Journal of Business Research 68 (2015) 829–833

Contents lists available at ScienceDirect

Journal of Business Research

Green purchase intentions: An exploratory study of the Taiwanese electric motorcycle market ☆

Jih-Hwa Wu [a,*], Chih-Wen Wu [b,**], Chin-Tarn Lee [a,***], Hsiao-Jung Lee [a]

[a] National Sun Yat-sen University, Taiwan
[b] National Chung Hsing University, Taiwan

ARTICLE INFO

Available online 19 December 2014

Keywords:
Image
Risk
Value
Perceived usefulness
Purchase intention
Electric motorcycles

ABSTRACT

This study examines the antecedents of purchase intention and the relation between purchase intention and image, risk, value, and perceived usefulness in the electric motorcycle market. The paper investigates a number of important questions concerning how image, risk, value, and perceived usefulness affect purchase intention. This article offers suggestions for campaigns aiming at increasing consumer demand for green products, including motorcycles. The technology acceptance model provides a theoretical framework in which to analyze consumer attitudes toward green purchase intentions in the motorcycle market. This study proposes and tests an integrative model to examine relations among service image, risk, value, perceived usefulness, and purchase intention. Structural equation modeling and fuzzy set qualitative comparative analysis (fsQCA) provide techniques for analyzing survey data from 305 potential motorcycle users. Results support the argument that image, risk, value, and perceived usefulness are key determinants of purchase intention. The paper also discusses theoretical and managerial implications of the research findings.

1. Introduction

The purpose of this study is to gain an understanding of the structure and antecedents of electric motorcycle purchase intentions. Understanding consumers' purchase intentions is an important goal for decision making in marketing and product innovation. In the electric motorcycle market, purchase intention remains an important indicator of successful marketing management. Nevertheless, little research contributes to theoretical development in how to guide production innovation. Few studies address psychological factors in consumer demand for green electricity products, despite the green electricity product market's contribution to recent growth in the use of green electric motorcycle.

In the present research context, higher energy generation costs and higher market prices constitute the principal barriers to consumers' adoption of green energy (Salmela & Varho, 2006). Although public opinion surveys reveal that consumers are willing to pay a premium for green energy (Eurobarometer, 2003, 2005; Zarnikau, 2003), green energy companies' market share remains low (Gan, Eskeland, & Kolshus, 2007). Green energy costs more than traditional electricity, which discourages many potential consumers (Salmela & Varho, 2006). Green energy's future success depends on effective branding and marketing communication strategies capable of improving consumers' perceptions (Roe, Teislb, Levyc, & Russell, 2001; Truffer, Markard, & Wüstenhagen, 2001). Although technical characteristics and green electricity labeling deliver utilitarian benefits to consumers, purchasing green products potentially yields psychological benefits. This paper analyzes the influences of image, risk, value, and perceived usefulness on purchase intention, thereby bridging this research gap.

The literature on green product marketing and innovation is incomplete in several key areas. This study attempts to explain consumers' purchase intentions by developing a model that builds on the technology acceptance model. Using a sample of consumers on which to conduct empirical analysis, this study focuses on the electric motorcycle market as a context in which to develop and test a conceptual model. A review of the literature in the present research context reveals that studies on purchase intention are scarce. Relationships between some of the model's constructs remain unclear and inconclusive, and results in the green marketing literature are contradictory. To bridge the gap in the literature, this study employs an integrative approach to examine

☆ The authors acknowledge and thank the Ministry of Science and Technology, Taiwan, ROC for grant number 102-2621-M-110-001. The authors thank Arch Woodside, Boston College, USA, and reviewers at the Journal of Business Research for valuable suggestions on how to construct empirical models and perform analyses for this study. Any remaining errors are the authors' sole responsibility.

* Correspondence to: J.-H. Wu, Institute of Public Affairs Management, National Sun Yat-sen University, No. 70, Lian Hai Rd., Kaohsiung 804, Taiwan. Tel.: +886 7 5252000x4908.
** Correspondence to: C.-W. Wu, Department of Marketing, National Chung Hsing University, 250 Kuo Kuang Road, Taiwan 402, Taiwan. Tel.: +886 4 22840392x752.
*** Correspondence to: C.-T. Lee, National Sun Yat-sen University, Taiwan, Department of Business Administration, No. 70, Lian Hai Rd., Kaohsiung 804, Taiwan. Tel.: +886 7 5252000x500.
E-mail addresses: jihwawu@cm.nsysu.edu.tw (J.-H. Wu), chihwwu@dragon.nchu.edu.tw (C.-W. Wu), ctjlee@mail.nsysu.edu.tw (C.-T. Lee).

http://dx.doi.org/10.1016/j.jbusres.2014.11.036
0148-2963/

theoretical and empirical evidence of interactions between image, risk, value, perceived usefulness, and purchase intention in the green marketing context.

2. Literature review and hypotheses

2.1. The technology acceptance model (TAM)

The technology acceptance model (TAM) provides a conceptual framework (Davis, 1989; Davis, Bagozzi, & Warshaw, 1989) for research into green products. Drawing on social psychology theory, including the theory of reasoned action (TRA) (Ajzen & Fishbein, 1980) and the theory of planned behavior (Ajzen, 1985), the TAM posits a belief–attitude–intention–behavior causal relationship to explain and predict technology acceptance among potential users. Under the TAM, two beliefs about a new technology determine a person's attitude toward using that technology, which in turn determines their intention to use the new technology. However, researches using the TAM yield inconsistent findings regarding the effect of ease of use on attitude. Whereas some studies have positive and significant effects of ease of use on attitude (Chen & Tan, 2004), others report insignificant relationships (Chau & Hu, 2001). In any event, consumers generally have difficulty integrating future outcomes and consequences into their decision-making processes.

2.2. Purchase intention

Purchase intention refers to consumer tendency to purchase a product (Yoo, Donthu, & Lee, 2000). Consumers purchase a brand when they believe the brand offers the right product quality or features. Purchase intention is a combination of consumers' interest in buying a product and the possibility of buying. Many studies report a strong relation between attitude and preference toward a brand or product (Cases, Fournire, Dubois, & Tanner, 2010; de Canniere, de Pelsmacker, & Geuens, 2009; Kim & Ko, 2012). Therefore, measuring purchase intention assumes that consumers' future behavior depends on their attitudes. Purchase intention is an attitudinal variable for measuring customers' future contributions to a brand (Kumar, Lee, & Kim, 2009; Poddar, Donthu, & Wei, 2009).

2.3. Image

A product's image corresponds to consumers' overall impressions about that product (Dichter, 1985; Oxenfeldt, 1974). Dobni and Zinkhan (1990) conclude that brand image is a perception that crystallizes through consumers' emotional or reasoned interpretations of the brand. Tasci, Gartner, and Cavusgil's (2007) imply that image is an interactive system of thoughts, opinions, feelings, visualizations, and intentions toward a product. An overall image forms as a result of interactions between these elements (Lin, Morais, Kerstetter, & Hou, 2007). Image is another important factor in overall service evaluation (Bitner, 1991). According to Keller (1993), image is a perception about an organization that exists in consumer's memory and works as a filter, influencing perceptions about a product. Image makes attitudes more accessible and more predictive of future behavior (Lai, Griffin, & Basin, 2009).

2.4. Risk

Perceived risk refers to expected negative utility that consumers associate with the purchase of a particular brand or product (Dunn, Murphy, & Skelly, 1986). The conceptualization of perceived risk dates back to Bauer (1960) recognizing that consumer behavior involves risk-taking. The perceived risk dimensions that receive attention in the literature include financial, performance, social, psychological, physical, and time/convenience risks (Girard & Dion, 2010; Kwon & Lennon, 2009; Roselius, 1971). The types of risk that consumers perceive are mostly specific to product characteristics and the availability of information about a product's attributes. Chaudhuri (1998) claims that a product's class determines the level of overall perceived risk in that product.

2.5. Value

Value is at the heart of consumers' pursuit of marketing exchange. While definitions of value vary, the general definition of value is as follows: value is a consumer's perception of the subjective worth of some activity or object considering all net benefits and costs of consumption (Babin, Darden, & Griffin, 1994). Perceived quality positively influences value, while price negatively influences value (Chang & Wildt, 1994; Hellier, Geursen, Carr, & Richard, 2003). However, research supports a positive relationship between quality and value (Andreassen & Lindestad, 1998; Choi, Cho, Lee, Lee, & Kim, 2004; Cronin, Brady, & Hult, 2000). How customers value the product offering is critical to the success of any firm (Keeney, 1999; Ruiz, Gremler, Washburn, & Carrión, 2008). By definition, product value equates to the ratio of overall benefit to total cost (Zeithaml, 1988). Consumers naturally prefer options with the lowest cost as long as product benefits meet minimum requirements. In comparison with other consumers, however, highly value-conscious consumers are more sensitive to the benefit/cost ratio, and tend to expend extra effort to seek products that offer the best value (Lichtenstein, Netemeyer, & Burton, 1990).

2.6. Perceived usefulness

Perceived usefulness is the degree to which people believe that using technology will enable them to perform their job (Davis, 1989; Davis, Bagozzi, & Warshaw, 1992). The TAM further suggests that perceived ease of use is instrumental in explaining variance in perceived usefulness. Prior studies have validated the TAM as a robust, parsimonious framework for understanding users' adoption of technology in a variety of contexts (Ha & Stoel, 2009; Yagci, Biswas, & Dutta, 2009). Consumers perceive that the consumption of products with environmentally sound attributes delivers greater benefits than conventional alternatives do (Sriram & Forman, 1993). Many consumers believe that green energy prevents climate change and global warming, increases air quality, and decreases energy dependency (Roe et al., 2001). Clark, Kotchen, and Moore (2003) report that green energy brand adopters perceive green electricity as a way of obtaining more environmentally friendly energy, lowering future solar energy costs, and reducing reliance on foreign oil supplies. To enhance perceptions of usefulness of green electricity, Salmela and Varho (2006) argue that consumers need a certain amount of information about the environmental impact of different electricity products. Studies confirm that information about environmentally relevant utilitarian product attributes affects purchase intentions (Roberts, 1996; Scholder-Ellen, 1994).

After reviewing the literature and carrying out the in-depth interview, the research proposes the five hypotheses: (H1) Image has a positive effect on value. (H2) Image has a positive effect on purchase intention. (H3) Risk has a negative effect on purchase intention. (H4) Perceived usefulness has a positive effect on purchase intention. (H5) Value has a positive effect on purchase intention.

3. Method

3.1. Measures

In the current method, 21 items capture image, risk, value, perceived usefulness, and purchase intention. An adaptation of Kumar et al.'s (2009) and Cases et al.'s (2010) five-item scale measures image. After adaptation, the four-item scale in Kwon and Lennon's (2009) study offers a good tool to measure risk. The present study uses a five-item instrument from Caruana and Ewing (2010) to measure value. Ha and