



## Review

# Entangled stakeholder roles and perceptions of sustainable consumption: An evaluation of sustainable consumption practices in Tianjin, China



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## ARTICLE INFO

**Keywords:**  
Stakeholders  
Modeling framework  
Assessment method  
Sustainable consumption  
China

## ABSTRACT

Sustainable consumption and production are considered to be fundamental ways to solve problems with environmental resources that human beings are facing. There is a broad consensus that promoting sustainable consumption requires the joint efforts of different social actors. This paper aims to define the roles of different stakeholders and the relationships between them, and then establish a modeling framework to analyze those relationships between stakeholders, which include members of government, business, consumer, mass media, environmental non-government organizations, education and research institutions, financial markets, etc. The research found that members of government, business, and consumers make up the core stakeholder network. The modeling framework could be used to evaluate sustainable consumption practices and identify deficiencies that would assist in defining better trajectories. This paper describes the evaluation of sustainable consumption practice in Tianjin, China from a stakeholder perspective to show how the modeling framework can function. According to this analysis, the following six actions may promote sustainable consumption practices in areas like Tianjin: 1) the cultivation of a consciousness of sustainable consumption, 2) the exemplary role of government, 3) a series of laws, regulations, and policies, 4) a thorough sustainable consumption action plan, 5) an insistence on sustainable production and consumption by businesses and consumers, and 6) the concerted efforts of various stakeholders.

## 1. Introduction

In 1987, British scholars John Elkington and Julia Hailes put forth the concept of sustainable consumption for the first time and summarized three main points for operationalization: 1) the consumer must consume non-polluting items; 2) the consumption process must not pollute the environment; and 3) the consumer must consciously resist the destruction of the environment and avoid wasting resources or goods (Connolly and Prothero, 2008). Since then, how to promote sustainable consumption has become a popular research topic.

Within the market, because consumption and production are inseparable and interdependent factors, it is difficult to change one component without also changing the others (Tukker et al., 2008; Akenji and Bengtsson, 2014). Stakeholder participation facilitates the implementation of a green business model (Abuzeinab and Arif, 2014). Government and social marketing activities, education and tax structures, products, services, and the environment are the key factors affecting sustainable consumption behavior (Dan et al., 2010).

Consumers become aware of environmental protection and integrate that into green consuming behavior (Dagher and Itani, 2012). Michaelis explored the role of the business community, including the government, consumers, consumer products production, suppliers, competitors, the media, business schools, and financial markets in promoting sustainable consumption from a stakeholder perspective (Michaelis, 2003), and Silva et al. found that this could bring stakeholders together to take effective action, not only through energy conservation, but changing consumption patterns by introducing sustainable consumption to the electricity sector (Silva et al., 2013).

Different countries have their own opinions and attitudes regarding sustainable consumption. Most of them would like to put this new method into practice, but several express worries about consumers and the poor. The 2008 economic crisis was a test of nations as well as the market. Consumer sustainable consumption also faces challenges. Researchers have analyzed the impact of the 2008 economic crisis on Taiwan's sustainable consumption. They found that by 2008, the vast majority of consumers understood the concept of sustainable

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consumption and behavior. About 80% of consumers regarded sustainable consumption as part of their daily consumption habits and attitudes, with only a few consumers doubting or distrusting sustainable consumption. Most people in Taiwan believed that sustainable consumption could play a positive role in environmental protection. After the economic crisis, people's incomes and standards of living were reduced. Therefore, consumers reduced their use of green products with a purchase price that was higher than ordinary products. Only some of the older population and high-income earners maintained their original sustainable consumption habits. Most Taiwanese seniors still believe that sustainable consumption is conducive to environmental protection (Gilg et al., 2005; D ng et al., 2013). Developing countries are facing problems with poverty due to poor economic development in some areas. People who live in poverty-stricken areas devote much of their energy and money to the procurement of food, so their environmental awareness is significantly lower than residents of wealthier areas or developed countries. For instance, in Africa and the Middle East, the poorest people spend about half of their income on food. This means they are unable to focus on consumption patterns and the purchasing environment (Abdulkadyrova et al., 2016). Therefore, there is a significant difference in the promotion of sustainable consumption between developed countries and developing countries.

In general, numerous studies have focused on the current situation and factors of influence over sustainable consumption behavior, while there is a lack of research on the promotion of sustainable consumption. This paper clearly defines the stakeholders involved in sustainable consumption, and constructs a modeling framework to reveal the relationships between them. In order to describe the relationship between sustainable consumption practices and stakeholders, the study established a formula based on the stakeholder modeling framework, and found that government, businesses, and consumers make up the core stakeholder network. The stakeholder modeling framework can be used to evaluate sustainable consumption practices and identify deficiencies, in order to improve future trajectories. To test the framework, a case study was conducted on sustainable consumption practices in Tianjin, China. As one of the most active regions in promoting sustainable consumption, the process and difficulties experienced by Tianjin can serve as a reference for other cities in China that are less advanced in promoting sustainable consumption, as well as other cities in developing countries facing similar situations and challenges. The paper then introduces the practice of sustainable consumption in Tianjin from a stakeholder perspective, and finally proposes several suggestions for promoting sustainable consumption. Because the existing research mainly focuses on individual consumption behavior rather than at the societal level, this paper is a useful supplement to that body of work as it establishes a stakeholder modeling framework for evaluating sustainable consumption practices, and the case study shows that experience and inadequacy could be defined based on the model. Nevertheless, the model and associated recommendations require constant improvement according to future practices in different countries.

## 2. Stakeholders of sustainable consumption

### 2.1. Government

As a common occupation with significant influence, the development and popularization of sustainable consumption requires support and guidance from the government and its related departments. The government could promote the production, research, sales, and consumption of green products through relevant laws and regulations, as well as fiscal tax policies and even limitations or bans on non-green products. Green public procurement can achieve the above-mentioned goals, mainly through the following: first, it can influence suppliers to cater to the government and take measures to improve business management and technological innovation in order to save resources and energy, reduce emissions, improve product quality, and reduce negative

impacts on humans and the environment. Second, green public procurement can support a large number of green products and industries, effectively promoting the development of green business and clean technology, thus forming a sustainable national economic production system. In addition, green procurement can also guide consumers to change irresponsible consumer behavior and habits, advocate for reasonable consumption patterns, and moderate consumption to reduce environmental pressure and effectively promote a green consumer market (Appolloni et al., 2011; Burja, 2009; Kaufmann et al., 2012). Conversely, government policies may also impede sustainable consumption. For example, Giulia et al. pointed out that trade liberalization is more conducive to the development of polluting enterprises than to sustainable consumption for poorer countries (Giulia et al., 2018).

In China, the government promotes the use of energy-efficient appliances by providing subsidies and creating regulations for mandatory fuel quality upgrades. In addition, consumers' associations of a semi-official nature exist and can be regarded as a department of the Chinese government, whose significant contribution is promoting sustainable consumption to consumers and supervising business and the market to guarantee that green products are qualified. Another important department is the government procurement center, which undertakes public procurement as an effective means of sustainable consumption, as developed countries spend over 10% of their gross domestic product on this measure (Huang et al., 2009). The large scale and powerful effects of public procurement makes the government procurement center a foundation of sustainable consumption and policy execution. In addition, Chiu has analyzed the role of various National Cleaner Production Centers in the Asia Pacific region and identified policy options for further development (Chiu, 2011).

### 2.2. Business

Business stakeholders can be divided into three categories. The first are regulatory stakeholders, including government legislative and executive branches, consumers' associations, and the government procurement center that should be regarded as a department of the Chinese government. In addition, as social organizations, Environmental Non-Government Organizations (ENGOS) play a certain regulatory role for businesses. The second category is internal stakeholders, including internal staff, such as shareholders, managers, staff, and associated businesses along the supply chain, such as manufacturers, their suppliers and distributors, etc. The last category is market stakeholders, including consumers, business competitors, mass media, education and research institutions, and the financial market. The overall development objective of these three types of stakeholders is to promote innovation in green technologies and green management. Family-owned firms are more willing to accept environmental management than non-family firms. Stakeholders such as consumers, suppliers, and employees are more likely to advocate for environmentally-friendly business organizations (Zhu et al., 2013).

Dlimbetova et al. found two problems with the green economy and wished to analyze the role of environmental education in Kazakhstan's economy (Dlimbetova et al., 2016). First, they believed that officials and non-officials had different definitions of the green economy in Kazakhstan. Employers and employees were aware of the green economy, but they did not have enough knowledge about environmental management. They required professional guidance and training. The second problem was they did not have the correct understanding of green skills. "Employers hardly realize the importance of green skills." There was a contradiction between economic development and environmental sustainability. Liu et al. predicted everyday green consumption among non-Hispanic White and Hispanic consumers and found that marketing and strategic communication programs should focus on increasing consumers' positive attitudes about purchasing green products and promote green purchase intentions using intention-

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