainable practices decision-making model.

The study of Wong et al. (2016) integrated these two stakeholders theory and the agency theory to formulate the conceptual framework to investigate what could lift national logistics performance. This study reveals both depot and hauliers have a common stake in the national logistics performance through their mediating roles. Both actors expect more logistics business and revenue from an improved national logistics performance based on the stakeholder theory. This theoretically should drive both actors to work more efficiently to promote their common interest. However, since both actors are agents, the agency theory would compromise the interest of their principals, immediate customers and consequently the national logistics performance. This compromise creates tension between the stakeholder and the agency theory.

Zhan et al. (2016) proposed a conceptual framework that Chinese organizations considering implementing green and lean practice could benefit with good "Guanxi" (relationships among Chinese, this somehow means like trust and culture) utilization in the business model. The study presented the green and lean practice tended to have win-win relationships in terms of an organization's environmental and business performance; (b) "Guanxi" was a positive moderator, in that a greater extent the utilization along with green and lean practice can lead to better organizational performance. Also, Fan et al. (2016) is to characterize recycling behavior appropriately poses an electronic waste recycling using system dynamics to predict electronic waste in Taiwan. The three decision variables of holding duration, recycling refund and innovative technology were tested through dynamic hypotheses and found significant to be included in the proposed model. A moving average forecast method is employed to predict future recycling quantities. The research outcomes can help the government gain an understanding of the recycling behavior of electronic waste. This is proven that there are efforts from the business sector to government environment efforts.

2.4. Proposed tools approach to SCP model

Nonetheless, there is still a way to deal with the SCP business decision-making model. The proposed methods are presented in this SI. Aviso et al. (2016) proposed a fuzzy input-output optimization model is developed for allocating scarce labor resources within a business enterprise or organization. This model uses the input-output framework to consider organizational interdependencies that exist among workers or departmental units, to ensure minimal loss of vital services delivered to external clients. Chung et al. (2016) proposed a new optimization method, modified Genetic Algorithm with Crossing Date heuristic, to maximize the collection of used tertiary packaging for reuse, meanwhile minimize the total operating cost by taking the advantages of simultaneous optimization of a multi-day planning that found that the optimization ability of proposed new methodology outperform the traditional genetic algorithm by a maximum of about 10%. In addition, the total operating cost is found can be reduced by using the proposed multi-day planning approach.

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