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Surveys

Consumer stated purchasing preferences and corporate social responsibility in the wood products industry: A conjoint analysis in the U.S. and China



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ABSTRACT

The impacts of disclosed level of corporate social responsibility (CSR), domestic versus imported origin and type of construction on consumers' stated wood product purchasing preferences were examined in the U.S. and China. Hierarchical logit models based on a Bayesian framework were utilized to test the magnitude and statistical significance of each wood product attribute using survey data. Results indicate that U.S. and Chinese respondents: (a) were more likely to choose products from manufacturing companies with a higher level of CSR rating compared with an unknown one; (b) preferred domestically manufactured wood products compared to imported ones; and (c) expressed higher interest in wood products made of solid wood compared with composites. In terms of demographics, respondents' higher education levels corresponded with higher preferences for products from companies with the highest (five-star) CSR rating in the U.S. Statistically-significant income effects were detected only in the Chinese sample when respondents indicated their purchasing preferences for wood products with three-star or five-star CSR levels. Implications for improving wood products companies' managerial performance and suggestions for future studies are provided.

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1. Introduction

Corporate social responsibility (CSR) conceptualizes the responsibilities businesses should maintain with society. The definition of CSR developed by the International Organization for Standardization Strategic Advisory Group on Social Responsibility (2002, p.1) describes CSR as "a balanced approach for organizations to address economic, social and environmental issues in a way that aims to benefit people, communities and society." This definition embraces the economic, social and environmental dimensions of CSR. Economic issues under CSR encompass how companies should continuously improve their economic performance (Portney, 2005). In terms of social issues, Maignan and Ralston (2002) and Snider et al. (2003) pointed out the importance of improving local people's welfare (e.g. education level), providing good opportunities for employees for skill development and career enhancement, the provision of high-quality products and services for their customers, among others. Environmental issues covered by the CSR umbrella include: protecting water, air and soil resources and conserving biological diversity, applying energy-efficient equipment in the production process (Panwar and Hansen, 2008; Welford, 2003).

In recent years, adoption of formal codes-of-conduct for CSR in the wood products industry has been discussed at length (e.g. Panwar and Hansen, 2008; Raditya, 2009; Vidal and Kozak, 2009). Compared to

other industries, the wood products sector has been more heavily scrutinized for its environmental and social impacts, hence, triggering the development and implementation of formal codes for CSR (Panwar and Hansen, 2008). Among other reasons, Michael and Wiedenbeck (2004) highlighted the social and environmental importance of incorporating CSR principles along the wood products industry manufacturing chain since forests contribute to the maintenance of ecosystem health and vitality, and wood product manufacturing is often deemed to be a high-risk activity.

The U.S. and China are two major wood products manufacturers where CSR has developed and been implemented differently. CSR was first embraced by the U.S. wood products industry in the 1970s with particular attention paid to environmental issues (Raditya, 2009). In recent years though, the focus of CSR seems to have shifted to social aspects of forest management and product manufacturing such as impacts on local communities and enhancement of employees' working conditions (Raditya, 2009). In China, CSR in the wood products industry was initially introduced in the 1990s (Hong and Yang, 2011) and its wide adoption has only started recently. Deforestation and environmental pollution caused along the value-added chain have been two major issues faced by the Chinese wood products industry. In response to forest conservation concerns, six major afforestation projects have been implemented since 1998 by the Chinese Central government. According to Wang and Juslin (2011), at least 7000 pulp and paper mills have closed since 1997 by China's State Environmental Protection Administration because of failure to comply with pollution regulations.

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Since then, and partly as a reaction to government actions, Chinese wood products companies have proactively addressed and improved social and environmental issues associated with wood product manufacturing and embraced CSR.

Past studies have examined the relationship between CSR and consumer purchasing preferences (e.g. Creyer and Ross, 1997; Pivato et al., 2008; Sen and Bhattacharya, 2001). However, there have been few academic endeavors assessing the impacts of different levels of CSR on consumer preferences. Furthermore, to our knowledge, no existing literature in the field of wood product economics has examined how different levels of CSR may influence consumer purchasing preferences. This study aims to fill this gap by exploring wood product consumers' stated reactions to CSR in the wood products industry. Specifically, we explored the U.S. and Chinese consumers' stated purchasing preferences toward wood products associated with different CSR levels, prices, type of wood product construction and domestic or imported origin.

This paper is organized as follows. First, research hypotheses are developed based on the study objectives in Section 2. Section 3 describes surveys conducted in the U.S. and China, and explains data collection methods and hierarchical Bayesian (HB) models used for analysis. Section 4 presents survey results and the analyses using two HB models: one for the U.S. and the other one for China. Section 5 discusses and compares our findings with previous studies. Section 6 concludes this paper with suggestions for future research and implications for the management of wood products companies.

2. Hypotheses Development

This study had three specific research objectives which were to:
(a) determine the impacts of wood products companies' claimed CSR levels on stated consumer purchasing preferences; (b) parameterize consumer's stated purchasing preferences toward domestically manufactured wood products compared with imported ones; and (c) evaluate consumers' stated purchasing preferences toward wood product construction (i.e. composite and solid wood materials). These objectives guided the development of corresponding hypotheses.

2.1. CSR and Purchasing Preferences

There are numerous empirical studies discussing the role that CSR initiatives play in improving consumers' views toward a company. Sen and Bhattacharya (2001) found that consumers' perceptions of CSR initiatives can influence their purchasing decisions. Mohr and Webb (2005) interviewed U.S. consumers regarding their purchasing intent for athletic shoes, finding that companies that embraced environmentallyfriendly and philanthropic manufacturing responsibilities were more likely to attract consumers' preferences compared with companies that did not. Brown and Dacin (1997) reported a positive relationship between the level of corporate giving, community involvement and respondents' evaluations toward a company's products. Creyer and Ross (1997) found that parents of elementary school children would be willing to pay price premiums for products from an ethical company. Pivato et al. (2008) interviewed organic product consumers and found that companies' CSR initiatives positively influenced consumer trust which could potentially lead to higher consumer purchasing preferences.

General consumer attitudes toward products and the role of companies as environmental stewards and as members of society may differ between countries. The U.S. and China have followed different forms of economic and cultural development (Ralston et al., 1993; Shafer et al., 2007). The economy in the U.S. has developed, primarily relying on a free market. In contrast, China is experiencing an economic transition, in which state-owned enterprises remain to be dominant in the nation's economic structure, while the private sector (i.e. individual and foreign-owned enterprises) is still of a secondary order (Shafer

et al., 2007; Sternquist and Zhou, 1995; Suliman, 1998). In terms of culture, the historical development of the U.S. culture is based on Judeo-Christian tradition with the strong premise that humans should dominate nature (O'Briant, 1974) as part of a divine mandate and right best exemplified in "Manifest Destiny" (Pratt, 1927). Confucianism, Buddhism and Taoism are three core religions or philosophies that have historically influenced the Chinese culture (Dollinger, 1988). The Chinese culture emphasizes that man is influenced and learns from nature, and should try to live harmoniously with it (Chen and Wu, 2009).

Consumer attitudes toward CSR between nations may also differ because of the length of time formal codes have been in place. Given that the introduction of CSR to the Chinese wood products industry dates to about 15 years ago compared with around 40 years in the U.S., we expect wood product consumers' attitudes and purchasing preferences associated with CSR to be different. Several studies have examined how consumers are reacting to certified wood products over time. Cai and Aguilar (2013) found consumers' willingness-to-pay (WTP) price premiums for certified wood products to have increased from 1995 to 2009 after reviewing 19 consumer studies using meta-analysis. However, Ozanne and Vlosky (2003) found a decreasing consumers' WTP price premium for five wood products (a dining room set, a kitchen remodeling job, wood in a new home, stud, ready-to-assemble chair) between 1995 and 2000 in the U.S. Based on these aforementioned arguments, we hypothesized that:

Hypothesis 1. Both the U.S. and Chinese consumers are more willing to purchase wood products manufactured by companies certified for being socially responsible than from companies of an unknown level of social responsibility.

2.2. Domestic Origin and Purchasing Preferences

Information disclosing the origin of products can significantly influence consumer purchasing preferences (Verlegh and Steenkamp, 1999; Verlegh et al., 2005). Several studies have reported that consumers have a higher preference for domestic or locally-produced goods (Aguilar et al., 2010; Schnettler et al., 2008). Other studies have found that country of origin effects may be different between countries, often linked to their stage of economic development. For instance, Dmitrovic et al. (2009) reported that in emerging economies, consumers are on average more likely to purchase domestic products than in more advanced economies.

Specific to the wood products industry, studies have found that consumer purchasing preferences can be influenced by the product region of origin. Aguilar and Vlosky (2007) found that U.S. consumers are more likely to pay a higher price for certified tropical wood products. Aguilar and Cai (2010) compared U.S. and U.K. consumers' stated wood product purchasing preferences and found that in both countries, consumers were more likely to purchase temperate wood products compared with products from tropical forests. They also concluded that U.K. consumers showed greater interests in buying temperate wood products compared with U.S. consumers. In order to explore consumers' stated purchasing preferences for wood products in terms of their country of origin, this study hypothesized that:

Hypothesis 2. Both U.S. and Chinese consumers' stated preferences favor the purchase of wood products manufactured domestically.

2.3. Wood Product Construction and Purchasing Preferences

The impact of type of wood product construction on consumer purchasing preferences has been discussed by Ridoutt et al. (2002), and Bowe and Bumgardner (2004), among others. Scholz and Decker (2007) studied consumer purchasing preferences toward wood furniture in Germany and found that type of wood construction (solid wood or veneer) significantly influenced consumer purchasing

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