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### Strengthening institutional-based trust for sustainable consumption: Lessons for smart disclosure

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### ABSTRACT

Smart disclosure constitutes a form of open data policy that has the objective of promoting more sustainable economies and innovation by providing consumers with information to help them make better purchasing decisions. Trust in the information regarding product and certification is crucial for the adoption and usage of smart disclosure tools that make use of such information. In this paper, we investigate the determinants of trust in sustainable product information through a survey administered in Mexico and the United States. Our results suggest that information indicating brands and certificates reputation are important factors that encourage the development of trust. Our results also suggest that additional information to verify labels does not emerge as significant predictor to induce trust. We argue that to be useful, such information should be aggregated and presented to consumers in a simple way right at their fingertips. Finally, we found that information indicating support from government agencies and endorsement from non-for-profit organizations significantly influence consumer's trusting beliefs on sustainable practices information.

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### 1. Introduction

With the heightened attention to the issue of sustainable development and environmental sustainability around the world, the question of the role of government is under careful examination. One traditional role of government has been regulating production standards to enforce modes of production and economic activities in an effort to reduce negative impacts on the environment. An emerging government role, however, focuses on providing access to information that fosters market transparency and efficiency. This new role is based on the assumption that better informed consumers will make decisions that reflect their environmental and social values for sustainable products, which may set a chain reaction to the supply chain to produce and operate in more sustainable modes (Cobb, 2012; Howard, 2012; Luna-Reyes et al., 2012; McKee, 2012; Sunstein, 2011; Thaler, 2013; Thaler & Sunstein, 2008).

The open government and smart disclosure initiatives are examples of this emerging government role led by the Obama Administration to promote innovations that help consumers make important marketplace decisions (Howard, 2012; Thaler & Sunstein, 2008). Smart disclosure

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http://dx.doi.org/10.1016/j.giq.2016.01.009 0740-624X/© 2016 Elsevier Inc. All rights reserved. tools and applications have been developed to exemplify that information disclosed and assembled for the public would empower consumers in matters such as education, energy consumption, health care, transportation and others (Executive Office of the President National Science and Technology Council, 2013). However, disclosing information through open government initiatives does not automatically lead to informed decisions if the information is not in a form that can be readily processed and trusted by consumers. In this way, the Smart Disclosure initiatives are still in its forming stage because of a lack of integrated and high quality information regarding the sustainable practices of products, especially trustworthy information valued by consumers. Moreover, we are still lacking an in-depth understanding about consumer trust mechanisms in using information. It is still not clear what information induces consumers' trust and how consumers react to various elements of information regarding product, producers, brand, certification, government enforcement, independent NGO review, and other information that can be disclosed.

Trust is viewed as an individual's belief that another individual or group will behave in good faith, with honesty, and would not take excessive advantage even when the opportunity exists (Cummings & Bromiley, 1996). Although trust may be induced by different mechanisms, there are two different modes of trust production that are particularly relevant to the domain of this study, cognitive-based trust and institution-based trust (Luna-Reyes et al., 2013). Cognitivebased trust is founded on information and rational choice. It arises 2

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only when the beneficial intention and competence of another is proved by reliable information (Lewicki & Bunker, 1995; Mayer, Davis, & Schoorman, 1995; Simons, 2002). Thus, trust in sustainable claims rests on the availability and creditability of product information that can be traced through the entire supply chain. On the other hand, trust is often related to institutional frameworks that make opportunistic behaviors less likely due to the existence of mechanisms such as guarantees, legal contracts or predominant norms that regulate the conscious and unconscious behavior of individuals. Therefore, it is reasonable to postulate that disclosing information indicating the existence of legal frameworks and other institutional procedures that help to assure production compliance to sustainability standards could lead to high levels of consumer trust.

In this study, we integrate these two perspectives, and investigate the determinants of consumer trust in the presumed sustainability of a product. More specifically, we investigate how consumer perception of information related to product, producer, and certification influence their trusting belief on the sustainability claim of a product. Although trust has been studied in various contexts, very few studies focus on trust in information. By drawing attention to the concept of trust in the literature of smart disclosure and sustainable consumption, we are attempting to bridge the gap of knowledge about trust in sustainability claims conveyed through various information indicators. We argue that an understanding of the impact of being exposed to various information regarding product and certification on consumers' trust belief is crucial for the adoption and usage of smart disclosure tools that make use of such information, and conversely, understand the limitations of such tools in promoting sustainable consumption. In other words, it is essential to know what information consumers would be able to depend upon and act on, thus, what information needs to be disclosed. On the practical side, such understanding is necessary for data owners and publishers in ensuring that what is made available is relevant and appropriate to users' needs. It will also provide behavior guidance for application developers to develop tools that will match the needs and habits of consumers.

This study is a component of an interdisciplinary research project to build interoperable data architectures that can be used to support consumers' decision making for sustainable product purchases (Luna-Reyes et al., 2012, 2013). One of the most critical issues emerged from the early findings of this project is trust (Sayogo et al., 2014). As such, identification of the information cues that influence consumer's trust on the sustainability claim of a product could assist the development of such interoperable architecture, which needs to consider the type of information that is relevant from consumers' point of view.

This paper is organized into five sections including the foregoing introduction. Section two includes a literature review on trust, including the theoretical model and hypothesis used in the paper. Section three outlines the methodology, highlighting the data collection process, measurement of variables and our analysis techniques. Section four describes the analysis and results. Finally, section five discusses our key findings and provides concluding remarks.

#### 2. Literature review

This literature review presents an overview of consumer trust in product information, particularly for sustainable products. To provide some context, we first discuss the application of smart disclosure policy to support sustainable consumption. Subsequently, we outline the underlying dimensions of trust belief and main determinants of trust production.

### 2.1. Smart disclosure for sustainable consumption

Smart disclosure is a policy initiative promoted by the US government to use information disclosure as a regulatory approach. Smart disclosure is defined as the "the act of making data more readily available and accessible, both to consumers directly and to innovators who can use it to build tools that help consumers make better informed decisions, and create more transparent, efficient market for goods and services" (Executive Office of the President National Science and Technology Council, 2013). The basic premise of smart disclosure is giving more power to the general public by transferring control of personal data from the hands of corporate interests to the public (Cobb, 2012; Sunstein, 2011).

Recently, smart disclosure policy has been applied in various sectors such as education, energy and environment, health care, finance, food and nutrition, safety, telecommunication, transportation and others (Executive Office of the President National Science and Technology Council, 2013). Proponents of smart disclosure argue that such policy can also be used to help consumers in making informed decisions by minimizing behavioral biases resulting from information overload and aversion to complexity that consequently cause consumers to make undesirable choices (McKee, 2012; Thaler, 2013; Willis, 2013). In the energy and utility domains, smart disclosure policy has been used to support sustainable consumption of energy through the Green Button initiative (Sinai et al., 2012).

Such potential of smart disclosure also fits very well with the increasing trend of information traceability in sustainable consumption. There is increasing demand for accurate, timely and traceable information about the sustainability of companies' products and practices. Consumers are requesting more information to verify company's sustainability practices, particularly in food and agriculture industry (Collins, Steg, & Koning, 2007; Locke & Romis, 2007; Locke, Kochan, Romis, & Qin, 2007; Opara, 2002; Wilson & Clarke, 1998).

### 2.2. The importance of trust in sustainable consumption

In spite of consumers' expressed concern for the environment and the growing prevalence of green products on retail shelves, sustainable products going mainstream still has a long way to go partly because consumers are not willing to purchase sustainable products as expected. Studies found that difficulties in understanding product performance, lack of expertise by consumers, and higher prices constitute some of the key reasons for not buying sustainable products (Gleim, Smith, Andrews, & Cronin, 2013; Marian & Thøgersen, 2013; Thøgersen & Schrader, 2012). Gleim et al. (2013) stated that time and effort needed to evaluate and search for sustainable product information impede green consumption behavior.

In reality, information that can prove the quality of sustainable products is difficult to obtain and verify. In searching for products, consumer typically relies on the dominant quality attributes, namely search, experience, credence and potemkin attributes (Gabriele, Schramm, & Spiller, 2005). A search attribute, such as freshness or appearance, is known before the purchase and consumers have the ability to search for it. Experience attributes, such as taste, are only known after the consumption of the product. Credence attributes, such as nutrition or contamination, are difficult to be observed by consumers, but they can rely on third parties for quality assurance. Potemkin attributes are process-related qualities that cannot be proved and controlled through laboratory analyses by either the consumers or external institutions. Only close monitoring of the internal production process would have a chance to detect fraud and mislabeling (Gabriele et al., 2005). Sustainability claims, such as organic or fair-trade, are essentially potemkin attributes that are especially susceptible to the lack of quality information on the side of consumers. The difficulties in verifying and controlling process claims that such products are produced and processed according to specific environmental, social, and economic standards give rise to conditions for fraud and opportunistic behaviors in such markets, a situation that calls for measures for quality assurance.

In response, various product-certifying systems have been developed to provide assurance to the quality claim. Certification systems, however, are not as effective for two reasons. First of all, the potemkin

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