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Sustainable consumption through product longevity: the influence of enhanced product lifetime information on purchasing electrical appliances among German consumers

Jacobs K.

Alanus University of Arts and Social Sciences, Alfter, Germany

Keywords

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Extended Abstract

Sustainable consumption constitutes a key area of research and action for promoting change towards sustainable development (McCormick et al., 2016). According to a widely used definition, sustainable consumption involves "the use of services and related products which respond to basic needs and bring a better quality of life while minimising the use of natural resources and toxic materials as well as the emissions of waste and pollutants over the life cycle so as not to jeopardise the needs of further generations" (Norwegian Ministry for the Environment, 1994). In order to reach sustainable consumption in terms of reduced overall resource consumption, changes in not only (energy) efficiency, but also in consumption levels and patterns are necessary. However, so far, strategies concerning the latter such as purchasing and producing fewer goods have received comparatively little support by consumers, businesses and politicians (Lorek and Fuchs, 2013). Correspondingly, the longevity or rather lifetime of products has hardly improved over time, despite its considerable potential in limiting resource depletion, emissions of pollutants and residual waste (Cooper, 2010). Consumers can exert considerable influence on product lifetime across the successive consumption stages of acquisition, use and disposal. Thus, they can already contribute to product longevity by deciding for the longer lasting product at purchase. As an experience attribute, a product's functional durability can, however, be hardly estimated by consumers before purchase (Darby and Karni, 1973; Nelson, 1970). Thus, consumers often have to draw on rather insufficient quality signals such as price or brand (see, e.g., Boyle and Lathrop, 2009; Brucks et al., 2000).

Over the past decades, consumer researchers have extensively examined purchase decisions, especially

in the context of sustainable consumption (see, e.g., Thøgersen, 2000; Thøgersen et al., 2012; Thompson et al., 2010). Research on sustainable purchase behaviour incorporating the aspect of product longevity is, however, still in its infancy (Evans and Cooper, 2010). So far, academic and policy-related studies have consistently emphasized the necessity of enhanced product lifetime information for consumers and encouraged future research towards corresponding impact analyses on purchase behaviour (see, e.g., Cox et al., 2013; DEFRA, 2011; Guiltinan, 2009). Accordingly, first studies have examined the influence of such information and found an overall positive impact on the demand for longer lasting products (see, e.g., Braithwaite et al., 2015; EESC, 2016; Wilhelm, 2012). Nevertheless, there is a great need for deeper insights into this research field, specifically because previous studies have hardly considered the various determinants of purchase behaviour within one holistic model. Furthermore, the findings are limited to a few countries (excluding Germany) and product types. In general, sustainable consumption of electrical appliances constitutes an underdeveloped research field which has almost exclusively focused on the aspect of energy efficiency (McDonald et al., 2009; Prothero et al., 2011).

This study addresses several research gaps by developing and empirical testing a conceptual model for purchasing longer lasting electrical appliances in Germany. Hereby, a particular focus is laid on the influence of enhanced product lifetime information. Thus, the research questions are 'What are the determinants of purchasing longer lasting electrical appliances?' and 'How do enhanced product lifetime information influence purchase decisions towards electrical appliances?'

Conceptual Model and Methods

Similar to Nocella et al. (2012), this paper follows an interdisciplinary approach by combining the consumer theory of Lancaster (1966) with Ajzen's (1985) theory of planned behaviour. Lancaster's well-established economic model explains decision-making processes of consumers, also in the context of sustainable markets (see, e.g., Liao et al., 2013; Tabi et al., 2014). The theory claims that consumer preferences are not directed to the goods themselves, but to their attributes (Lancaster, 1966). As one of the most prominent social psychological models in research on sustainable consumption (see, e.g., Joshi and Rahman, 2015; Liobikienė et al., 2016), the theory of planned behaviour considers various psychological factors such as attitudes, social norms and perceived behavioural control (Ajzen, 1985). Based on a combined framework, major determinants of purchasing longer lasting electrical appliances will be identified against the backdrop of relevant literature.

The resulting conceptual model will be tested by using choice-based conjoint analysis, a highly effective multivariate method for measuring consumer preferences for product attributes (Louviere and Hensher, 1983). Thus, the influence of enhanced product lifetime information on consumer preferences for durability and other product attributes such price, brand or energy efficiency can be examined. Compared to traditional conjoint analyses, choice-based conjoint analysis constitutes a more complex, but also a more realistic approach (Rao, 2014). By means of an online questionnaire, discrete choice experiments for different types of electrical appliances such as washing machines and mobile phones will be

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administered to several population representative samples of German consumers. Additional questions will cover the remaining psychological and socio-demographic factors.

Expected Findings and Conclusions

Overall, the study will help to better understand the main determinants of purchasing longer lasting electrical appliances. In particular, the impact of enhanced product lifetime information, e.g. in the form of an 'expected product lifetime' label, will be estimated. Findings will indicate whether such information strengthen the preference and willingness to pay for durability and, at the same time, weaken preferences and willingness to pay for other product attributes such as brand or energy efficiency. Furthermore, consumers who are willing to buy longer lasting electrical appliances will be identified and characterized. The results will, among others, reveal whether these consumers act according to egoistic motives such as time and money savings or altruistic motives such as environmental concern. Moreover, insights into the role of social pressure and perceived behavioural control will be generated.

With the aim of stimulating demand for longer lasting electrical appliances, marketers and politicians could learn from the study how to promote drivers and reduce barriers of purchasing longer lasting electrical appliances. Marketers could, for instance, improve their durability marketing by offering enhanced product lifetime information. Politicians could introduce mandatory product labelling as well as educational campaigns regarding the sustainability relevance of product longevity.

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