



# Providing sustainability information in shopping situations contributes to sustainable decision making: An empirical study with choice-based conjoint analyses



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## ABSTRACT

In their 2030 Agenda for sustainable development, the United Nations make clear that actions are required to keep the Earth inhabitable. As everybody is asked to do their share, we tried to contribute to answering the question of what consumers and suppliers can do in this regard. Using choice-based conjoint tasks, we confronted participants with decision situations in the form of simulated buying scenarios. Further, we investigated personality, materialism, and delay discounting. Results suggest a considerable effect of sustainability information on decision making. Delay discounting and materialism are negatively linked to sustainable decision making. The study indicates that consumers would contribute to sustainable development more if suppliers helped them by providing clear sustainability information.

## 1. Introduction

Sustainability can be defined in different ways. According to the 1987 Brundtland Report of the World Commission on Environment and Development (WCED), sustainable development means meeting the needs of the present without compromising the ability of future generations to meet their needs (United Nations, 1987). Beyond environmental protection, the term sustainability also focuses social development such as working conditions and economic development (Deutscher Bundestag, 1998; United Nations, 2005, 2015).

The United Nations 2030 Agenda for Sustainable Development comprises goals and visions for limiting the threat of climate change (United Nations, 2015). More specifically, in the 2015 Paris Agreement, the UN member states agree on actions that help reducing global warming on average to 2 °C above pre-industrial levels. For societies, this means limited carbon dioxide emissions and a responsible use of natural resources for governments, businesses, and consumers (for a review on possibilities in transport, see Chapman, 2007). In this regard, numerous companies employ what is called corporate social responsibility or corporate citizenship. These terms stand for business strategies that try to shoulder responsibility for the impact that businesses have on the climate change or on the society. For example, sustainability and corporate philanthropy are two types of corporate social responsibility,

which give consumers the impression of a company's warmth (Bolton and Mattila, 2015). Originally, corporate social responsibility and corporate citizenship were not coined to the concept of sustainability. Corporate social responsibility originated in the 1950s and meant companies' duty to obey the law (Valor, 2005). While the meaning of the term developed over time and incorporated stakeholders in the 1980s, the term of corporate citizenship evolved in the late 1990s. It is used "to connect business activity to broader social accountability and serve for mutual benefit, and yet on the other [hand] it reinforces the view that a corporation is an entity with status equivalent to a person" (Waddell, 2000, p. 107). Nowadays, the two terms are mostly used synonymously (Valor, 2005) and are part of many businesses and thus subject to business research: Aguinis (2017) has very recently investigated the role of corporate social responsibility in finding meaningfulness through work. Jones et al. (2017) link consumers' attitude toward corporate social responsibility policies to purchasing behavior and gender. They find that the gap between consumers' environmental attitudes and behaviors is smaller for female consumers than for males. Stolz and Bautista (2015) state that the environmental impact is the second most important criteria in purchase decisions in Spanish above the age of 50 years. They furthermore argue that to Spanish and Germans above 50, the avoidance of non-ecological products is of great importance, punishing unethical corporate behavior this way.

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According to Brown and Dacin (1997) as well as Bolton and Mattila (2015), information that consumers have about companies – e.g. regarding corporate citizenship – can influence their attitudes toward the company and their products. Overall, it becomes clear that corporate citizenship contributes to a greater range of sustainable products offered (Park and Kim, 2016). However, researchers stress that those supposed sustainable products are sometimes mere marketing claims. Whether consumers differentiate between supposed sustainable marketing claims and proper environmentally-friendly or Fairtrade products likely depends upon their sustainability knowledge. Consumers with a greater knowledge about sustainability are supposed to evaluate sustainability claims critically and tend to trust primarily those businesses that show convincing efforts regarding sustainability (Park and Kim, 2016). Contrary, consumers with a limited knowledge about sustainability are less affected by sustainability claims (Park and Kim, 2016). Knowledge about sustainability is also a key ingredient of the study by Kumar et al. (2017), who found an effect of environmental knowledge on purchase intention regarding sustainable products, mediated by the attitude toward sustainable products in an Indian sample. Paul et al. (2016) come to a similar conclusion. Involving the Theory of Planned Behavior (Ajzen, 1991), Paul et al. (2016) conclude that consumers with a positive attitude toward sustainability and environmental concern are more likely to make efforts to reduce environmental impact. According to Tsarenko et al. (2013), this attitude can be influenced by retailers' sustainable procedures.

Buerke et al. (2016) emphasize the responsibility of the consumer when it comes to sustainable development. Similarly, de Boer et al. (2007) investigated consumers and the sustainability of their food choices. Schaefer and Crane (2005) stress the importance of sustainability and its increased relevance in academic and policy debates. Consumers can engage in a sustainable lifestyle in multiple ways. Regarding the environmental protection, they can for example use resources in an economical manner (e.g. water and energy) and reduce pollution (e.g. by choosing a walk or bike ride over a drive). Regarding social development, consumers can avoid buying products that are produced under problematic working conditions or not traded fairly (e.g. by choosing products with a Fairtrade certification). Regarding economic development, consumers can buy from local traders instead of global players. Although it might seem easy to contribute to sustainability, all of the mentioned behaviors require a decision-making process that includes weighing up subjective costs and benefits. Obviously, choosing a more sustainable alternative sometimes results in inconvenience like a higher price for sustainable products or inconvenience of forgoing the car when doing the shopping. The outcome of this decision-making process is not only influenced by characteristics of the situation but also by characteristics of the deciding individual (e.g. Arbutnott, 2010; Buerke et al., 2016; de Boer et al., 2007; Gilg et al., 2005; Huang and Rust, 2011).

On this basis, we are pursuing two aims: First, we seek to assess and describe what relevance sustainability-related attributes have compared to other attributes in a certain decision situation. In order to reduce abstraction, we use a specific field of application: online shopping and offline shopping. Second, we aim to find out which individual characteristics are related to the relevance of sustainability-related attributes for the decision. We are especially interested in materialism, the ability to wait for rewards, i.e. delay discounting, and general personality traits.

### 1.1. Relevance of sustainability in buying decisions

We choose shopping scenarios as fields of application for several reasons. First, shopping is an everyday behavior that the vast majority of consumers do on a regular basis. Second, the distinction between online shopping and offline shopping offers additional opportunities to investigate. Contrary to Alwitt and Pitts (1996), we consider it advantageous to focus on shopping situations with multiple attributes

instead of solely on one product. In the field of sustainable lifestyles, shopping is an important topic on which many authors base their research (e.g. Buerke et al., 2016; Eckhardt et al., 2010; Fuentes, 2014; Gilg et al., 2005; Grunert, 2011; Kilbourne and Pickett, 2008; Lai and Cheng, 2016; Roberts, 1993; Thøgersen, 2011). For instance, Luchs et al. (2010) found out that sustainable products are associated with lower product strength. Conversely, sustainable products are associated with higher gentleness. For products where strength is more valued than gentleness (e.g. detergents as opposed to lotions), consumer awareness can result in a greater preference for less sustainable brands. Thus, companies promoting sustainable products ought to associate the image of the sustainable product with brands associated with strength. The experiments by Luchs et al. (2010) show that promotion strategies and product positioning can influence consumers' sustainability awareness of products and hence overcome those problems.

Since Vermeir and Verbeke (2006) as well as Kollmuss and Agyeman (2002) found a gap between a sustainable attitude and sustainable actions, it seems that participants tend to biased response behavior in sustainability attitude questionnaires (see also Alwitt and Pitts, 1996, for early signs). This hints toward a social desirability bias. This is the reason for us to assess the attitude toward sustainability in a different way. In order to encounter the social desirability bias, we embodied an implicit measure of the attitude toward sustainability. According to Green et al. (2001), an often-used method for investigating trade-offs among product alternatives is a choice-based conjoint task. In such a task, the participant is confronted with multiple successive choice scenarios. Each choice scenario consists of three options, each one depicting a "shopping situation". These options share a set of attributes (e.g. price, product availability, etc.), which have different qualities across the scenarios. For example, shopping situation A may be relatively cheap with a medium product availability. Shopping situation B however might have a similar price with a better product availability, and shopping situation C might be more expensive with a worse product availability. The participant decides for one option with its set of attribute qualities that he or she likes best. After the decision, the attribute qualities are pseudo-randomized and presented again for the next choice scenario. After a number of decisions (depending on the number of attributes and qualities), the relative importance values for each attribute across all participants can be calculated by means of Hierarchical Bayesian analyses. Using this approach, we aim to establish an implicit measure of the attitude toward sustainability and other shopping-relevant attributes. The method will be introduced in detail in the methods section of this paper.

Our study focuses on online and offline shopping from a consumer's perspective. Instead of assessing purchase behavior, like e.g. Lai and Cheng (2016) or Hirsh et al. (2015), we were interested in the process that takes place before making a purchase. We aimed at addressing the attitude toward sustainability in a decision-making context. For this, we sought to analyze the relevance of sustainability aspects in the decision-making process by assessing the importance of sustainability-related attributes (e.g. environmental impact) relative to the importance of attributes that are not sustainability-related (e.g. price). From the importance values of sustainability-related attributes, we infer the attitude toward sustainability in the investigated context.

Following up on the literature, especially on the findings that sustainability information from businesses can influence consumer attitudes (Brown and Dacin, 1997) and that "offering in-depth information about the brand's sustainability efforts (e.g. by being transparent in the business operations and making specific claims about sustainability efforts) can further strengthen consumer trust and loyalty" (Park and Kim, 2016, p. 120), we pose the following research question:

**Research question.** How important are sustainability-related attributes compared to other buying-relevant attributes in offline- and online-shopping scenarios for making a decision on where to make a purchase?

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