Influencing factors to facilitate sustainable consumption: from the experts' viewpoints

Jing Shao [a,b,*], Marco Taisch [a], Miguel Ortega Mier [b]

[a] *Dept. of Management, Economics and Industrial Engineering, Politecnico di Milano, Milan, Italy*
[b] *Dept. of Industrial Engineering, Business Administration and Statistics, Universidad Politécnica de Madrid, Madrid, Spain*

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ABSTRACT

An information transition gap still exists between cleaner production and sustainable consumption. Governments and organizations should take responsibility for making adequate product-level sustainability information available for consumers. This study proposes a set of product-level sustainability attributes that captures influencing factors to facilitate sustainable consumption behavior and plays the role of facilitator in the Attitude-Facilitator-Infrastructure (AFI) framework. The survey method is adopted to gain insights from experts who work in the academic research field and practitioners, and an expert evaluation exercise is used to evaluate the importance and applicability of the attributes. The data received from surveys strongly suggest that consumers are increasingly concerned about the social impact of a product in its production phase and require more related information. From the perspective of experts, "Employees' Working Safety" is becoming an important attribute, but it is very difficult to evaluate. This research could serve as a fundamental study for developing related public or industrial policies, and it contributes to the field of developing an information transition approach from cleaner production to sustainable consumption.

1. Introduction

The term "sustainable consumption" can be traced back to the Agenda 21 document, the main policy output from the UN Earth Summit in 1992. The definition of sustainable consumption was announced at the Oslo Roundtable as: "the use of goods and services that respond to basic needs and bring a better quality of life, while minimizing the use of natural resources, toxic materials and emissions of waste and pollutants over the life cycle, so as not to jeopardize the needs of future generations" (Kongress Oslo, 1994).

The recent studies show that the consumers are aware of green issues such as depleting natural resources, global warming and pollution, and they consider these issues when making green products purchase decisions (Banytè et al., 2010; Schlegelmilch et al., 1996; Young et al., 2010). For example, it is commonly believed that food consumption and dietary choices can make an important contribution towards meeting current environmental challenges (Grunert et al., 2014). On the other hand, a growing

number of businesses and researchers have recognized economic advantages in environmental practices (Björklund, 2011). Some studies shows that environmental purchasing has a positive effect on a firm's performance regarding net income and cost of goods sold (Carter et al., 2000). Such environmental purchasing is often discussed as an effective way of improving industries' environmental performance a more powerful change agent than any other corporate function (Preuss, 2001; Zsidisin et al., 1998).

From empirical studies of consumer behavior, it is clear that consumers already have greater demand on product-level sustainability information to help them make purchasing decisions (Grunert et al., 2014; Marucheck et al., 2011). Such changing can be seen in consumer attitude because they have moved from satisfying elementary survival needs to representing their lifestyle and other possible values through their purchasing (Meise et al., 2014). 87% of consumers are concerned about the social and environmental impacts of the products they buy (Bonini and Oppenheim, 2008). Furthermore, consumers demand more information regarding a product's supply chain and production history (Marucheck et al., 2011). By using this information, they tend to mix their green knowledge and attitudes with green brand awareness when choosing a green product (Matthes et al., 2014; Zhao et al., 2014).

* Corresponding author. Present address: Via R. Lambruschini, 4B, 20156 Milano, Italy. Tel.: +39 02 2399 2721.
E-mail address: jing.shao@polimi.it (J. Shao).

Additionally, recent studies also suggest that, considering full transparency of information for products, consumers are ready to pay a premium for a product (Owusu and Anifori, 2013; Xu et al., 2012). Particularly, some studies show that consumers would pay for certain socially–conscious attributes, such as non–animal experimentation or non–child–labor (Auger et al., 2008), or pay about 10% more as a so–called "ethical price premium" (Pelsmacker et al., 2005).

However, even though the consumers are willing to pay a price premium of sustainability or changing their consuming habits, the fact is that they still lack sufficient and reliable information needed to make informed choices (Jacobsen and Dulsrud, 2007). One of the most important reasons is the limited sustainability–related information transition from sustainable production to sustainable consumption (Caniato et al., 2012; Lebel and Lorek, 2008; Meise et al., 2014). Currently, consumers mainly can get certain sustainability information by looking forward trustworthiness, reference groups (of other green consumers), and personal efficacy of doing something for collective benefits for the communities where they live (Gupta and Ogden, 2009). In the context of European auto industry, an analysis on barriers that exist between green product and consumers was conducted. The results suggest that the most significant barrier hindering consumers buying of environmentally friendly products is the gap existing between consumers' expectation and perceptions of the product. This 'expectation-perception' gap is mainly attributed to the inadequate sustainability-related information supplied to consumers while purchasing the product (Shao et al., 2016).

Few attempts have been made to explore sufficient sustainability information that should be provided for consumers. However, numbers of related theories have been utilized to investigate various issues related to consumers who conduct green purchasing. The studies that are based on stakeholder theory investigate roles of consumers within green supply chain practice. Such as influencing factors of environmental purchasing (Björklund, 2011), environmentally oriented reverse logistics (Sarkis et al., 2010), etc. Several researchers present fundamental theories in understanding the attitude formation in consumers' adoption of green products and behavior. For example, Theory of Reasoned Action (TRA) (Ajzen and Fishbein, 1980), Planned Behavior (TPB) (Ajzen, 1991), Perceived Behavior Control (PBC) and Norm Activation Theory (NAT) (Schwartz, 1977). The models focusing on pro-environmental consumer behavior subsequently emerged, e.g., the Value-Belief-Norm model (Stern et al., 1999) and the Attitude-Behavior-Context model (Stern, 2000). In such models, importance of value, consequential belief and sense of responsibility are suggested as three elements that influence customer behavior.

Furthermore, the Attitude-Facilitator-Infrastructure (AFI) framework of promoting sustainable consumption was developed (Akenji, 2014). This framework shows that facilitator is the key element in the whole system and could properly reflect consumers and other stakeholders' attitudes. The facilitator's functionality is assured with the help of infrastructures. Laws, policies and administrative procedures that were created by governmental policy and business decision makers are included in the definition of facilitator, and they could provide incentives for promoting sustainable consumption. As Akenji argued, facilitators provide incentives to encourage a particular pattern of behavior or course, or place constraints to discourage unwanted outcomes. More critically, facilitators provide agency to stakeholders of sustainable consumption (Akenji, 2014).

Therefore, from both practical and theoretical perspective, it is necessary to strengthen information transition and provide a facilitator to bridge the gap between consumers' attitude and behavior, and further, to help translate their beliefs and values about sustainability into their demands and purchasing behavior.

This study attempts to propose a complete set of product-level sustainability attributes and aims to capture influencing factors to facilitate sustainable consumption. It will provide consumers information not only environmentally but also socially–conscious impacts of a product. It will play the role of facilitator in the AFI framework, and is expected to facilitate sustainable consumption behavior. Such environmentally and socially–conscious information will provide an effective way for consumers to facilitate product comparisons and choose products with more transparent information, resulting in increased market share and profit for practitioners (Ganesan et al., 2009; Meise et al., 2014). Consequently, it will provide a long–term competitive advantage due to increased differentiation.

For developing the list of attributes, appropriate attributes are extracted from present indicators and are mapped into a novel metric. The metric is comprised of sustainability attributes on social and environmental impacts throughout the overall life–cycle of a product. In order to assure the extracted information attributes not only meet consumers' preferences, but are also applicable at plant level, their importance and applicability are evaluated through an expert evaluation exercise. The results, as well as the significant value between two sets of values are presented, and the final list is determined.

The remainder of the paper is divided into four sections. First, the related indicators and eco labels are reviewed. Then the framework development process is presented. While the next section presents the methodology of expert evaluation exercise. The last section is devoted to results, discussions and conclusions.

2. Review on indicators and eco-labels

At the World Summit (Rio+10) in 2002, the plan of implementation for Agenda 21 integrated the three pillars of sustainable development, including economic development, social development and environmental protection. These three pillars are required to set up and implemented in an integrated way that they are compatible with and contribute to the overall economic, social and environmental objectives at both national and European level. Based on the triple bottom line, numerous sustainability standards and certification systems have been established in recent years. Furthermore, in order to transit sustainability information and make energy consumption and environmental impacts visible, a number of indicators have been proposed (Bell and Morse, 2008). In this section, related indicators and eco–labels are reviewed regarding their effectiveness in providing information for consumers. The review of these indicators is based on five consumer––focused criteria, which emphasize meeting consumers' interests. These criteria are determined according to the criteria for developing Household Sustainable Consumption (HSC) indicators (Caeiro et al., 2012).

(a) Integrative domain

The primary content of the assessment should provide information for the target audience, which means meet consumers' preferences. Environmental impact and social impact, such as employee and customer health and safety, should be taken into account. Conversely, the economic impact is not included in the current state of research because market and economy–based indices concern mainly labor, genuine savings and market value, which are not necessarily related to consumers' interests.