

Contents lists available at [ScienceDirect](http://www.sciencedirect.com)

Sustainable Production and Consumption

journal homepage: www.elsevier.com/locate/spc

IChemE

Are present sustainability assessment approaches capable of promoting sustainable consumption? A cross-section review on information transferring approaches

Jing Shao*

Department of Management, Economics and Industrial Engineering, Politecnico di Milano, Milan, Italy

Department of Industrial Engineering, Business Administration and Statistics, Universidad Politécnica de Madrid, Madrid, Spain

ABSTRACT

Recent studies show that consumers have increasing concerns about the environmental and social impacts of products within their consumption patterns. Nonetheless, insufficient information makes them unable to conduct sustainable consumption. Indeed, in addition to eco-labels, approaches that have been applied in the industrial engineering area could probably provide the needed information. This study firstly focused on looking for criteria that a proper approach should meet to provide the necessary information for consumers. Five consumer-focused criteria were developed based on the criteria for developing household sustainable consumption (HSC) indicators. Then, this study also scanned a broad range of available approaches and conducted an in-depth exploration of the extent to which these sustainability assessment approaches could meet the criteria. The results showed that current approaches rarely focus on one product that the consumers are facing, and very few approaches include sustainability-related information related to the production process and supply chain of the product even though consumers are generating more demand for this information. Additionally, it is necessary to develop better and simpler patterns of presenting this information. Promising research and policy-making suggestions are summarized in the end. This is an important fundamental study in the research domain of sustainable production and consumption and will help both academic researchers and decision-makers get an overview of current approaches.

Keywords: Sustainable production and consumption; Indicator; Eco-labels; Consumer; Buying behavior; Information transferring

© 2016 Institution of Chemical Engineers. Published by Elsevier B.V. All rights reserved.

1. Introduction

The rapid development of recent industrialization and urbanization has put increasing demand on natural resources and the environment. This growing demand has led to serious environmental degradation and poses a mounting threat to the sustainable development of the world's economy and society. To achieve this goal, effective environmental policies have been implemented worldwide since the Brundtland Report was announced in the 1980s (WCED, 1987). However, progress

towards sustainability is nearly impossible to achieve without considering the collective actions of over seven billion human beings, since unsustainable consumption patterns and levels are regarded as an important cause of unsustainable development (Shen and Saijo, 2009; UNDP, 1998; Worldwatch, 2004). Therefore, instead of only concentrating on sustainable production innovations, approaches that could guide sustainable consumption patterns have gained traction as viable sustainable development strategies (Fuentes, 2014; Miniero et al., 2014).

* Correspondence to: Via R. Lambruschini, 4B, 20156 Milano, Italy.

E-mail address: jing.shao@polimi.it.

Received 28 December 2015; Received in revised form 3 May 2016; Accepted 5 May 2016; Published online 7 June 2016.

<http://dx.doi.org/10.1016/j.spc.2016.05.001>

2352-5509/© 2016 Institution of Chemical Engineers. Published by Elsevier B.V. All rights reserved.

The first time that sustainable production and consumption (SPC) became a policy concept was in Agenda 21 (UN, 1992). It was reaffirmed as central to achieving sustainable development at the World Summit on Sustainable Development (Moldan et al., 2011). The revised European Sustainable Development Strategy of 2005 set the goal of more sustainable consumption and production patterns firmly on the political agenda in Europe (EU, 2008). Both researchers and policymakers have become aware that unsustainable consumption patterns and levels, specifically in industrialized countries, are currently major causes of environmental degradation (Shen and Saijo, 2009; UNDP, 1998; Worldwatch, 2004). As the EU announced, “changing unsustainable consumption and production patterns” is the target of the 10-Year Framework of Programmes (10YFP), and this encourages national and regional initiatives to accelerate the shift toward sustainable consumption and production (Barber, 2011).

However, it is hard to change unsustainable consumption patterns since change depends on the actions of individual buying behavior (Dahl, 2012). Consumption patterns are always changing and are based on several internal and external factors. In most of the cases, sustainability is not the priority, rather lead time and cost are, which are usually considered the prime enablers in industrial consumption. Furthermore, studies have shown that individuals do not perceive their actions to have a significant impact on their environment (Pereira Heath and Chatzidakis, 2012). One reason is that an awareness of the influence caused by collective action is insufficient in consumers’ minds (Moisander, 2007a; Shadymanova et al., 2014). But, more importantly, even for green consumers who are much more concerned about sustainability-related issues, the transference of sustainability-related information between sustainable production and sustainable consumption is lacking (Lebel and Lorek, 2008; Shao et al., 2016).

In this study, “information transferring from production to consumption” refers to transferring the information about the environmental and social impacts of products in order to motivate customers towards more sustainable purchasing behavior. It is discussed that, presently, information about the transferring from sustainable production to sustainable consumption is lacking. Past research on reviews of sustainability indicators from the perspective of industrial engineering is commonly found in the literature (Arena et al., 2009; Dahl, 2012; Singh et al., 2009), and various weighting methods of composite indices have been summarized (OECD, 2011). A full list of sub-categories of sustainable performance assessment and involved indicators plus related information such as definitions, calculation methods, and references were also summarized in the literature (CSD, 2001a). Moreover, literature on the achievements and challenges related to measuring sustainable development was proposed by the Organization for Economic Cooperation and Development (OECD, 2005). However, whether the available approaches that have been developed in industrial engineering and consumer sciences can properly provide sustainability information for consumers remains unclear.

Therefore, this study aims to review the approaches that assess the sustainability performance of products in industrial engineering and marketing science fields and analyzes their feasibility for providing sustainability information to consumers. The analysis was mainly conducted on four sections of approaches: sustainability assessment approaches, marketing instruments, national or international standards,

and meta-standard approaches. The feasibility was evaluated based on five consumer-focused criteria that are settled on the basis of the criteria for developing household sustainable consumption (HSC) indicators (Caeiro et al., 2012). The content and structure of paper is shown in Table 1.

The remainder of the paper is divided into four sections. After a brief description of the background of the literature about consumer behavior and information preferences, the third section presents the methodology and analyzing material of this review. The fourth section illustrates the results of the review based on four main categories of current assessment approaches. The discussion, conclusion, and promising research and policy-making directions are summarized in the last section.

2. Background

Consumers have raised awareness that more sustainable purchasing behavior could be achieved with the help of sustainability-related information. As studies showed, an increasing number of consumers are taking ethical, environmental, and social impacts of their purchasing into account (Grunert et al., 2014). Their purchasing decisions have moved from satisfying elementary survival needs to represent their lifestyles and other possible meanings through their buying behavior (Meise et al., 2014). From McKinsey’s survey in 2007, 87% of consumers are concerned about the social and environmental impacts of the products they buy (Bonini and Oppenheim, 2008). Additionally, numerous cases show that consumers would like to pay about 10% more in a so-called “ethical price premium” (Pelsmacker et al., 2005). Surveys showed that consumers would pay for some socially conscious attributes such as no animal experimentation or no child labor (Auger et al., 2008).

Unfortunately, although green consumers do value environment-friendly and ethical products, such a value is still hard for individuals to consider in their daily buying behavior (Moisander, 2007b; Thøgersen and Ölander, 2003). Even consumers who are environmentally conscious do not buy green products in overwhelming preference (Tseng and Hung, 2013). It was explained that consumers lack knowledge about what impacts that small, consistent actions can bring to the world (Shao et al., 2014). But, more importantly, the information about the environmentally and socially conscious attributes of the product that is provided by organizations does not meet the needs of consumers (Meise et al., 2014). A gap exists between consumer informational needs and current market offerings (Meise et al., 2014). In the context of the European auto industry, an analysis of the barriers that exist between green products and consumers was conducted (Shao et al., 2016). The results suggested that the most significant barrier hindering consumers from buying environmentally friendly products is the gap between consumers’ expectations and perceptions of the product. This “expectation-perception” gap is mainly attributed to the inadequate sustainability-related information supplied to consumers while they are purchasing the product. Several other barriers appear upon further observation and analysis.

The studies in several related areas have explored and discussed the possible reasons for this phenomenon. In the literature on enabling the mechanisms of cleaner production, “consumers [being] easily confused with too much information or lack of transparency and credibility of competing schemes” is considered to be one of the main concerns

Download English Version:

<https://daneshyari.com/en/article/694266>

Download Persian Version:

<https://daneshyari.com/article/694266>

[Daneshyari.com](https://daneshyari.com)